THE EVOLUTION OF THE DECISION TO DROP THE ATOMIC BOMB IN AUGUST, 1945

by
ELIZABETH NAPIER TYSON

A THESIS

Presented to the Departments of Political Science and International Studies
and the Honors College of the University of Oregon

June, 1990

APPROVED 

Professor John Orbell

An Abstract of the Thesis of

Elizabeth Tyson for the degree of Bachelor of Arts

in the Departments of Political Science and

International Studies to be taken June , 1990

Title: THE EVOLUTION OF THE DECISION TO DROP THE ATOMIC BOMB

Approved:_____
Professor John Orbell

The Manhattan Project is a useful case study of group decision-making in which individuals must act under the pressure of accountability and justification for the development and possible use of the atomic bomb. A theoretical model of interpersonal and small group processes of decision-making enhances the study of the decisions made by those in charge of the Manhattan Project.

My investigation of the Manhattan Project shows that the process of decision-making leading up to the final decision to drop the bomb involves three separate arguments: (1) the political facet as a rational policy model; (2) the organizational inertia that escalates toward eliminating alternatives different from using the bomb; and (3) the characteristics of the decision-making process that are conducive to analysis from a behavioral decision-making perspective.

These arguments are all interdependent and after the initial decision to build the bomb, the organizational processes create an internal structure that is defined by the original goal of the Manhattan Project: to make and use the atomic bomb during the war.

TABLE OF CONTENTS

LIST OF FIGURES

Politics

'In our time the destiny of
man presents its meaning
in political terms.'

Thomas Mann

How can I, that girl standing there,
My attention fix
On Russian or on Roman
Or on Spanish politics?
Yet there's a travelled man that knows
What he talks about,
And there's a politician
That has read and thought,
And maybe what they say is true
Of war and war's alarms,
But, O that I were young again
And held her in my arrms!

Y.B. Yeats

-1939-

Introduction

Group dynamics and organizational behavior provide the frame of analysis for my thesis. The Manhattan Project is a useful case study of group decision-making in which individuals must act under the pressure of accountability and justification for the development and possible use of the atomic bomb. A theoretical model of interpersonal and small group processes of decision-making enhances the study of the decisions made by those in charge of the Manhattan Project.

My investigation of the Manhattan Project shows that the process of decision-making leading up to the final decision to drop the bomb involves three separate arguments: (1) the political facet as a rational policy model; (2) the organizational inertia that escalates toward eliminating alternatives different from using the bomb; and (3) the characteristics of the decision-making process that are conducive to analysis from a behavioral decision-making perspective.

These arguments are all interdependent and after the initial decision to build the bomb, the organizational processes create an internal structure that is defined by the original goal of the Manhattan Project: to make and use the atomic bomb during the war.

Chapter I: The Post-Hoc Justification

August 6 and August 9, 1945 are dates that mark the first military use of atomic weapons. For many the bombings of Hiroshima and Nagasaki symbolize the decisive action that brought victory to the United States in the war against Japan. Post-hoc rationalizations by both President Truman and Secretary of War Stimson justified the use of the atomic bomb. The willingness of the public to accept the post-hoc justification for this decision implies that the reasons given by top government decision-makers were readily coherent, rational, and acceptable.

Two statements by President Truman revealed these post-hoc rationalizations. The first was a public announcement released at 11:00 a.m. on August 6, 1945, the day the atomic bomb was dropped on Hiroshima.

> It was to spare the Japanese people from utter destruction that the ultimatum of July 26 was issued at Potsdam. Their leaders promptly rejected that ultimatum. If they do not now accept our terms they may expect a rain of ruin from the air, the like of which has never been seen on this earth.[1]

On October 3, 1945, in a statement to Congress, President Truman begins

> Almost two months have passed since the atomic bomb was used against Japan. That bomb did not win the war, but it certainly shortened the war. We know that it saved the lives of untold thousands of Americans and Allied soldiers who would otherwise have been killed in battle.[2]

---

[1] MED Harrison-Bundy Files, RG77 #74, "Statement by the President of the United States", August 6, 1945, p.3.

[2] --------- p.1.

The decision to drop the bomb did not, however, go unquestioned. One year later, in December, 1946, Henry stimson issued a public statement called "the Atomic Bomb and the Surrender of Japan" aimed at "answering some of the unjust and damaging things that have been said".[3]

In his statement, Henry Stimson accounts for the development of the Manhattan Project as it contributed to the termination of the war with Japan. He focuses on the decision-making process pertaining to the use of the bomb stating that he and individuals in the appointed "Interim Committee" carefully considered such alternatives as a detailed advance warning or a demonstration in some uninhabited area. According to Stimson,

> Both of these suggestions were discarded as impractical. They were not regarded as likely to be effective in compelling a surrender of Japan, and both of them involved serious risks. . . Nothing would have been worse than a warning or a demonstration followed by a dud, and this was a real possibility. Furthermore, we had no bombs to waste.[4]

National policy decision-makers such as President Truman and Secretary of War Stimson framed the post-hoc justification for dropping the bomb as a choice between loss of American lives or using the atomic bomb, subsequently forcing Japan to surrender. To the American public these rationalizations were acceptable and appealing. For many an end to the war completely justified the use of the atomic bomb.

---

3 MED Harrison-Bundy Files, RG77, file #56, December 10, 1946.

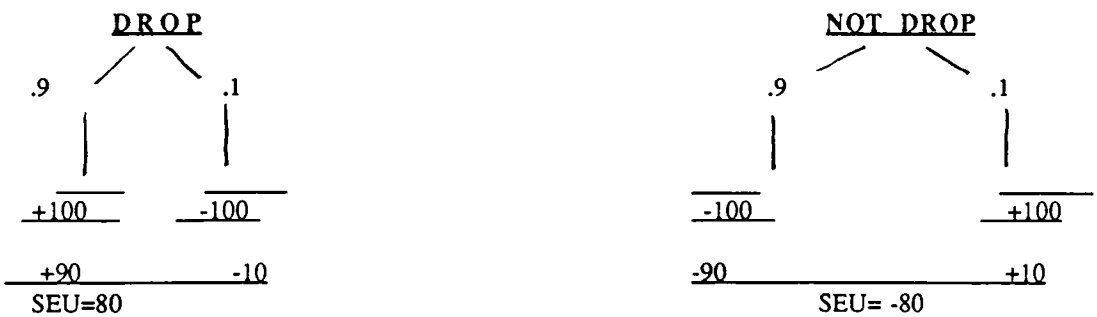
4 ----------

United States' policy toward Japan and the position of 'unconditional surrender' taken by the United States in the Potsdam Ultimatum of July 26, 1945 that

> *the full application of our military power, backed by our resolve, will mean the inevitable and complete destruction of the Japanese armed forces and just as inevitably the utter devastation of the Japanese homeland'.* . .For such as purpose the atomic bomb was an ideal weapon. . . and all the evidence I have seen indicates that the controlling factor in the final Japanese decisions to surrender was the atomic bomb. [5]

According to Truman's reconstruction of the decision to drop the bomb, if the United States had decided not to drop the bomb then it would have prolonged the war at the expense of "countless numbers" of U.S. lives. A reconstruction of Truman's argument in the form of a decision tree shows the logic of his post-hoc explanation (figure I).

Figure I: A decision tree for Truman's post-hoc justification of the decision to drop the bomb looks rationally calculated. The numerical values represent the subjective expected utility (SEU) associated with a decision to drop or not to drop the bomb. However, there is no evidence to support that this argument was used before the bombs were dropped on Hiroshima and Nagasaki.



---

[5] MED Harrison-Bundy Files, RG77, file #56, December 6,1945

In order to justify the decision to drop the atomic bombs both President Truman and Secretary of War Stimson focused upon the discrete period at the end of the war. However, in so doing, their rationalizations included only the alternatives that existed at the end of the war with Japan. For example, Stimson implied that the decision to drop the bomb was a choice amongst alternatives that existed between July and August, 1945. He confined the perspective of judgment and decision-making to the effort to win the war.

The notion that the bomb saved one half a million American lives is a myth. The figure of one half a million American lives was created after the bomb was dropped. There is no evidence to support the accuracy of this figure and none of the top military planners calculated such a huge number of losses[6].

Forty-five years after Hiroshima, the general public maintains Truman's post-hoc justification of one half a million lives saved which attests to the power of this public rationalization. This type of rationalization failed to present a fully accurate explanation of the decision-making process that precluded the decision to drop the bomb. A more accurate explanation requires an examination of the continuous process of decision-making as the Manhattan Project evolved.

---

[6]Bernstein, Barton. 1986. "A Postwar Myth: 500,000 U.S. lives saved". Bulletin of the atomic scientists, vol. 42, no. 6.

The period from 1942, when the Manhattan Project was established, to 1945, when the bomb was successfully deployed, contains elements of organizational growth and complexity. In contrast, the post-hoc justifications established by President Truman and Secretary of War Stimson and accepted on faith by the public reflect only a simple fraction of the entire decision-making process. Subsequently, post-hoc rationalizations are incomplete explanations for the decision to use the bomb in 1945.

The discrepancies between the post-hoc justifications given for using the bomb against Japan and the reasons to initiate the Manhattan Project imply that something happend between 1941 and 1945.

The events that tie the initiation of the project to the final decision to use the bomb are interrelated. Therefore, cumulative decisions that occurred early in the evolutionary progress of the bomb's development influenced the final decision to drop the bombs. The evolutionary development of the Manhattan Project contains facets that contribute to its organizational escalation toward attaining its initial goal: the production and military use of the atomic bomb.

Summary

The question remains: at what point did the decision to make the atomic bomb to counter an attack by a German nuclear warhead become the decision to use the bomb in the war against Japan? Furthermore, can it be argued that the decision to make the bomb was also the decision to use it? The answers may lie within an analysis of the Manhattan Project from a theoretical decision making perspective.

My thesis argues that "explanation" of the decision to drop the bomb requires understanding the process leading up to the decision. Specifically, the internal dynamics of the bureaucratic organization of the Manhattan Project.

The forthcoming chapters will argue that the organizational process of the Manhattan Project included political and personal investment in the successful completion of the bomb before the end of the war. As the project evolved between 1942 and 1945 sunk costs provided increasing rationale for continuing the project and the personal political pressures reinforced the rationalizations for dropping the bomb on Japan.

The last chapter analyzes the final decision to drop the bombs as the result of the internal dynamics of the "Interim Committee", an insulated group of top-policy decision-makers. A "Groupthink" decision-making analysis provides a reasonable explanation of the final process of decision-making before the dropping of the two

atomic bombs on Hiroshima and Nagasaki.

In conclusion, the process of decision-making between 1941 and 1945 reveals an inconsistency between Truman's post-hoc explanation for the decision to drop the bomb and the actual process of decision-making that led up to the final decision.

The main sources of information that I have used to support my argument include declassified documents from the National Archives called the Manhattan Engineering District Harrison-Bundy File. I have also relied upon secondary sources for scientific background, biographical information, and chronology of the wartime period.

An accurate evaluation of the decision to drop the bomb cannot be made without a describing the establishment and developmental characteristics of the Manhattan Project. The following section gives a historical description of the Manhattan Project's development including a the individuals and the organizational characteristics that are essential in the decision-making process. The narrative provides evidence to support the thesis that an explanation for the decision to drop the atomic bombs in August, 1945 are at variance with post-hoc justifications.

Chapter II: Technological Background

The military and political decision to drop the atomic bomb involves a series of interrelated decisions between 1941 and 1945. However, a discussion of the decision-making process regarding military use of the atomic bomb requires an appreciation of scientific breakthroughs prior to the United States involvement in World War II. A brief historical account of discoveries in the field of nuclear physics enhances a discussion of the development of the bomb. It also illuminates a relationship between science and politics that changed the dynamics of both nuclear physics and strategic foreign policy.

Ten years prior to the United States entry into World War II the first discoveries were being made regarding the composition of the atom. In 1932 James Chadwick of the Cavendish Laboratory at Cambridge University confirmed the existence of the neutron. Prior to this discovery, the only other known particle of the atom was the proton, a positively charged component. A neutron has no charge which means that it can pass through the electric barrier of the atom into the nucleus and force the nucleus to give up some of its enormous energy.[7]

---

[7] Rhodes, Richard. 1986. The making of the atomic bomb; Simon and schuster. p.25.

One of the eminent physicists to contribute to the breakthroughs in twentieth century nuclear physics was Leo Szilard. He imagined that a mechanism could be built whereby a neutron would release more energy in its bombardment of the nucleus than it supplied itself. Following the discovery of the existence of the neutron, Szilard speculated about the possibility of producing a nuclear chain reaction similar to that of a chemical chain reaction. When a small number of active molecules encounter a favorable reactant and emit two or more product molecules a chain reaction occurs. For example, one central chemical reaction produces thousands of product molecules. If, however, a chemical reaction were not self limiting it would run away in geometric progression.

The discovery of the neutron enhanced the field of theoretical nuclear physics and established a better empiracle understanding of atomic composition. At the same time, nuclear physicists such as Leo Szilard recognized the implications of unleashing atomic energy. Contributions by physicists such as Albert Einstein, Niels Bohr, Enrico Fermi, and Robert Oppenheimer provided a key to understanding the behavior of atoms in the universe. It was only a matter of time before scientists attempted to harness and direct the enormous energy that is contained in an atom. Unfortunately, the political situation in Europe during this time influenced the attempts to

develop an atomic bomb.

During the next ten years the field of nuclear physics progressed rapidly as did the hostilities in Europe that precluded World War II. Many of the discoveries in atomic fission occurred in Germany before Hitler came to power. However, in reaction to the religious and political persecution in Germany, many German scientists emigrated to Britain and the United States.

In 1940 scientists in both Great Britain and the United States bridged the gap between theoretical physics and the military politics of World War II. In February, 1940 Otto Frisch and Rudolf Peierls, two emigre scientists studying in Birmingham, England, acknowledged the possibility for the production of a nuclear weapon. Their memorandum, "On the construction of a Superbomb" is based on a nuclear chain reaction in uranium. This report explored the question of design and structure of an atomic weapon as well as strategic issues of possession and use. The scientists stated:

> It is quite conceivable that Germany is, in fact, developing this weapon. . and if one works on the assumption that Germany is, or will be, in the possession of this weapon, it must be realized that no shelters are available that would be effective and could be used on a large scale. The most effective reply would be a counter-threat with a similiar weapon.[8]

---

[8]Rhodes, Richard. 1986. The making of the atomic bomb. Simon and schuster, p. 325

In September, 1941, a conversation between German physicist, and Werner Heisenberg, Neils Bohr revealed German progress toward production of material capable of creating a nuclear chain reaction. Heisenberg had been a student of Bohr's and was at that time the scientist in charge of nuclear weapon production for the Nazi War Office. He told Bohr that he had received forty gallons of heavy water and experimented with alternating layers of heavy water and uranium oxide arranged around a central neutron source. Heisenberg revealed to Bohr that the results of this experiment were successful enough to predict the use of heavy water as a method for producing an enriched uranium or plutonium bomb.

From the outset, the efficiency of the project reflected the initial effort and commitment to successfully produce an atomic weapon. President Franklin Delano Roosevelt adopted and steadily pursued a policy "To spare no effort in securing the earliest possible successful development of an atomic weapon. The original achievement of atomic fission had occurred in Germany in 1938, it was known that the Germans had continued their experiments. In 1941 and 1942 they were believed to be ahead of us, it was vital that they not be the first to develop the weapon. We should have a great new weapon for shortening the war and minimizing destruction."[9]

---

[9] Rhodes, Richard. 1989. The making of the atomic bomb. Simon and schuster.

Characteristics of the initiation of the Manhattan Project include the pursuit of several simultaneous options for the production of fissionable material. On March 9, 1942, Vannevar Bush, the Director of the Office of Scientific Research and Development, sent a report to President Roosevelt regarding the assessment research being undertaken in several notable institutions. Attempts to determine the efficiency, size, estimated time of completion, and effectiveness revealed three promising methods of enriched uranium. Principle contracts for work in the field of physics and chemistry were secured a Columbia University, University of California, and University of Chicago. Princeton University and University of Virginia were also actively involved in the research project.

In memorandum, Bush said that he was concerned with priorities of the atomic weapon research and development program, code named S-1. He states that

> The situation as outlined in the report of June 13, 1942, remains unaltered in that the eminent scientific personnel involved are confident that from the results outlined . . It is apparent that we have reached a point where decisions must be made as to the expedition to be afforded this whole affair, which involves balancing this program against other parts of the war program and which it will interfere. . .I am prepared to recommend that nothing should stand in the way of putting this whole affair through to conclusion, on a reasonable scale, but at the maximum speed possible, even if it does cause moderate intererence with other war efforts."[10]

He argues for the continuation of efforts despite new estimates of increase in cost and delay in date of completion. In his estimation, unless higher priority was given the successful production of an atomic weapon could *not* be attained in time to influence the war effort.

---

[10]MED Harrison-Bundy Files, RG77, #55, August 29,1942.

Summary

In summary, Bush's report in March, 1942 instilled President Roosevelt's confidence in an all-out effort toward achieving successful production of nuclear fissionable material. The best estimates indicated completion in 1944. During the next summer, the project would be ready to turn control over to the Army for the actual construction.[11]

The government's desire to complete the atomic bomb as soon as possible undermined other war projects. The United States' decision-makers chose to commit money and military time toward successful development of the S-1 project. These actions are most easily understood by considering the war situation as it existed in Europe in 1941 especially based upon the probability that Germany was producing atomic weapons. The concern that Germany was ahead of the United States in terms of nuclear weapons production was legitimated by the fact that, like the United States, they

> had three years since the discovery of fission to prepare a bomb. Assuming they know about [plutonium], they could run a heavy water pile for two months at 100,000 kw and produce six kilograms of it; thus it would be possible for them to have bombs by the end of this year [1942]. On the other hand, we don't plan to have bombs in production until the first part of 1944.[12]

---

[11]MED Harrison-Bundy Files, National Archives, RG77, file #55, August 29, 1942.

[12]Rhodes, Richard. 1987. The Making of the Atomic Bomb. Simon and schuster. p.412

This estimation came from Arthur Compton, a Program Chief of the Office of Scientific Research and Development who made a significant contribution to the Manhattan Project's development.

A monumental memorandum was issued on June 13, 1942 from Vannevar Bush, and J.B. Conant, Chairman of the National Defense Research Council (NRDC) addressed to Vice President Wallace, Secretary of War Stimson, and Army Chief of Staff, George Marshall.

The report concluded that :

> (1) the present status of the development, (2) the recommendations of the senior scientific personnel concerned with the subject in the Office of Scientific Research and Development (OSRD) in regard to a future program, (3) comments concerning this program, and (4) proposed specfic arrangements for carrying it on, should it be approved.[13]

The report summarized the organization of the research and development project that the Office of Scientific Research and Development had broken down into four categories; three of scientific aspects and one on the aspects of engineering. The three Program Chiefs in charge of scientific calculations were Dr. Ernest O. Lawrence, Dr. H.C. Urey, and Dr. A.H. Compton. All four recommended immediate construction of:

---

[13]MED Harrison-Bundy Files, National Archives, RG77, #55, August 29, 1942.

a. A centrifuge plant to yield O.1 kg per day, scheduled for completion in January, 1944.

b. A diffusion pilot plant, of low yield, and full engineering designs on 1.0 kg per day diffusion plant.

c. An electro-magnetic plant to yield 0.1 kg per day scheduled for completion in late 1943.

d. An atomic power installation designed to furnish 0.1 kg per day of element 94 early in 1944.

e. As an auxiliary to d, plants to yield 0.5 tons of heavy water a month beginning May 1 1943.[14]

Physicists were the first to be aware of the methods needed for harnessing atomic energy. Subsequently, they saw the potential military application in the form of an atomic bomb. Upon the recommendations given by the scientific and engineering experts, Bush and Conant comment that:"When four separate methods [above] all appear to a highly competent scientific group to be capable of successful application, it appears certain that the end result will be attained by any competent enemy with sufficient time and adequately energetic efforts."[15]

The reports from the scientists were conclusive. The atomic bomb could be built if enough resources and manpower were allocated for a top secret military project. However, at this time it was crucial that President Roosevelt commit immediately to the development of an atomic bomb if it were to be completed for use against Germany or as a strategic deterrent to a Nazi atomic bomb.

14----------June 13, 1942.

The following chapter analyzes the process of decision-making from 1942 to the the final decision to use the atomic bomb against Japan in August, 1945.

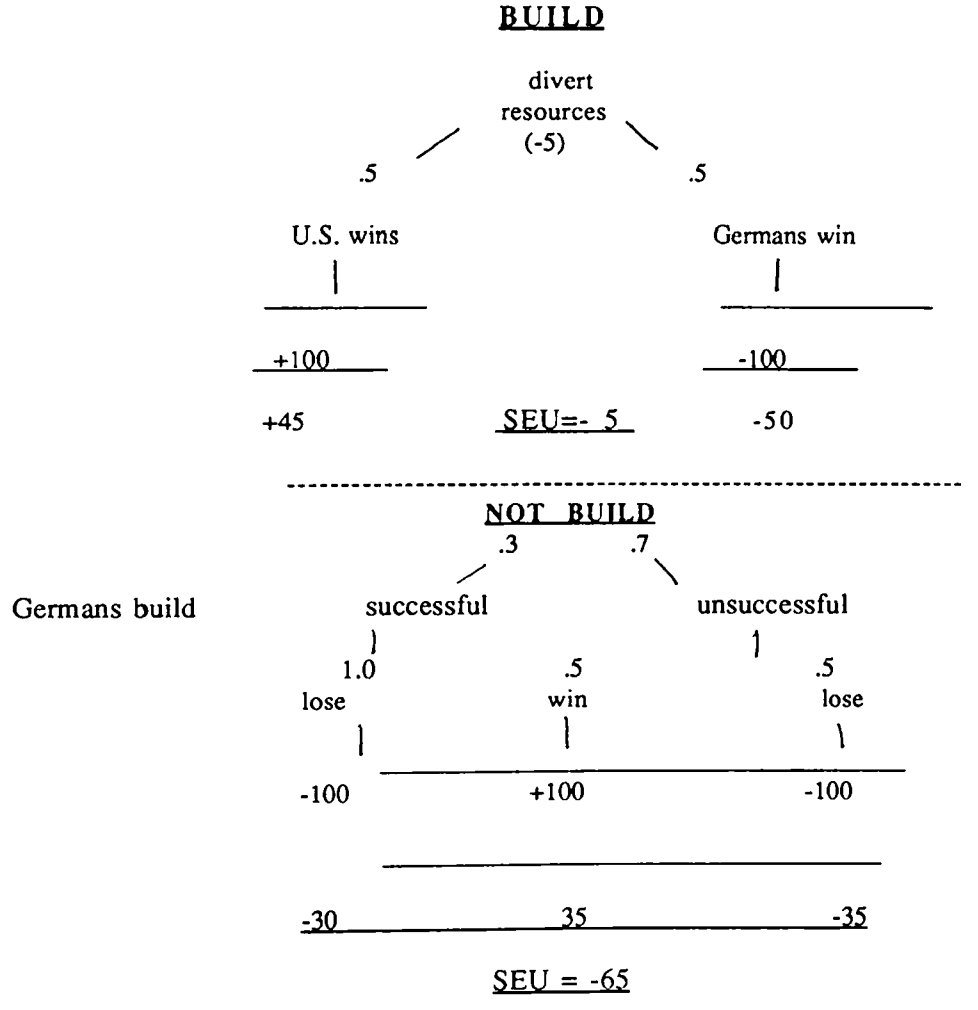
---

15 MED Harrison-Bundy Files, National Archives, RG77, #55, June 13, 1942.

Chapter III: The Decision to Build the Atomic Bomb

While everyone agreed on the decision to build the bomb, not every one agreed on the decision to drop it. The process of decision-making excluded critics of the latter option. From the historical records, the logic of the decision to make the bomb is well captured by the following decision tree:

Figure II. The Decision to Build the Atomic Bomb, 1941. This decison tree represents the expected utility associated with the alternatives to build or not to build the atomic bomb in 1941.



There is evidence that President Roosevelt framed his decision this way before he made the decision to establish the Manhattan Project. Following the Bush-Conant memorandum of June 13, President Roosevelt received a "program of continuance by Bush. With the subsequent note of Presidential approval, simply stated: "V.B. O.K. . . F.D.R." the project was handed over to the Army.[16] However, the Corps of Engineers' Colonel Marshall had not yet been successful at placing the S-1 ahead of other war projects. In August, 1942 Vannevar Bush writes:

> Faced as I am with the unanimous opinion of a group of men that I consider to be among the greatest scientists in the world, joined by highly competent engineers, I am prepared to recommend that nothing should stand in the way of putting this whole affair through to conclusion. . . even it it does cause moderate interference with other war efforts.[17]

His solution for achieving success of the S-1 project was to form a special branch of the Army Corp of Engineers and give authority to General Groves, a powerful Army officer. The Military Policy Committee consisted of Secretary of War Henry Stimson, Army chief of Staff George Marshall, Vannevar Bush, James Conant, Brehon Somerville, and Wilhelm Styer.

---

[16] MED Harrison-Bundy Files, National Archives RG77, File #55, June 13, 1942.

[17] Rhodes, Richard. 1986. The Making of the Atomic Bomb. p.424.

Summary: The Critical Transition

The formation of the Manhattan Project made a critical transition from that of research and development to a highly prioritized and structured top secret military project. This change marked the beginning of an organizational and bureaucratic process that led to the successful production of the atomic bomb by the United States.

The important decision to initiate the Manhattan Project was in reaction to the perceived nuclear threat posed by Germany in 1942. United States governmental decision-makers as well as physicists chose to commit money and time in an effort to deter a German nuclear bomb. It was a race to successful deployment of such a weapon and it was likely that the United States was behind. When asked later why he did not abandon the Manhattan Project, Nobel physicist, Otto Frisch wrote that "We were at war, and the idea was reasonably obvious; very probably some German scientists had had the same idea and were working on it."[18]

---

18 Rhodes, Richard. 1986. The making of the atomic bomb. Simon and schuster, p.325.

Chapter IV: Analysis of the Decision-Making Dynamics

1. Rational Actor Model

A rational choice model provides the framework for analysis of the the decision to begin developing the atomic bomb. According to this model, what a state says or does must be the most efficient or rational means of achieving its goals or national interests[19]. The dominant pattern of inference in the rational choice paradigm assumes that if a nation performs an action, it must have an end toward which the action constituted an optimal means. Any ambiguity may be relieved by revealing the purposive pattern within which the occurrance can be located as a value-maximizing means[19]. The U.S. approach to the Manhattan Project in 1942-42 defines its commitment toward attaining nuclear weapons before Germany and using the bomb to end the war in Europe.

The decision made by the United States in 1941 to proceed with an extensive, costly effort to produce the atomic weapon may be viewed as a value-maximizing choice for several reasons. First of all, the United States was involved with the war effort in Europe against Nazi Germany. Secondly, they needed to deter a German atomic bomb.

---

[19]Sigel, Leon V. 1989. Fighting to a finish: the politics of war termination in the United States and Japan, 1945. p. 12.

[20] Allison, Graham T. 1969. Conceptual models and the cuban missile crisis American political science review; vol. LXIII, no. 3.

Furthermore, authoritative scientists estimated that it was possible to produce an atomic weapon despite the investments of time, money, and resources required for the successful production of an atomic bomb.

Production of an atomic bomb was vital to the war situation as it existed vis a vis the potential German production of nuclear weapons. For example, a memorandum for the Secretary of War from Henry Bundy acknowledged that Vannevar Bush had obtained "further information about the German new weapon and its dangers." Bundy goes on to recommend that "defense against this would seem to rank as having an importance almost equal to our plans for air bombardment and cross channel operations."[21].

Making the atomic bomb required huge numbers of engineers of individuals, materials, and scientists. The Manhattan Project acquired characteristics of a complex organized bureaucracies as it began building production plants. The top secret status also required that the project be organized with only a few top decision makers who were insulated from public scrutiny and enemy espionage.

---

[21]MED Harrison-Bundy files, National Archives, RG77, #60, December 23, 1943.

The facets that influenced decisions about the use of the atomic bomb were twofold. First and foremost, the decision to make the bomb was influenced from an external threat and by the war during 1941. The other facet is a product of the first: to create an enormous bureaucratic structure as efficient and organized as the Manhattan Project was to create an internal pressure to use the bomb.

The Manhattan Project was defined by its goal. And the decision to make the bomb, for external reasons, became the decision to use the bomb on Japan, absent of the external German political and military threat.

II. Disagreement Over Use of the Bomb

After the defeat of Germany in 1945, incentives to use the atomic bomb shifted. Several critical issues arose concerning United States' possession of a weapon capable of mass destruction and its responsibility to disclose this to other nations. United States decision-makers involved in the Manhattan Project faced a military, social, and moral dilemma regarding the implications of tactical use the the bomb on Japan.

The scientists who, for purposes of this paper may be labeled 'visionaries', presented another school of thought regarding the use of the atomic weapon. On July 17, 1945, the day after the successful test of the bomb at Alamogordo, New Mexico , sixty-seven of the Manhattan Project scientists signed a petition to President Truman stating their opposition to attacking Japan with an atomic weapon. In their view, the war had been brought to a successful conclusion. With the defeat of Germany, danger of being attaked with an atomic bomb had been averted. Therefore, "such attacks on Japan could not be justified, at least not unless the terms which will be imposed after the war on Japan were made public in detail and Japan was given an opportunity to surrender." Futhermore, such a step "ought not be made at any time without seriously considering the moral responsibilities which are involved."[22]

---

[22]MED Harrison-Bundy Files, RG77 , #76. 1945.

Ironically, this report was issued on the same day as the successful test of the atomic bomb and the report of this success to President Truman at Potsdam. The subsequent Potsdam Ultimatum made no mention of the atomic weapon and its possible use against Japan.

Proponents of using the first atomic bomb against Japan saw the success of the Manhattan Project as an "opportunity to bring the world into a pattern in which the peace of the world and our civilization can be saved." However, civilian scientists who had contributed to the success of the project sent a petition to President Truman urging him "to exercise his power as Commander-in-Chief, to rule that the United States shall not resort to the use of atomic bombs in this war" Their reasons stem from a fear that if United States citizens were not aware of the capabilities of nuclear weapons, that lack of knowledge might have detrimental affects on the welfare of their country.

The petition stated that:

> The liberation of atomic power which has been achieved places atomic bombs in the hands of the Army. It places in your hands, as Commander- in-Chief, the fateful decision whether or not to sanction the use of such bombs in the present phase of the war against Japan,. . . The development of atomic power will provide nations with a new means of destruction. The atomic bombs at our disposal represent only the first step in this direction, and there is almost no limit to the destructive power which will become available in the course of their future development. Thus a nation which sets the precedent of using these newly liberated forces of nature for purposes of destruction may have to bear the responsibility of opening the door to an era of devastation on an unimaginable scale. . .[23]

---

[23]MED Harrison-Bundy Files, RG77, #100, July 17, 1945.

The petition revealed one of the obstacles that confronted the decision-makers as the war drew to a close and scientists completed the atomic bomb. However, not all those working on the Manhattan Project agreed with those scientists who petitioned President Truman. People at the top of the organizational structure who were powerful decision-makers gave priority to the immediate wartime demonstration of the project's success.

In the end, the Interim Committee reviewed the final alternatives about dropping the bomb. The scientists who were opposed to the use of the atomic bomb were excluded in the final decision-making process.

Summary

This chapter shows how the decision to make the bomb initiated an organizational process of decision-making that laid the groundwork for the final decision to make the bomb. There was consensus between governmental decision-makers and scientists involved in the project when the decision was made to start production of the atomic bomb. The choice to begin production of the bomb was critical to the war against Germany. To not build the bomb in 1941 was to risk disaster if Germany had produced it in time to use during the war.

In 1945, however, the decision to drop the bomb brought disagreement. Many of the scientists saw the use of the bomb against Japan as a risking global proliferation of nuclear

weapons. Yet, the final decision was made by a group of decision-makers who were appointed to advise President Truman on issues concerning use of the atomic bomb. This was a concensual group that favored strategic use of the atomic bomb in the war against Japan.

The following chapter provides a decision-making analysis of the internal dynamics of the Interim Committee. Specifically, the process of decision-making within the Interim Committee possesses characteristics and symptoms of "Groupthink". A "Groupthink" analysis implies that consensus within the group regarding the use of the bomb against Japan prevented consideration of alternative courses of action.

Chapter V: "Groupthink"

As the United States approached the possibility of dropping the atomic bomb a group called the Interim Committee was appointed by President Truman. This group consisted of expert scientists and Army officials who were to advise the President on issues concerning the atomic bomb. "Interim" implied until after the war when the atomic project could be made public and would be controlled by Congressional approval. Proponents of dropping the bomb eliminated alternatives that were not consistent with their view. Members of this top policy group who were in charge of decisions about the use of the bomb eliminated the alternatives other than dropping it on Japan. The characteristics of this process make the final stage of the decision-making process conducive to an analysis called "Groupthink".

"Groupthink" is a term used to refer to a mode of thinking that people engage in when they are deeply involved in a cohesive "in-group". Groupthink refers to a deterioration of mental efficiency, reality testing, and moral judgment that results from in-group pressures.[24]

---

[24]Janis, Irving L.; Mann, Leon. 1974. Decision making: a psychological analysis of conflict, choice, and commitment.

Striving for unanimity amongst members of the group overrides their motivation to appraise alternative courses of action. "Groupthink" dominated groups show strong pressures toward uniformity. Subsequently, these groups avoid raising any controversial issues, questioning weak arguments, or calling a halt to soft-headed thinking.[25]

The members of the Interim Committee had been actively involved in the Manhattan Project from its outset. They had seen it develop and move rapidly toward successful production of an atomic bomb. Therefore, in 1945, with the completion of the bomb one month away, the Interim Committee shared the experiences of one of the largest and best kept military secrets in the history of the United States.

The Interim Committee Meeting of May 9, 1945 Secretary of War Stimson outlined the nature of the project and expressed his views as to the purposes and junctions of the Committee:

> . . . The Committee was established to study and report on the entire problem of temporary wartime controls and later publicity, and to survey and make recommendations on postwar research, development, and control, and on legislation necessary for these purposes. It was termed an "Interim Committee" in view of the fact that, at the proper time, Congress would probably establish by law a permanent body to supervise, regulate, and control the entire field. It was pointed out that reports and recommendations made by the Committee would be submitted to the Secretary, and through him, to the President. The full membership of the Committee is as follows:
>
> Hon. Henry L. Stimson, Secretary of War, Chairman,
> Hon. Ralph A. Bard, Under Secretary of the Navy,
> Dr. Vannevar Bush, Director, Office of Scientific Research and Development

Hon. James R. Byrnes, Special Representative of the President,
William L. Clayton, Assistant Secretary of State.
Dr. Karl Compton, Chief, Office of Field Service, Office Scientific Research and Development.
Dr. James B. Conant, Chairman, National Defense Research Committee,
Mr. George L. Harrison, Special Consultant to the Secretary of War, Alternate Chairman.[26]

These eight individuals represent an insulated group whose job was to make crucial decisions regarding the target and use of the atomic bomb. This conformity among the individuals as well as the insulation of the group from the outside is consistent with the "Groupthink" model.

The characteristics of the Interim Committee offer a strong argument in favor of the "Groupthink" perspective to explain the final decision to drop the bomb.

The prevalent cohesiveness of the group illustrates one characteristic of "Groupthink". The members of the Interim Committee had been actively involved in the Manhattan Project from its outset. They had seen it develop and move rapidly toward successful production of an atomic bomb. Therefore, in 1945, with the completion of the bomb one month away, the members of the Interim Committee shared the experiences of one of the largest and best kept military secrets in the history of the United States.

---

[26]MED Harrison-Bundy Files,#RG 100, May 9, 1945

The cohesiveness of the group increased with the level of decision-making and all the members of the Interim Committee supported military use of the atomic bomb. For example, the scientists invited to this panel were recommended, not on merits of scientific talent; but, rather on how conducive they were to the ideas of the Interim Committee, as defined by the existing members. On May 14, 1945:

> It was agreed that the membership of the Scientific Panel should be as follows:
> Dr. Arthur H. Compton
> Dr. Ernest O. Lawrence
> Dr. Robert Oppenheimer
> Dr. Enrico Fermi.[27]

These four men were invited to become members of the Scientific Panel. they were invited upon recommendation of Vannevar Bush and J.B. Compton to discuss technical and political matters. This Scientific Panel later became the force which bolstered support for military use of the bomb in Japan.

Interestingly, many of the most brilliant scientists were violently opposed to military use of the bomb. Records of the Interim Committee minutes reveal how the members dealt with dissenting opinion. At the May 14 meeting, for example, General Groves attended upon invitation of Secretary of War Stimson. They discussed a petition signed by the Chicago scientists.

---

[27]MED Harrison-Bundy Files, National Archives, RG77, File #100, May 14,1945.

group should continue its work for the present and that the question of future status should be taken up later *after the weapon was put to offensive use.* [28]

The Interim Committee possessed other characteristics of "Groupthink"such as pressure toward uniformity. This is prevalent among high-level policy-making groups as one characteristic of "Groupthink" [29] The Scientific Panel, for example, was formed to give technical *and* political consultation. By inviting scientists who would most likely support the opinion of General Groves, a proponent of the use of the bomb, the group avoided raising controversial issues.

The Interim Committee also possessed some of the symptoms that are characteristic of a "Groupthink" model including:.

1. collective efforts to rationalize in order to discount warnings which might lead the members to reconsider their assumptions before they recommit themselves to their past policy decisions;
2. an unquestioned belief in the group's inherant morality, inclining the members to ignore the ethical or moral consequences of their actions.
3. stereotyped view of rivals and enemies as too evil to warrant genuine attempts to negotiate, or as too weak or stupid to counter whatever risky attempts are made to defeat their purposes;

---

[28]MED Harrison-Bundy Files, RG77, File #100, May 31, 1945.

[29]Janis, Irving L. ; Mann, Leon. 1974. Decision making:a psychological analysis of conflict, choice, and commitment

> 4. direct pressure on any member who expresses strong argumentsagainst any of the group's stereotypes, illusions, or commitmentsmaking clear that such dissent is contrary to what is expected of all loyal members decisions[30].

Details of the May 31 Interim Committee further reveal specific symtoms of a "Groupthink" model. At this meeting, General Groves discusses the "handling of undesireable scientists" He states that:

> the program has been plagued since its inception by the presence of certain scientists of doubtful discretion and uncertain loyalty. It was agreed that nothing could be done about dismissing these men until after the bomb has actually been used or, at best, until after the test has been made. After some publicity concerning the weapon was out, steps should be taken to sever these scientists from the program[31].

Details of this meeting also lend themselves to Herbert Simon's theoretical analysis concerning "authority", "responsibility", and "organizational loyalty" within an administration. Simon says that personnel who are subordinate to the authority figures possess limited discretion about an policies determined at the top of the hierarchy. Thus, a subordinate is "said to accept authority whenever he permits his behavior to be guided by the decision of a superior, without independently examining the merits of the decision."[31].

---

[30]MED Harrison-Bundy Files,National Archives RG77, File #100, May 31, 1945

[31]Simon, Herbert A. Administrative behavior: a study of decision-making processes in administrative organization; third ed. The free press; pp.10-11.

The Manhattan Project as an organizational entity or organism, had reached a high-level of development. Organizational loyalty plays an important role in administrations in general and in the Manhattan Project in particular.

Item IX of the Interim Committee agenda on Thursday, May 31, 1945 is a startling and revealing concrete example of organizational loyalty within the Interim Committee. General Groves questions how to handle "undesireable scientists" who showed outward disloyalty to the project as perceived by those at the top of the organizational hierarchy.[32]

General Groves was a pivotal figure in the success and efficiency of the top secret military project. Although some of his methods and personal relations have been criticized, he was unquestionably a powerful decision-maker who supported military use of the bomb on Japan. His leadership in the Manhattan Project exemplified and defined the loyalty of his subordinates to it success.

---

[32]MED Harrison-Bundy Files, National Archives, RG77, File # 100, May 31, 1945

Some of the scientists who contributed to the development of the bomb did not condone its use as a military weapon and petitioned President Roosevelt to not drop the bomb on Japan. General Groves stated at this Interim Committee meeting that the program had "been plagued since its inception by the presence of certain scientists of doubtful discretion and uncertain loyalty". He suggested that nothing could be done about dismissing those particular men until after the bomb had acturally been used or, at best, until after the test has been After some publicity concerning the weapon was out, steps should be taken to sever these scientists from the program and to proceed with a general weeding out of personnel no longer needed." [33]

The notes of this meeting reveal the actual points of contention about using the atomic bomb. It appears not so much a question of if, but, rather of where, how, and with what prior warning the bomb would be dropped.

The most pervasive symptom of groupthink exhibited by the Interim Committee was its disregard for alternative courses of action to dropping the bomb. Any controversial issues were either avoided of discounted. Moreover, they used rationalizations in order to bolster this as the most dominant course of action.

---

[33]MED Harrison-Bundy Files, National Archives, RG77, File # 100, May 31, 1945

The petition (above) issued to President Truman in July, 1945 by scientists who opposed the use of the bomb is an example in which two alternatives of advanced warning or demonstration were proposed. Both options were eliminated.

Summary

Without more detailed information of the Interim Committee Meeting minutes, it cannot be proven that "Groupthink" was the process that finalized the decision to drop the bomb. It is, however, a very plausible explanation for the last stage in the development of the Manhattan Project.

As the project evolved toward successful completion of the bomb, the process of decision-making reinforced military use of the weapon to end the war with Japan. The Interim Committee was a consistent link in evolution of the making of the atomic bomb. Dropping the atomic bombs on Hiroshima and Nagasaki brought victory to the United States. It also demonstrated to the rest of the world the success of the Manhattan Project and the military power of the United States.

Chapter VI: Inconsistencies and Implications of the Decision to Drop the Bomb.

There is no evidence that anyone argued the way President Truman did in his post-hoc justification for using the atomic bomb. The estimates of lives that would have been lost in conventional warfare and invasion of Japan were well under the figure 500,000 that Truman gave in his memoirs. In fact, military planners estimated loss of lives from 20,000 to 46,000. It was after the bombs were dropped that political leaders began raising the figures to justify the decision. These exaggerrated figures helped to instill a myth that the bomb saved one half a million American lives[34].

I have argued in my thesis that this post-hoc justification does little to explain the reasons for dropping the bombs on Japan. A more accurate explanation of the decision to drop the bombs in 1945 involves an analysis of the process of decision-making that lay between the decision to make the bomb and the decision to drop it. Specifically, the internal dynamics the Manhattan Project reveals how the decision to make the bomb developed into the decision to use it once the bomb had been successfully built.

---

[34]Bernstein, Barton J. 1986. A postwar myth: 500,000 lives saved. Bulletin of the atomic scientists. vol.42, no. 6.

The most important distinguishing factor of the process of decision-making was the discrepancy between the costs of not building the bomb in 1941 and the costs of not dropping the bomb in 1945. In 1941, President Roosevelt made a rational decision to invest millions of dollars into a top secret military project that challenged the German nuclear threat. In 1945, Germany surrendered having lost the war in Europe and failed to make an atomic bomb. The United States was still at war with Japan, however, the Japanese military did not pose a nuclear threat to the United States. In fact, Japan had a weakening offense and no way to deter the United States nuclear weapon.

Given this contrasting strategic situation faced by the United States between 1941 and 1945, I have argued that an explanation for the decision to drop the bomb exists in an analysis of the organizational process of decision-making and evolution of the Manhattan Project. Internal dynamics and the inertia the bureaucratic organization of the Manhattan Project escalated toward the final decision. The Interim Committee, characterized by loyalty to the successful use of the atomic bomb and "Groupthink" dynamics, decided where and when to drop the bomb, not if it should be dropped.

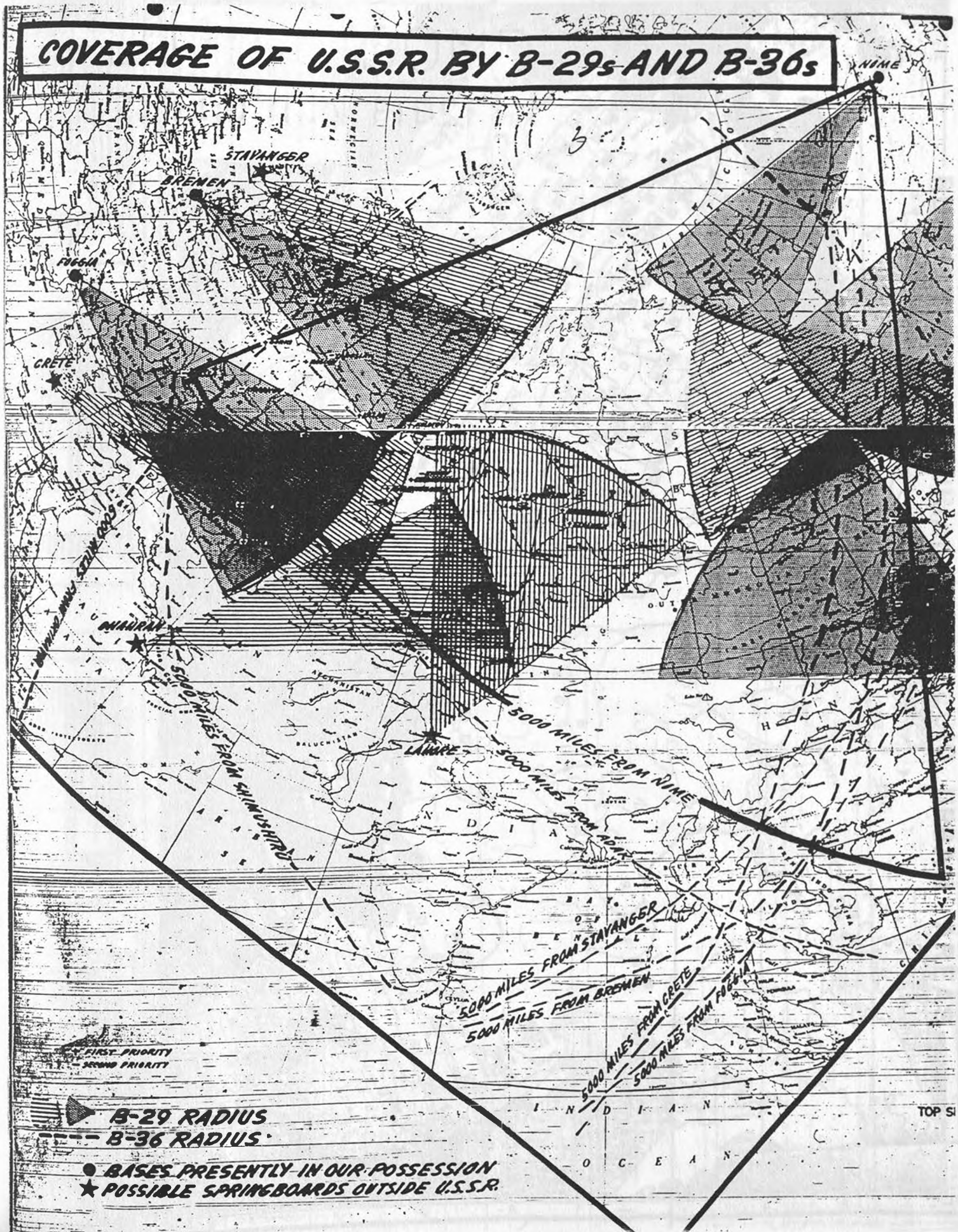
1. Intimidating the Soviet Union?

Neither a rational actor model nor the post-hoc justification explains the actual reasons for the final decision. There is some speculation that the bomb was dropped as a strategic tactic to demonstrate the United States' power in the geopolitical realm. Specifically, some analysts speculate that the bomb was dropped to intimidate the Soviet Union[35] . This has been one of the most controversial arguments. And, there is no conclusive evidence that diplomatic gains for the United States over the Soviet Union determined the decision to use the bomb against Japan. However, in my research at the National Archives I came across a contingency plan and a strategic map of the Soviet Union. This document showed calculations of how many bombs it would take to destroy all the urban areas in the Soviet Union dated August 31, 1945; twenty-two days after the bomb was dropped on Nagasaki (see document duplication below).

---

[35]Alperowitz, Gar. 1967. Atomic diplomacy: hiroshima and potsdam . Penguin.

The reasons for the dropping of the atomic bombs may lie hidden within diplomatic games playing with the Soviet Union or within the process of decision-making within the bureaucracy of the Manhattan Project. I would argue that the most prevalent factor contributing to the final decision was the internal dynamics and evolution of the decision-making process. The insidious implications of the decision to drop the bomb remain that the world exists today with the most powerful risk of all: the threat of a global nuclear war.


COVERAGE OF U.S.S.R. BY B-29s AND B-36s
NIME
STAVANGER
BREMEN
FOGGIA
CRETE
OKINAWA
5000 MILES FROM OKINAWA
5000 MILES FROM NIME
5000 MILES FROM ADAK
5000 MILES FROM STAVANGER
5000 MILES FROM BREMEN
5000 MILES FROM CRETE
5000 MILES FROM FOGGIA
1ST PRIORITY
2ND PRIORITY
B-29 RADIUS
B-36 RADIUS
BASES PRESENTLY IN OUR POSSESSION
POSSIBLE SPRINGBOARDS OUTSIDE U.S.S.R.
TOP SI

RUSSIAN & MANCHURIAN STRATEGIC URBAN AREAS

CONCLUSION

In this thesis I have employed evidence from historical accounts, declassified files, personal testimonies, and theoretical analysis of the decision to drop the atomic bomb. Between 1941 and 1945 a series of interdependent decisions were made by powerful leaders of the Manhattan Project to ensure the success of the project. The purpose of this thesis is to argue that the reasons for the decision to drop the bomb occur internally. Therefore, it is necessary to study the the Manhattan Project as it progressed toward successful achievement of its original goal.

The original goal of the Manhattan Project in 1941 was to build an atomic bomb to be used to win the war. Once the military project was under way, external political strategy became subordinate to the internal organizational dynamics of the Manhattan Project. In 1941, Germany posed an external nuclear threat to the Allied Powers. President Roosevelt's decision to build the bomb was made in order to deter the potential German nuclear threat. If Germany had been successful, this was the only way to counter a German nuclear attack; the only way to win the war.

In 1945 Germany surrendered having failed in its attempt to build an atomic bomb. The United States was still at war with Japan; but there was no nuclear threat from the Japanese. In fact, they had a weakening military and a collapsing internal political leadership. Dropping the atomic bomb was not the

only way to win the war.

So why did President Truman, Secretary of War Stimson, General Groves, and the Interim Committee decide to use the bomb? Why drop two atomic bombs? Why not warn the Japanese first? Theoretical models of decision-making reveal the complex nature of the decision to drop the atomic bomb. Organizational dynamics of the Manhattan Project leading up to August, 1945 consisted of interrelated political, moral, and military principles. United States decision makers faced the end of World War II with an atomic bomb. Using this weapon solved immediate problems; it solidified a decisive and powerful victory against Japan and it justified the Manhattan Project by successfully completing what it set out to achieve.

So why the revision of the reasons for using the bomb? After all, it did end the war. According to a rational actor model, the United States made a purposive and logical decision vis a vis Japan as an aggressor and as a threat. President Truman told the public that it saved one half a million American lives. The United States public bought the notion; it was comfortable;it was secure; and it meant that everyone could rest easy in the President's sincerity. And, forty-five years later, people still do.

The important conceptions of my thesis involve analysis of the decision-making process of the Manhattan Project. It involves dynamics of decision-making from the level of the Manhattan Project as a bureaucratic organization, down to the

level of the individual of decision makers. At every stage of the top secret military bureaucracy, the organization was primed toward use of the bomb. The use of the bomb was justified by decision-makers who were loyal to the Manhattan Project and had personal investment in its success.

Furthermore, the immediate political and strategic implications of dropping the bomb both favored the United States as the Superpower and the established U.S. global military superiority.

A forewarning by the scientists who opposed the military use of the bomb was ignored. Even General Eisenhower, upon receiving word of the success of the atomic bomb testing at Alamogordo on July 16, 1945 had this reaction:

> The cable was in code, you know the way they do it. "The lamb is born" or some damn thing like that. So then he [Secretary of War Stimson] told me they were going to drop it on the Japanese. Well, I listened, and I didn't volunteer anything because, after all, my war was over in Europe and it wasn't up to me. But I was getting more and more depressed just thinking about it. Then he asked for my opinion, so I told him I was against it on two counts. First, the Japanese were ready to surrender and it wasn't necessary to hit them with that awful thing. Second, I hated to see our country be the first to use such a weapon. Well. . . the old gentleman got furious. And I can see how he would. After all, it had been his responsibility to push for all the huge expenditure to develop the bomb, which of course he had a right to do, and was right to do. Still, it was an awful problem [36].

Eisenhower's testimony, reveals part of the undefinable truth about the reasons for dropping the bombs.

Secretary of War Stimson and others like him had been loyal to the success of the atomic bomb. Between 1941 and 1945 the Manhattan Project developed into a bureaucratic machine, in some senses. It progressed speedily and efficiently toward success. And, defined by its end, it was a success. At the expense of Hiroshima and Nagasaki, the success of the Manhattan Project initiated the nuclear arms race with the United States at the lead.

---

[36]Rhodes, Richard. 1986. The making of the atomic bomb. Simon and schuster.

BIBLIOGRAPHY

Allison, Graham T. 1969. "Conceptual models and the cuban missile crisis." American political science review; vol. 63, pp. 689-718.

Alperovitz, Gar. 1967. Atomic diplomacy: hiroshima and potsdam. Vintage.

Bernstein, Barton. 1986. "A postwar myth: 500,000 lives saved". Bulletin of the atomic scientists, vol. 42, no.6.

Janis, Irving L.; Mann, Leon. 1974. Decision making: a psychological analysis of conflict, choice, and commitment. The free press.

MED Harrison-Bundy files, national archives RG77.

Rhodes, Richard. 1986. The making of the atomic bomb. Simon and schuster.

Sigel, Leon V. 1988. Fighting to a finish. Cornell university press.

Simon, Herbert A. Administrative behavior; a study of decison-making processes in administrative orgainizations, 3rd ed. The free press.

Yeats, William Butler. 1939. *Politics.* Rosenthal, M.L. (ed). 1962. p.186.