

Doubts About Nuclear Deterrence

Evidence to the BASIC Trident Commission by Ward Wilson

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The evidence is clear: the nagging doubts at the back of peoples' minds about nuclear deterrence were fully justified. Nuclear weapons are neither as capable of influencing military conflicts nor as effective at political persuasion as was once thought. Nuclear deterrence appears to be seriously flawed: it is far more prone to failure than proponents of nuclear weapons would have us believe. The initial assessment of the impact of nuclear weapons by Americans at the end of World War II was exaggerated, the Cold War prevented any reasonable reassessment, and forty years of repetition has embedded serious errors deeply into the conventional thinking.

These conclusions are not based on moral arguments or theoretical thinking. A pragmatic review of the evidence casts serious doubts on the efficacy of nuclear deterrence. In part one of this submission to the Trident Commission this pragmatic review shows how twenty years of careful archival work by historians is increasingly raising doubts about the traditional story of Hiroshima. The emotional importance of this episode to Americans has made it difficult to reevaluate this issue, but it now appears that the use of nuclear weapons had little or no impact on Japan's decision to surrender at the end of World War II. This startling conclusion (or perhaps not so startling: it was, after all, the conclusion reached by the official British history of the war in the Pacific in 1969) has the potential to rewrite much of nuclear weapons theory.

Hiroshima provided the crucial first impression of nuclear weapons. The story Hiroshima seemed to tell was that they were miracle weapons, able to coerce when other forms of military pressure could not. No wonder U.S. statesmen took to calling them "the winning weapon." . . . But what are we to make of this claim for special psychological effects if the traditional story of Hiroshima is simply wrong? How can we reshape our views to take account of this new reality?

The evidence of World War II is particularly troubling because the use of nuclear weapons against Hiroshima and Nagasaki is our only real evidence about the effectiveness of nuclear weapons. These are weapons that have had only one field test, as it were, and that one test, far from being a stunning success, now appears to have been a resounding failure. It is necessary, therefore, to reassess the influence that nuclear weapons can have on a military conflict.

In a forthcoming book I argue that the Cold War crises from which we draw most of the evidence about the efficacy of nuclear deterrence--the Berlin Crisis, the Cuban Missile Crisis, the Middle East War of 1973, and others--do not present convincing evidence that nuclear deterrence is strong and robust. Rather the contrary. When one looks closely at the facts, the Cold War crises (plus one example from the Gulf War) raise disturbing questions.

It seems clear that the evidence has been skewed--successes trumpeted, failures ignored--and the whole body of evidence raises more questions than it answers. . . . Any failure of nuclear deterrence could have catastrophic consequences. As a result, it only makes sense to rely on nuclear deterrence if it is perfect or vanishingly close to perfect. But as the review contained here shows, nuclear deterrence is distressingly far from perfect. It

has failed again and again, and although none of those failures led to nuclear war, a number of them came perilously close.

My book also addresses the debate about whether the sixty-five years of peace between the United States and Russia amounts to reliable proof that nuclear deterrence not only brings stability in a crisis but positively promotes peace, protects the world order, and has brought about a permanent change in international politics. But the proof that this peace was related in any way to nuclear weapons is not the sort of proof we would accept in any other circumstances where the stakes are high. And we don't accept this sort of proof: in medicine, in airline safety, or in other sorts of thinking where lives are at risk.

Even a cursory review of the facts shows that the lust for war ebbs and flows throughout history. We appear to be sailing through a period of relative calm now, with less destruction and less killing than seventy years ago. But these sorts of calms have come before. Human beings have demonstrated, time and again, an appetite for war that does not seem to fade or wear itself out. The desire for war—and the destruction and killing that go with it—seems to be a savagery that only sleeps.

It seems clear that thinking about nuclear weapons was significantly distorted by the initial mistake about the success of Hiroshima and the fear engendered by the Cold War. There is a very real possibility that we have made serious mistakes in thinking about nuclear weapons.

What next?

Given the possibility of catastrophic consequences if a nuclear war were to break out, it makes sense to be cautious in the field of nuclear weapons. Sudden shifts and radical changes to thinking should be avoided. Some proponents of nuclear weapons argue that questioning the nuclear status quo would be a dangerous break with the past. But from a larger perspective, it is the proponents of nuclear weapons who are arguing that nuclear weapons have “revolutionized warfare,” and have changed the shape of international relations and restructured the world's political order. They suggest that nuclear weapons mark a wholesale break with the past, that with the advent of nuclear weapons “everything is different.”

There appear to be serious questions about orthodox thinking about nuclear weapons. It is only reasonable, therefore, for the United Kingdom to propose to the nuclear weapon states a moratorium on all new developments in the nuclear field until a full review by the nuclear weapon states can be conducted. It makes no sense to embark on new expenditures until we can be sure that nuclear weapons are worth the cost. Four steps should be considered to implement this pause.

- 1) No new weapons should be developed by any nuclear weapons state.
- 2) Nuclear proliferation should continue to be discouraged. Nothing would discourage nuclear proliferation so much as nuclear powers suspending their work on nuclear weapons and launching a full-scale reevaluation of the efficacy of nuclear deterrence.
- 3) Nuclear weapons spending should be limited to subsistence levels while this review is taking place.
- 4) If nuclear deterrence is more prone to failure than was originally believed, it is simple prudence to reduce the size of the arsenals of the nuclear-armed states.

The field of nuclear deterrence has always been confusing and counterintuitive. One fact, however, is very plain, and that is the fact that the influence and importance of nuclear

weapons has been steadily shrinking. Expectations started out sky high: nuclear weapons would make negotiations foolproof, they could force surrender with two bombs, they would be an inexpensive way to insure the long-term survival of a nation, and might even make perpetual peace possible. Yet these early expectations have not proved justified. Over the last sixty years the influence of nuclear weapons has steadily shrunk. One need only look at the declining size of the arsenals of the nuclear powers since the 1980s to see how steep the decline in the importance of nuclear weapons has been. Now that the pressures and fears of the Cold War have been removed, it appears that the mistakes were deeper than simple inflated expectations. Fundamental notions about nuclear weapons appear to be mistaken.

There are many roads that lead to catastrophe. The straightest and shortest is to err when evaluating the dangers that surround large dangers. Nuclear weapons are such a large danger and our evaluations of them appear to have been troublingly flawed. Now is not the time to sink further treasure into these doubtful weapons.

Hiroshima

The British nuclear deterrent has always been especially dependent on the story of Hiroshima to confirm its rationale. The United Kingdom's small nuclear arsenal is predicated on the assumption that the use or threat of use of even a small number of nuclear weapons can have a remarkably large impact on decisions in war. This assumption is based on evidence and intuition. The intuition is a common sense judgment that nuclear weapons are so horrible that even a few of them can deter. The evidence is the historical episode at the end of World War II when it took only two bombs and three days to persuade a stubborn and militaristic regime to surrender. This short paper summarizes recent research that strongly belies that evidence and shows that the use of a nuclear weapon on Hiroshima had minimal impact.ⁱ

It now appears that the official British history of the war in the Pacific was right when it stated that "The Russian declaration of war was the decisive factor in bringing Japan to accept the Potsdam declaration."ⁱⁱ In fact, it appears that the Hiroshima and Nagasaki bombings served primarily as a way for the Japanese to honorably excuse their defeat in the war.

Doubts about the validity of the traditional interpretation of Hiroshima, therefore, undercut the only real evidence supporting the rationale for the British arsenal--that it is possible to make do with very few nuclear weapons because of their special power to shock and coerce. This raises questions about the efficacy of nuclear weapons in general and of small arsenals in particular, questions that call the entire British nuclear weapon enterprise into doubt.

Four reasons to doubt Hiroshima

Dr. Julien Lewis, in evidence already submitted to the Trident Commission, has called the atomic bombing of Japan "especially instructive" and asserted that it provides significant proof of the indispensable nature of a British nuclear deterrent. Dr. Lewis is right that the episode of Hiroshima is instructive, but the lesson he draws from it is out of date: the facts clearly support the opposite conclusion. There are four reasons to doubt the traditional interpretation.

Timing

The greatest difficulty with the story of Hiroshima as the driver of surrender is timing. Americans often tell the story of the surrender of Japan with August 6, 1945 as the center of the drama. Einstein writes a letter about the possibility of building a bomb, Oppenheimer is chosen to head the project, the bomb is tested in the desert--all moving portentously toward Hiroshima. But from the Japanese perspective the crucial moment in the story is not August 6, 1945 when Hiroshima is bombed. From their perspective the crucial date is August 9, three days later. This is the date on which the Japanese government took up the question of surrender seriously for the first time. After 14 years of war, a submarine blockade that had cut off food and industrial supplies, aerial devastation of many cities, numerous defeats of the Imperial Navy and Army, and a variety of other pressures, this day--August 9--was the first on which they felt moved to seriously consider surrender. The question asserts itself: what could have motivated them to finally sit down to discuss surrender?

It certainly wasn't Nagasaki. When the emergency meetings discussing surrender began on the morning of August 9, Nagasaki had yet to occur. It probably wasn't Hiroshima, either. That had occurred three days earlier. What sort of crisis takes three days to come to fruition?

When John F. Kennedy learned that the Russians were sneaking missiles in to Cuba in 1962, he acted. An ad hoc committee was selected to deal with crisis, their members informed, they were brought to the White House and they were seated around the table discussing what to do within two hours and forty-five minutes. A crisis is a time when participants realize that events are moving fast and that if they do not act now they may lose the chance to act at all.

When the North Koreans invaded South Korea in June of 1950, U.S. president Harry Truman was vacationing in Independence, Missouri. Acheson phoned him, and within twenty-four hours Truman had flown half-way across the continent and was meeting in Washington, DC with his military advisors deciding what to do. Crisis revolutionizes the stakes of the strategic situation.

When the Allies dropped leaflets on Tokyo on August 14, revealing to the populace that their government had been conducting secret surrender talks without informing them, the emperor and his privy seal acted within minutes to accelerate the pace of the surrender.ⁱⁱⁱ Crisis causes otherwise cautious actors to move fast.

Yet proponents of nuclear weapons ask us to believe that the Japanese government dilly-dallied for three days once Hiroshima was bombed.^{iv} What sort of crisis is that? One might argue that the sense of crisis only built slowly over several days. But the facts are strongly against such a theory. First, most of Japan's leaders knew the important facts within hours--that a city had been destroyed and a third of its population was killed. The details and the horror of the attack weren't fully known until months or even years later.

Second, Japan's foreign minister, Togo Shigenori, approached Prime Minister Suzuki and requested a meeting of the Supreme Council to discuss the implications of the bombing of Hiroshima. (The Supreme Council, made up of four military men and two civilians, was a sort of inner Cabinet. At that time it was the effective ruling body of Japan.) He made the request on August 8, two days after the bombing. Togo felt that the bombing was significant enough to warrant a meeting of Japan's ruling body. Suzuki, after consulting with the other members of the Supreme Council, most of whom were military, turned down the request. On August 8, apparently, a majority of the Supreme Council felt that circumstances did not warrant a meeting about Hiroshima. However, the Supreme Council did meet in emergency

session to discuss surrender the next day. The only way to make Hiroshima the cause of surrender is to presume a kind of schizophrenia on the part of Japan's leaders: on the 8th they were sure that Hiroshima was not important enough to meet about, on the 9th they met to discuss surrender based on Hiroshima.

On the other hand, there is an event that occurred during the night of August 8 that might well have persuaded Japan's leaders that it was imperative to sit down and discuss surrender: at midnight 1.5 million Soviet soldiers invaded Manchuria, 100,000 soldiers attacked Japanese positions on Sakhalin Island and other formations attacked other Japanese holdings. The entry of the Soviet Union, which had been neutral, into the war radically changed the calculus of power that Japan's leaders had to use in assessing their prospects.

Based on timing alone it seems likely that Japan surrendered because of the Soviet entry into the war and not the bombings of Hiroshima and Nagasaki.

Scale

Lay people often assume, based on the dramatic accounts in books and movies, that the attack on Hiroshima was the worst city attack, in terms of scale, ever. This is not so. The U.S. Army Air Force attacked sixty-eight Japanese cities in the summer of 1945. If all 68 of these attacks are graphed based on data compiled by the United States Strategic Bombing Survey, Hiroshima is not the worst city attack in terms of people killed. Tokyo, a conventional attack, ranks first. [Figure 1] Hiroshima is second. If all sixty-eight attacks are graphed based on square miles destroyed, Hiroshima is sixth. [Figure 2] If all sixty-eight attacks are graphed based on the percentage of the city destroyed, Hiroshima is seventeenth. [Figure 3]

Viewed from the American perspective Hiroshima was a startling and outsized event. The extraordinary effort involved in developing nuclear weapons alone (it cost more than 2.2 billion dollars--in 1942 dollars) would have insured that Hiroshima seemed significant. But from the Japanese perspective it is not clear that Hiroshima would have stood out that much from the other city attacks. Remember, Japanese cities were being attacked, on average, about every other day throughout that summer. In the three weeks prior to Hiroshima twenty-six cities were attacked by U.S. forces. Eight of them, or nearly a third, were as completely or more completely destroyed, in terms of the percentage of the city devastated, as Hiroshima. Toyama was 99.5 percent destroyed.^v

We imagine that Japan's leaders must have been shocked by Hiroshima. We forget that they were used to waking up to find that another city had been devastated overnight. Throughout the summer of 1945 the United States Army Air Force destroyed a Japanese city, on average, every other day. Hiroshima was not outside the scale of the other attacks that took place that summer. If this is so, and if destroying a city was what compelled them to surrender, then we are left with a conundrum. Why didn't any of these other city attacks compel surrender?

It might be rejoined that it was the way in which Hiroshima was destroyed that created the unique shock. This, however, goes against the grain of human experience. In most cases it is ends that matter in human experience, not means. It matters little if I kill you with a pillow or a knife. It is still murder. Means are almost always much less important than ends. And the ends of cities being destroyed were commonplace events in the summer of 1945 in Japan.

Reactions

Comparing the reactions of Japanese officials to the bombing of Hiroshima and the entry of the Soviets into the war is instructive. After the war was over, Japan's officials almost uniformly followed the lead of the emperor and blamed defeat on nuclear weapons. However, while events were unfolding, the actions they took, the diary entries they made, and the meeting minutes tell a different story. Deputy Chief of Staff of the Army Kawabe Toroshiro, for example, realized it was a nuclear weapon that destroyed Hiroshima and wrote in his diary, "having read various reports on the air raid by the new weapon on Hiroshima yesterday, the morning of the 6th, I received a serious jolt." It is remarkable on the face of it that a nuclear attack that was supposedly going to persuade Japan to surrender only registers on the emotional richter scale as a "serious jolt." Kawabe went on to opine that "we must be tenacious and fight on."^{vi} Kawabe had a considerably different reaction to the entry of the Soviet Union into the war. First, he attended an emergency meeting of military officers held that morning in advance of the Supreme Council meeting which would take up surrender. No such emergency meeting was held three days earlier when Hiroshima was bombed. Second, at the military meeting Kawabe suggested that martial law be declared, the Emperor be detained, and a military dictatorship set up. No such drastic measures were suggested or considered on the morning that Hiroshima was bombed.^{vii}

The record of the contemporaneous evidence is consistent: the atomic bombing of Hiroshima was seen as a problem, another burden in an already difficult war effort requiring measures to counter it.^{viii} But no one seems to have thought that such an attack would create a crisis that might end in surrender. The diary accounts of August 8 are remarkable because--uniformly--they contain no hint that sudden surrender talks would be held the next day.^{ix} This is entirely consistent, provided the Soviet entry into the war is seen as the cause of the surrender. After all, the Soviet invasion did not occur until midnight on the 8th. It is, on the other hand, incomprehensible if we are to believe that the bombing of Hiroshima was the prime motive for surrender.

Strategic importance

To presume that Japan's leaders surrendered because of the bombing of Hiroshima and Nagasaki is to presume that they didn't know their business. As national leaders, their responsibility was to chart a course for Japan based on their best estimate of the strategic situation. To quote from Dr. Lewis again, "Nation-states operate according to hard-headed calculations of their own strategic interests." The sixty-seventh and sixty-eighth cities destroyed by bombing clearly had little strategic impact in terms of Japan's ability to carry on the war. What military and industrial capacity that was going to be lost as a result of city bombing had already been lost. If surrender had been warranted by the destruction of cities, Japan's leaders would have been well justified to surrender after the first city attack against Tokyo, or perhaps by the follow-on attacks against the six next largest cities. But surrendering after eighty percent of Japan's large cities had already been devastated, surrendering when only five cities larger than 100,000 remained that could be bombed, would have been to lock the barn door long after the mare had fled.^x

In addition, the evidence of history would be against them. No leader has ever called for surrender in a war because cities were destroyed. Prime Minister Winston Churchill did not recommend surrender when London was bombed or Coventry destroyed and no other war leader considered capitulation because of city bombing, either.

On the other hand, the Soviet entry into the war was strategically decisive and Japan's leaders knew that. We know they knew it because in a June 1945 meeting of the Supreme Council they declared that Soviet entry into the war would "determine the fate of the Empire." In that same meeting, General Kawabe amplified the consensus, saying, "The absolute maintenance of peace in our relations with the Soviet Union is one of the fundamental conditions for continuing the war with the United States."^{xi}

If we are to believe that Japan surrendered because of the atomic bombings, we have to develop a persuasive reason that explains why Japan's leaders surrendered as a result of an event with little strategic impact (Hiroshima) while ignoring one that they had previously declared was decisive.

Emotion

The argument has always been that Japan's leaders were so frightened and horrified by the two bombings that that explains their sudden about face. A leadership overwhelmed by emotion would explain why the strategic importance of the two events was ignored. But it is a story that is entirely unsupported by the facts. None of Japan's top leadership knew the details of the destruction of Hiroshima, except perhaps Minister of War Anami Korechika, when the decision to surrender was made. And Anami said, on August 13th, that the nuclear bombings were "no worse than the firebombing that Japan had been enduring for months."^{xii}

The meetings of the Supreme Council and Cabinet held on August 9 give us an ideal laboratory for testing the emotional impact of a nuclear bombing, because word of the bombing of Nagasaki arrived during the course of that day of deliberations. Prior to the announcement of the bombing of Nagasaki the Supreme Council had been deadlocked, split between those who wanted to offer surrender with one condition, and those who wanted to insist on three conditions. The bombing of Hiroshima three days earlier had played little role in this debate prior to word arriving about Nagasaki. When news of the bombing of Nagasaki arrived, however, the discussion confronted nuclear weapons head on.

It might be possible to imagine that some of Japan's leaders were telling themselves that the United States had only one such bomb.^{xiii} If they believed the United States had a limited supply of nuclear weapons, this might explain their unwillingness to surrender after Hiroshima. One would have to expect, then, that the news of Nagasaki would have had a crushing and decisive impact on their deliberations. And the impact of the news of Nagasaki would have been amplified by the behavior of Anami Korechika. The War Minister, based on incorrect information, declared in the afternoon Cabinet meeting on August 9 that the United States had hundreds of nuclear weapons, the bombing of Nagasaki proved this, and that the next target might well be Tokyo. But this news does not seem to have had a decisive impact on their discussions.^{xiv} It doesn't seem to have had any impact at all. Neither the Supreme Council nor the Cabinet discussed Nagasaki at length and both bodies remained deadlocked over whether to surrender. The practical result of the news that Nagasaki had been bombed was virtually nil.^{xv}

Japan's leaders were interested in the news about Hiroshima. The emperor and the war minister both took steps to collect more data.^{xvi} But there is no evidence that any of Japan's leaders was strongly affected by emotion as a result of the bombings.

Finally, there is another reason to doubt that Hiroshima moved Japan's leaders more than the other sixty-seven cities that were bombed. People generally react more strongly to what they see in front of them than to reports of distant disaster. If Japan's leaders were

going to be moved by horror it seems far more likely that they would have been moved by the bombing of Tokyo in March 1945 than by reports of Hiroshima or Nagasaki. In the attack on Tokyo an area roughly the size of Washington, DC--sixteen square miles--was burned. Whole blocks were reduced to ash. More than 100,000 people were killed and it took fourteen days to clear all the of the charred bodies from the streets. Japan's leaders would have driven past these scenes of horror and destruction on a regular basis in the days that followed the attack. The emperor went out and viewed the destruction on March 18, six days before all the bodies were cleared. If Japan's leaders were going to be moved by emotion, the bombing of Tokyo--five months before Hiroshima--is the event that could reasonably be expected to arouse their sympathy.^{xvii}

There is little evidence and even less reason to think that Japan's leaders made their decision to surrender based on emotion rather than careful strategic judgment.

What they said

The Emperor specifically singled out nuclear weapons as the cause of surrender in his radio announcement to the people of Japan on August 15 and he did not mention the Soviet entry into the war at all. Some historians point to this as proof that Hiroshima must have been the key factor in Japan's decision.^{xviii} However, it is less well known that the Emperor sent out a separate message to Japan's military personnel two days later. In that message he explained the necessity of surrendering entirely in terms of the Soviet entry into the war and did not mention Hiroshima.^{xix} Discerning the actual reasons for a governmental decision based on the public explanation given for that decision, particularly where the continued legitimacy of the regime and national pride are at stake, is difficult.

Consider the options that Japan's leaders had for explaining the loss of the war. They could openly discuss the mistakes that were made, command decisions, the continual and debilitating inability of the Army and Navy to work together (even in critical situations), and a host of other problems, large and small, that had led to defeat. Or they could say, "The enemy made an amazing scientific breakthrough that no one could have predicted, and that's why we lost." At a single stroke, the bomb absolved all errors made during the war. Given the incentives they would have had to blame defeat on the Bomb, skepticism is called for in evaluating ex post facto statements by Japan's leaders about their surrender.

Conclusion

Hiroshima provided the crucial first impression of nuclear weapons. The story Hiroshima seemed to tell was that they were miracle weapons, able to coerce when other forms of military pressure could not. No wonder U.S. statesmen took to calling them "the winning weapon." Hiroshima ratified Secretary of War Henry L. Stimson's judgment that they were weapons with a unique psychological component that could coerce and deter in ways that other weapons simply could not.^{xx} But what are we to make of this claim for special psychological effects if the traditional story of Hiroshima is simply wrong? How can we reshape our views to take account of this new reality?

Some people, of course, downplay the importance of this historical evidence. They have an intuition, they say, that even without evidence the psychological effects of nuclear weapons can still be relied on. Even without the evidence of Hiroshima, they argue, nuclear weapons are so fearsome that plans and policies should remain unchanged. Perhaps they are right. The emotion that lies behind such an intuition--the fear that nuclear weapons

generate--is powerful. But do we really want to risk the security of our society and the lives of millions on an intuition?

ⁱ Historical writing about Hiroshima and Nagasaki can be conveniently divided into three groups: traditionalist, revisionist and questioners. For traditional interpretations that accept that the bomb was an important part of the Japanese decision to surrender, see: Robert J. C. Butow, *Japan's Decision to Surrender*, (Stanford, Calif.: Stanford University Press, 1954); Len Giovannitti and Fred Freed, *The Decision to Drop the Bomb*, (New York: Coward-McCann, 1965); Herbert Feis, *The Atomic Bomb and the End of World War II*, (Princeton, N.J.: Princeton University Press, 1966); Leon V. Sigal, *Fighting to a Finish: The Politics of War Termination in the U.S. and Japan*, (Ithaca, N.Y.: Cornell University Press, 1988); Robert James Maddox, *Weapons for Victory: The Hiroshima Decision Fifty Years Later*, (Columbia: University of Missouri Press, 1995); J. Samuel Walker, *Prompt and Utter Destruction: Truman and the Use of Atomic Bombs against Japan*, (Chapel Hill: University of North Carolina Press, 1997); Robert P. Newman, *Enola Gay and the Court of History*, (New York: Peter Lang, 2004); and Barton J. Bernstein, "The Atomic Bombings Reconsidered," *Foreign Affairs*, Vol. 74, No. 1 (January/February 1995), pp. 135-152; Gideon Rose, *How Wars End: Why We Always Fight the Last Battle*, (New York: Simon & Schuster Paperbacks, 2010). For the first suggestion that the Soviet intervention caused the Japanese surrender, see Ernest R. May, "The United States, the Soviet Union, and the Far Eastern War, 1941-1945," *Pacific Historical Review*, Vol. 24, No. 2 (May 1955), pp. 153-174. For revisionist views, which agree with the Bomb's decisiveness but dispute its necessity, see: Gar Alperovitz, *Atomic Diplomacy: Hiroshima and Potsdam; The Use of the Atomic Bomb and the American Confrontation with Soviet Power*, (New York: Vintage, 1965); Gar Alperovitz, *The Decision to Use the Atomic Bomb*, (New York: Vintage, 1996); Murray Sayle, "Did the Bomb End the War?" *New Yorker*, July 31, 1995, p. 53; Gar Alperovitz, "Hiroshima: Historians Reassess," *Foreign Policy*, No. 99 (Summer 1995), pp. 15-34; Kai Bird and Lawrence Lifschultz, eds., *Hiroshima's Shadow: Writings on the Denial of History and the Smithsonian Controversy*, (Stony Creek, Conn.: Pamphleteer's Press, 1996); and John W. Dower, *Cultures of War: Pearl Harbor, Hiroshima, 9-11, Iraq*, (New York: W. W. Norton & Co., 2010). For new research that first began to question the role of the bomb and to emphasize the role of the Soviet Union (to a greater or lesser extent), see: John W. Dower, *Japan in War and Peace: Selected Essays*, (New York: W.W. Norton, 1993); Robert A. Pape "Why Japan Surrendered," *International Security*, Vol. 18, No. 2 (Fall 1993), pp. 154-201; Edward J. Drea, *In the Service of the Emperor: Essays on the Imperial Japanese Army*, (Lincoln: University of Nebraska Press, 1998); Sadao Asada, "The Shock of the Atomic Bomb and Japan's Decision to Surrender: A Reconsideration," *Pacific Historical Review*, Vol. 67, No. 4 (November 1998), pp. 477-512; Richard B. Frank, *Downfall: The End of the Imperial Japanese Empire*, (New York: Random House, 1999); Herbert P. Bix, *Hirohito and the Making of Modern Japan*, (New York: HarperCollins, 2000); Forrest E. Morgan, *Compellence and the Strategic Culture of Imperial Japan: Implications for Coercive Diplomacy in the Twenty-first Century*, (Westport, Conn.: Praeger, 2003); Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*, (Cambridge, Mass.: Harvard University Press, 2005); Ward Wilson, "The Winning Weapon? Rethinking Nuclear Weapons in Light of Hiroshima," *International Security*, volume 31, issue 4, (Spring 2007), pp. 162-179; and Ward Wilson, *Five Myths About Nuclear Weapons*, (New York: Houghton Mifflin Harcourt, 2013). For a fascinating, in-depth discussion, see also the H-Diplo roundtable discussion on Hasegawa, *Racing the Enemy*, in Thomas Maddux, ed., "H-Diplo Roundtable, Racing the Enemy, Roundtable Editor's Introduction," <http://www.h-net.org/~diplo/roundtables/PDF/Maddux+HasegawaRoundtable.pdf>.

A particularly detailed and useful summary of recent scholarship that also contains reproductions of many primary source documents, is in William Burr, ed., "The Atomic Bomb and the End of World War II: A Collection of Primary Sources," National Security Archive Electronic Briefing Book No. 162, National Security Archive, August 5, 2005, <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB162/index.htm>. Another very useful source of primary documents is Michael Kort, *The Columbia Guide to Hiroshima and the Bomb*, (New York: Columbia University Press, 2007).

ⁱⁱ S. Woodburn Kirby, *The War against Japan, Vol. 5: The Surrender of Japan*, (London: Her Majesty's Stationery Office, 1969), pp. 433-434.

ⁱⁱⁱ Kido met with the emperor "within minutes" of seeing a leaflet, and Suzuki joined them shortly thereafter. They agreed to accept the Allied terms as they stood and moved up the time of the Supreme Council meeting from 1:00 pm to 11:00 am. The emperor and his advisors, therefore, were able to act swiftly in a crisis. See Richard Frank, *Downfall: the end of the Imperial Japanese Empire*, (New York: Random House, 1999), pp. 313-314

^{iv} Drea, for example, characterizes Hirohito as "a cautious procrastinator." Edward J. Drea, *In the Service of the Emperor: Essays on the Imperial Japanese Army*, (Lincoln, NE: University of Nebraska Press, 1998), p. 215. Asada has a section in his article on the end of the war called "The Vacillating Emperor." Sadao Asada, "The

Shock of the Atomic Bomb and Japan's Decision to Surrender--A Reconsideration," *Pacific Historical Review*, Vol. 67, No. 4 (November 1998), p. 499. See also Herbert P. Bix, *Hirohito and the Making of Modern Japan*, (New York: HarperCollins, 2000).

^v United States Strategic Bombing Survey, Vol. IX, "The Strategic Air Operations of Very Heavy Bombardment in the War Against Japan," in *Pacific Report No. 66* (New York: Garland, 1976), p. 43.

^{vi} Quoted in Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*, (Cambridge, Mass.: Harvard University Press, 2005), p. 200.

^{vii} Richard B. Frank, *Downfall: the end of the Imperial Japanese Empire*, (New York: Random House, 1999), pp. 288-89.

^{viii} See, for example, Kawabe's reaction cited earlier, the reaction of Yonai and Takagi in the diary entry for Admiral Takagi Sokichi for Wednesday, August 8, 1945, William Burr, ed., "The Atomic Bomb and the End of World War II: A Collection of Primary Sources," National Security Archive Electronic Briefing Book No. 162, National Security Archive, August 5, 2005, <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB162/index.htm>, doc. 55, and the reaction of determination and jealousy voiced by Ugaki Matone in Michael Kort, *The Columbia Guide to Hiroshima and the Bomb*, (New York: Columbia University Press, 2007), p. 319.

^{ix} See, for example, the diary entry for Admiral Takagi Sokichi for Wednesday, August 8, 1945, William Burr, ed., "The Atomic Bomb and the End of World War II: A Collection of Primary Sources," National Security Archive Electronic Briefing Book No. 162, National Security Archive, August 5, 2005, <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB162/index.htm>, doc. 55.

^x Nine cities larger than 100,000 were left unbombed once Nagasaki had been bombed: Kyoto (1,089,726), Sapporo (206,103), Hakodate (203,862), Yokosuka (193,358), Kanazawa (186,297), Kokura (173,639), Otaru (164,282), Niigata (150,903), and Fuse (134,724). Of these, three were too far north to be reached from U.S. bomber bases on Tinian Island: Sapporo, Hakodate, and Otaru. Kyoto had been removed from the target list because of its cultural and religious significance by U.S. Secretary of War Henry L. Stimson. Figures for city populations are from *Japan Statistical Yearbook*, (Tokyo: Mainichi Shinbunsha, 1949). pp. 42-3.

^{xi} Sadao Asada, "The Shock of the Atomic Bomb and Japan's Decision to Surrender: A Reconsideration," *Pacific Historical Review*, Vol. 67, No. 4 (November 1998), p. 504.

^{xii} Cited in Forrest E. Morgan, *Compellence and the Strategic Culture of Imperial Japan: Implications for Coercive Diplomacy in the Twenty-first Century*, (Westport, Conn.: Praeger, 2003), p. 216.

^{xiii} "[I]t appears Army Minister Anami indulged in wishful thinking when he said that the bomb dropped on Hiroshima was the only atomic bomb the United States possessed." Sadao Asada, "The Shock of the Atomic Bomb and Japan's Decision to Surrender: A Reconsideration," *Pacific Historical Review*, Vol. 67, No. 4 (November 1998), p. 491.

^{xiv} It seems to have barely made any impact at all. It is rarely brought up in post-war accounts. Foreign Minister Togo and Navy Chief of Staff Toyoda both fail to even mention Nagasaki in their post-war descriptions of the Supreme Council meeting. Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*, (Cambridge, Mass.: Harvard University Press, 2005), p. 204.

^{xv} Accounts of this meeting may be found in Richard B. Frank, *Downfall: the end of the Imperial Japanese Empire*, (New York: Random House, 1999), p. 292, and Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*, (Cambridge, Mass.: Harvard University Press, 2005), pp. 207-8. This line of argument can also be rebutted by the fact that neither nuclear weapons nor the attack on Hiroshima were mentioned during the earlier meeting of the Supreme Council. Hasegawa, *Racing the Enemy*, p. 204.

^{xvi} Anami consulted with the head of Japan's bomb project on the evening of August 7, 1945. See Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*, (Cambridge, Mass.: Harvard University Press, 2005), p. 184. The emperor seemed worried and asked repeatedly for more information. Richard B. Frank, *Downfall: the end of the Imperial Japanese Empire*, (New York: Random House, 1999), p. 271.

^{xvii} For the extent of the Tokyo bombing, see the U.S. Strategic Bombing Survey.

^{xviii} Richard B. Frank, for example, says, "In my view, the notion that he was really motivated by Soviet intervention but completely failed to mention it is incredible." Frank, "Ketsu Go" in Hasegawa, *The End of the Pacific War: Reappraisal*, (Stanford, Calif.: Stanford University Press, 2007), p. 88.

^{xix} Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan*, (Cambridge, Mass.: Harvard University Press, 2005), p. 250.

^{xx} The article was actually drafted by administration insiders but appeared under Stimson's name. Henry L. Stimson, "The Decision to Use the Atomic Bomb," *Harper's*, Vol. 194, No. 1161, (February 1947).