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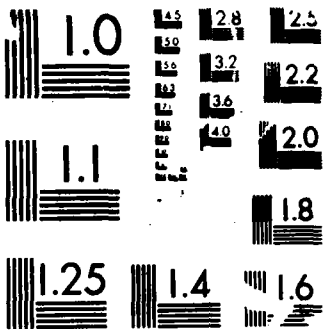

AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

ANALYSIS OF JAPANESE BALLOON BOMBING OF NORTH AMERICA

MAJOR GARY R. BROWN 88-0395

"insights into tomorrow"

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This paper provides a review and analysis of the Japanese balloon bombing of the U.S. during World War II. Areas covered include an examination of Japanese technological capabilities, a description of the two types of balloons, public and military response in the U.S., and the associated Japanese propaganda program. Concluding comments address possible uses and lessons learned.

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PREFACE

The Japanese balloon bombing of North America during World War II was not well known during the war and, it seems, has remained uncommon knowledge. This review and analysis will hopefully provide an understanding of the basis for the balloon bombing program, the Japanese capability to accomplish it, and the subsequent U.S. response.

I am grateful to Lt Col Donald F. Giglio, USAF, for suggesting the topic and to Major Tom Jahnke, USAF, for his advice and editorial support.

ABOUT THE AUTHOR

Major Gary R. Brown graduated from the University of Oregon in 1970, with a Bachelor of Science in Mathematics. After serving four years in the Oregon Army National Guard, he entered active duty in the USAF, receiving his commission in 1974 through the Officer Training School commissioning program. He completed Undergraduate Navigator Training in 1975 and was assigned as a Weapon Systems Officer in the F-4E. Major Brown served operational tours in the F-4E at Seymour Johnson AFB, Osan AB, Elmendorf AFB, and Taegu AB. Leaving the cockpit in August 1983, he worked on the Alaskan Air Command staff at Elmendorf AFB until 1987. While at Elmendorf AFB, he was awarded a Master of Arts degree in Business Management from Central Michigan University. He completed his staff tour as the Chief of Joint Exercises and Plans for Joint Task Force-Alaska. His decorations include the Meritorious Service Medal (one oak leaf cluster) and the Air Force Commendation Medal (two oak leaf clusters). Major Brown is married tc the former Suzanne Singleton of Bowie, Maryland.

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"insights into tomorrow"

REPORT NUMBER 88-0395

AUTHOR(S) MAJOR GARY R. BROWN, USAF

TITLE ANALYSIS OF JAPANESE BALLOON BOMBING OF NORTH AMERICA

I. Purpose: To provide a review and analysis of the Japanese balloon bombing of North America during World War II and to determine its applicability to today's U.S. military planners.

II. Objectives: This historical analysis addresses the Japanese balloon bombing program from its inception in 1933 to its conclusion in 1945. Aspects covered include an examination of the Japanese technological capabilities, a description of the two types of balloons developed and employed, public and military response in the U.S., the associated Japanese propaganda program, and possible uses and lessons learned.

III. Discussion: Although Japan began development of its balloon bomb program in 1933, the program received a high priority status only after the "Doolittle Raid" in April 1942. It then became imperative to find a method to bomb the U.S. mainland to show that U.S. soil was also vulnerable to attack and to create fear and terror in the hearts of Americans.

The Japanese developed and tested two types of balloons, and combined with their knowledge of upper level air currents, were able to employ this new weapon by November 1944. More than 9000 bomb-carrying balloons were launched from mainland Japan to strike North America from 3 November 1944 through 20 April 1945. Approximately 1000 are estimated to have reached the North American continent, although only 285 were verified. The balloons caused very little damage; however, 6 civilians were accidentally killed from a bomb explosion when tampering with one of the deflated balloons. The program did have more potential than was realized. If the balloon bombs had been used for biological warfare, it could have been disastrous to the American people. Unfortunately for the Japanese, they never discovered whether the balloons were even reaching America and were reluctant to expand the program. The Japanese high command ordered the program abandoned in April 1945.

IV. Conclusions: The continuation of the balloon bomb program was largely dependent on feedback from the U.S. The Japanese needed to know the balloons were reaching North America. Atypically, the media, in cooperation with the Office of Censorship, voluntarily censored all coverage of the balloons landing on U.S. soil. The Japanese interpreted this silence as mission failure. Also, since few Americans knew about balloon bombs striking the U.S., there was no panic, fear, or even concern by the general populace. Ironically, the failure of the Japanese balloon bomb program is credited, in large part, to the U.S. media's ability to withhold information from the public.

V. Recommendation: There is possibly one major benefit to be gained. In today's world where acts of terrorism are not only increasing, but are a way of life in many Third World countries, the most important lesson to be learned from the Japanese balloon bombings of World War II concerns voluntary media restraint. Terrorism thrives on media coverage and might cease to exist without it. Because the balloon bombings of the United States were not publicized, the Japanese high command assumed the program was unsuccessful and discontinued it. Perhaps the American media should consider a similar approach in an effort to help combat terrorism.

Chapter One

INTRODUCTION

In November 1782, a Frenchman named Joseph Michel Montgolfier conducted an experiment that subsequently led to his invention of the balloon. He was curious to know what caused smoke to rise so he held a silk bag over smoldering fireplace ashes to collect the heated gases for analysis. The silk bag inflated and when he released it, the bag floated to the ceiling. This experiment launched man from "the age of speculation in aeronautics to an era of experimentation." (2:2)

After almost a year of experimentation, Joseph Montgolfier and his brother, Jacques, constructed a 72-foot balloon designed to carry man aloft for the first time. The flight would be witnessed by the King on 21 November 1783.

> It was originally intended that the passengers on this flight would be two condemned criminals who were promised their freedom if they would undertake the venture. At the last moment, however, a young French nobleman, Pilata de Rozier, won from the King permission to make the flight with the argument that it would be disgraceful to allow the honor of being the first human to fly to go to a criminal. The successful flight was made on the outskirts of Paris, lasted 20 minutes and covered 5 miles. (11:174)

Ten years later as Benjamin Franklin witnessed a balloon flight, he was queried about the possible use of such an invention. He replied: "Of what use is a newborn baby?" (3:702) Franklin also wrote of the possible military use of the balloon. "The early balloon was no toy. The military aspect was quickly realized when France (in 1794) became the first country to use the balloon militarily." (15:4) It was employed in a reconnaissance role in scouting Austrian positions around the beseiged cities of Maubege, Fleurus, and Mayence. (7:14) The balloon was not used as a weapon of destruction until the Italian War for Independence (1848 - 1849) and enjoyed only limited success at best.

> At the siege of Venice when no position could be found for siege guns, it was decided to use balloons for

> bombardments . . . . Hot air balloons of thin paper were used. [They] could carry bombs weighing thirty-three pounds for a half hour, and were dropped by means of a time fuse . . . . No great material damage was done to the enemy . . . [and] an unexpected shift of the wind drove some of the balloons back to the beseigers and their use was abandoned. (1:3)

Balloons were also used during the American Civil War for observation and adjusting artillery fire. During World War I, they saw extensive use by the Americans, French, English, and Italians, primarily in the observation role, but also as barrage balloons to protect critical facilities.

"The Japanese idea of a balloon bomb originated in 1933, when Lieutenant General Reikichi Tada, of the Japanese Military Scientific Laboratory, was assigned to head the `Proposed Airborne Carrier Research and Development Program´ which was to investigate and develop new war weapons." (1:3) The laboratory conducted limited research on practical applications for the balloon until the outbreak of World War II, when the research program was placed under army control. The importance of the balloon bomb project was significantly enhanced by Doolittle´s 18 April 1942 raid on Tokyo and "as the threat of air attacks against Japan became a continuing reality, with the American continent yet untouched, revengeful attack methods gained in importance." (1:6)

By March 1943, the Japanese had developed and tested a small (6 meter) balloon that could stay aloft for 30 hours above 25,000 feet and carry a 5 kilogram incendiary bomb. It was designed to be loaded on a submarine (with hatch modification), inflated on deck and "launched from the submarine on the surface at night approximately 620 miles from the United States, giving it a flight time of approximately 10 hours." (1:6) This project was given high priority as a joint army-navy effort. However, in August 1943, the project was discontinued just before completion due to extensive submarine requirements for the Guadalcanal operation. "The acute war situation dictated that every available submarine was needed to transport weapons and food to the starving Japanese troops in the islands." (1:6)

As the American war effort in the Pacific increased and bombs continued to fall on Japan, it was increasingly imperative for the Japanese to ". . . carry the fight to the enemy´s shores. . . [and] the development of longer-range balloons launched from Japanese soil seemed to be a logical answer." (1:6)

Chapter Two

BALLOON DEVELOPMENT

The Japanese Ninth Military Laboratory began its long-range balloon development program in August 1942, under the directorship of Major General Sueyoski Kusaba. The development criteria required the balloons have a 10,000 km (6200 mile) range and be able to strike the continental United States after release from Japan's home islands.

The Japanese were swift in achieving this technological capability while overcoming significant obstacles. One such obstacle was the requirement for increased accuracy in determining meteorological conditions between Japan and North America.

> The idea of a balloon-propelled bombing of a continent on the other side of the world's largest ocean would have been ludicrous in itself, had it not been for Japan's knowledge of a generally unknown stream of air that passes between Japan and North America at a tremendous altitude and speed. . . . In 1942 and 1943 only Japan enjoyed the knowledge. . . of this later-named jet stream. (9:51-52)

To expand this knowledge, additional meteorological information was collected and analyzed from several Japanese mainland weather stations, as well as from ships and islands in the Pacific Ocean. The compilation of this weather data confirmed the feasibility of launching balloons from Japan to strike the United States. Weather analysts determined the best time of year for launch was from October through March.

The jet stream speed was highest during the winter months at or above 30,000 feet and the direction of the upper level air currents was optimum. The flights were expected to take an average of 60 hours. With an early morning launch from Japan, a balloon would predictably be over the United States mainland on the third day. See Figure 1. (1:22)

There were engineering challenges to be met, such as determining a method for maintaining a relatively constant balloon altitude, the perfection of a ballast and bomb release

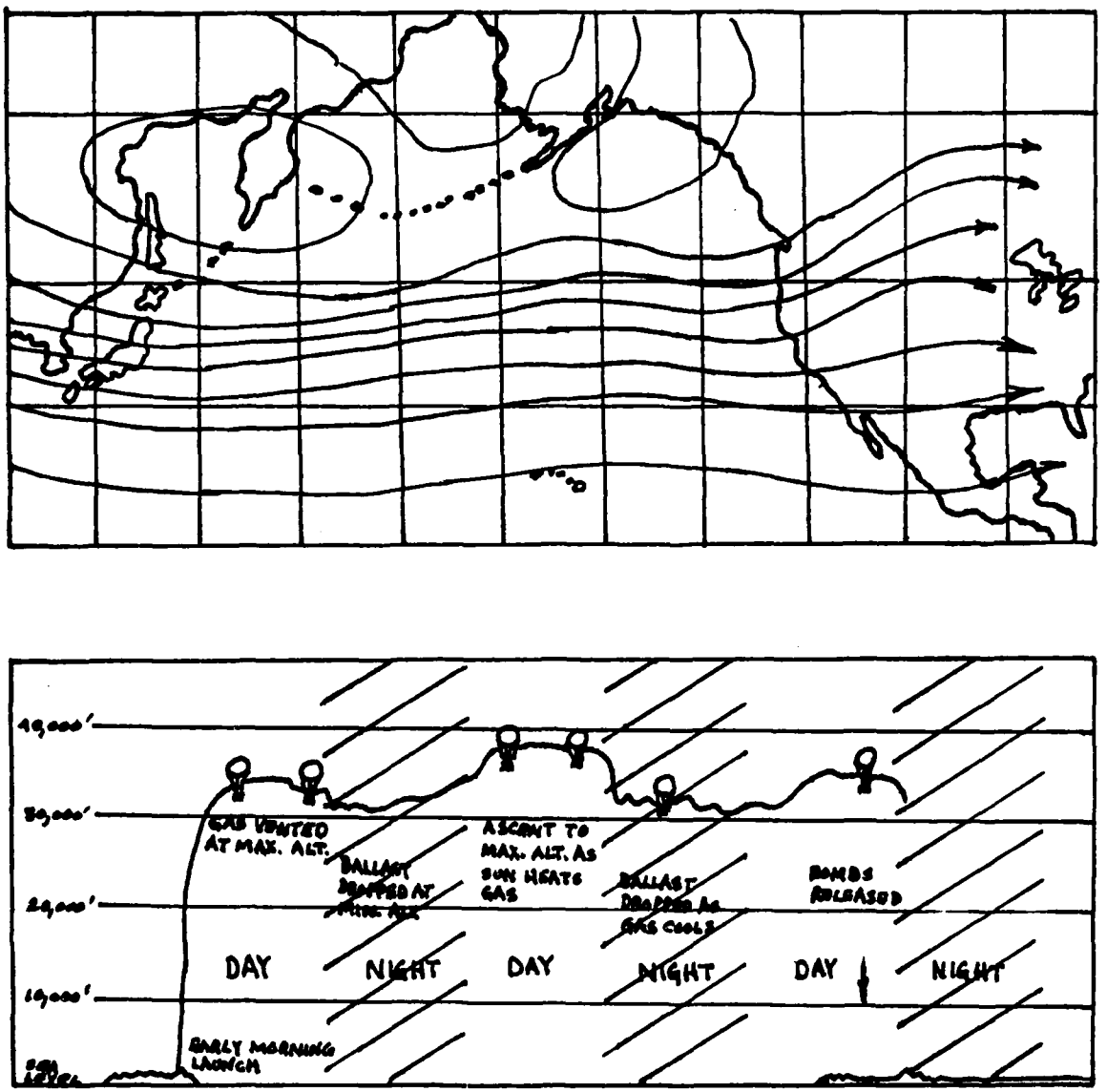

Figure 1. Above: Jet stream in winter months. Below: Typical balloon flight profile.

mechanism, and the development of radio equipment for tracking the balloons (critical during the testing stage).

The fact that a balloon must travel during hours of darkness

as well as daylight presented some unique problems. Hydrogen gas in the balloon would be heated by the sun during daylight hours and cooled during nighttime hours. This would result in an extreme temperature (and therefore pressure) difference affecting the balloon. When the gas was heated, the balloon would gain an excessive amount of altitude and possibly even explode from the gas expansion. When the gas cooled at night, the balloon would lose an excessive amount of altitude and drop beneath the jet stream, losing airspeed and perhaps not reach the United States mainland. Therefore, to maintain a relatively constant balloon altitude, the Japanese developed a gas relief valve and automatic ballast release mechanism.

> The altitude control mechanism. . . consisted of a cast-aluminum wheel from which bags of sand were hung. . . a release fuse attached to two sandbags was ignited whenever the balloon reached a preset minimum altitude. The balloon then would rise again to approximately 38,000 feet. It would sink to the minimum desired altitude--around 30,000 feet--as the gas [was vented with the relief valve], slowly escaped or was cooled. Two more sandbags were then dropped, as the process was repeated. When all thirty-two sandbags were expended, the balloon would discharge its load of bombs and destroy itself by a small demolition charge. The number of cycles required was calculated, based upon forecasted wind speeds, and appropriate settings were made to position the balloon over the American continent for bomb release. (1:9)

"Probably the greatest problem was in developing a radiosonde that could operate at length under varying stratospheric conditions." (6:73) After much effort, the Japanese Fifth Army Technical Laboratory succeeded in developing the radio transmitter and, equally important, an adequate power source for it. The radiosonde successfully completed a test flight, continuously transmitting radio signals for more than 5500 miles, nearly to the west coast of the United States. Data collected from subsequent test flights in February - March 1944, convinced engineers that the balloons would indeed reach the United States mainland. Although the radiosonde was primarily used in balloon test flights to determine the feasibility of the balloon program, "about ten percent. . . were equipped with the radiosonde apparatus. . . when the release of large quantities of paper balloons began." (4:56)

With the engineering and weather obstacles largely overcome by the spring of 1944, the Japanese were left with the task of

producing thousands of balloons and preparing them for launch beginning the following November.

The overall production goal was for 20,000 balloons, with 10,000 required for the first launch cycle. Even though several factories were manufacturing the balloons, the task was formidable, especially due to the scarcity of raw materials. "To cope with the requirement of 10,000 balloons, all materials were considered with reference to their critical resources. . . . Balloons would carry about 1,800 tons of articles, while the total weight of hydrogen cylinders to fill the balloons would amount to 1,200 tons." (1:13) Additionally, the manufacturing process was extremely laborious. The process required millions of laborers, with school children comprising the bulk of the work force. All told, approximately 10,000 balloons were produced at a cost of about $2,300 each. (4:55)

With production of the balloons assured, three sites on the Japanese island of Honshu were chosen for 21 launch stations. See Figure 2. (1:17) The location of the launch sites was important for several reasons, with meteorology being the most critical factor. The sites were at a latitude that was compatible with high level wind patterns that would predictably carry the balloons to the United States mainland. Locations in northern Japan were avoided because the jet stream speed is decreased and it curves too far to the north. Southern locations were avoided because of limited access to rail lines and unfavorable coastal terrain.

"It was on the birthday of a former ruler, Emperor Meiji--3 November 1944--at 0500 that the air assault of balloon bombs was officially begun against the continental United States." (1:21) Between 3 November 1944 and 20 April 1945, the Japanese launched more than 9300 balloons. It is estimated that more than 900 of the balloons reached the United States. The balloons are documented to have traveled as far north as northern Alaska, as far east as Michigan, and as far south as northern Mexico.

"From 4 November 1944 to 8 August 1945, 285 `incidents' were recorded, including 120 balloon recoveries; 32 balloon recoveries including bombs; 20 balloons downed but not recovered; 28 independent bomb incidents; and 85 related incidents." (1:38) The only fatalities occurred in eastern Oregon, where a Reverend, his wife, and five children (from families of parishioners) were on a fishing trip. The children spotted a deflated balloon on the ground and one of them pulled on the shroud lines. Static electricity caused the undetonated anti-personnel bomb to explode, killing the Reverend's wife and all five children.

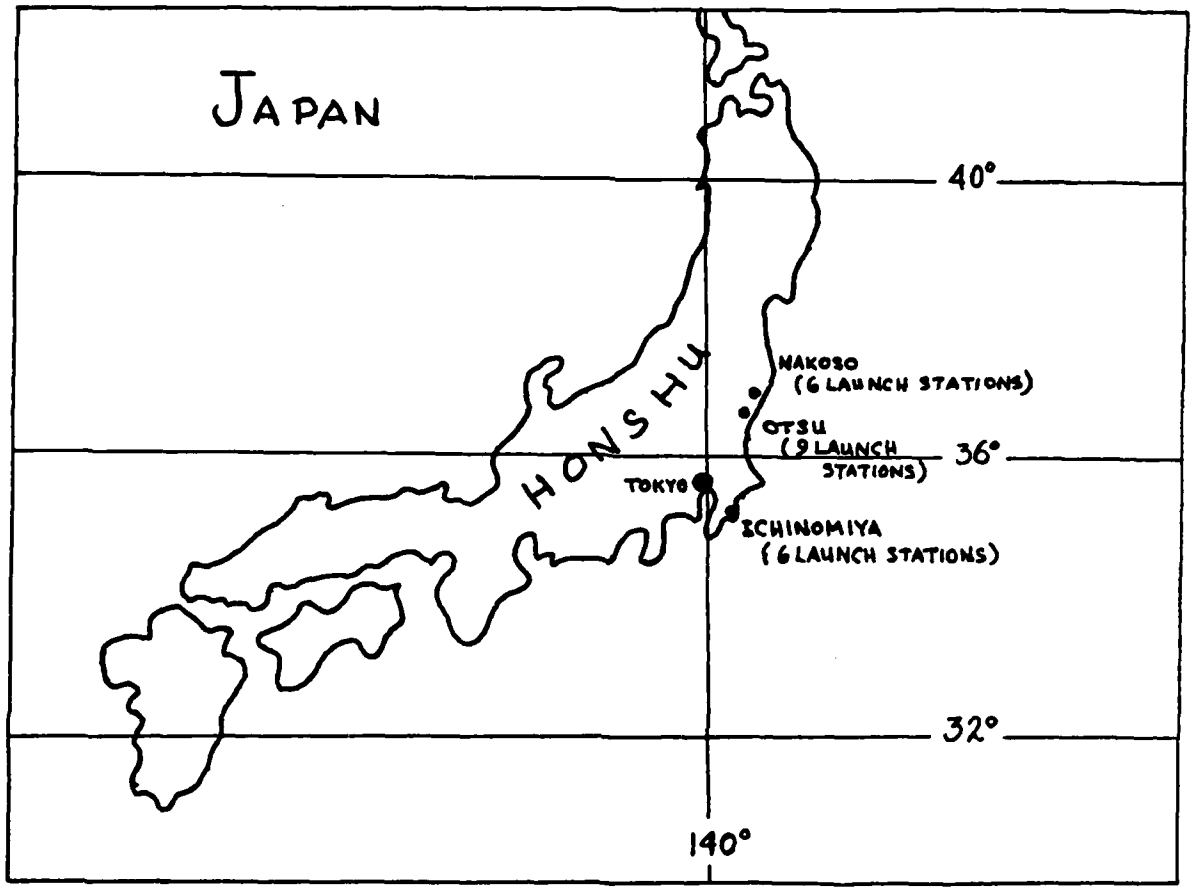

Figure 2. Launch stations.

Chapter Three

TYPES OF BALLOONS

The Japanese developed two types of balloons: "A" type and "B" type. The "A" type balloon was a Japanese Army project and the "B" type balloon was a Japanese Navy project. Although the programs were not combined until the spring of 1944, the army and navy shared developmental information throughout their programs.

The army's "A" type balloon was quite ingeniously made from paper. Four layers of paper were glued together to form panels, then treated with solutions to make them more pliable. The panels were pasted together to construct the upper and lower halves of the sphere. The halves were then pasted together and the entire balloon was coated with a waterproofing lacquer.

The navy's "B" type balloon was fundamentally different from the army's. Gum-coated (rubberized) silk panels were used instead of paper and they were sewn together to form the sphere. Cotton tape was used to seal the seams. The top and bottom halves of the sphere consisted of four and three layers of rubberized silk respectively.

The general appearance of the two was quite contrasting. The "B" type balloon was dark in color and looked like rubber, whereas the "A" type balloon was lighter in color and looked like varnished paper. Even though the rubberized balloon was smaller in diameter than the paper balloon (9 meters vs 10 meters), it was more than twice as heavy due to the weight of the rubberized coating. It was also filled with more cubic feet of hydrogen, making the inside pressure of the "B" type balloon higher than that of its counterpart. The higher inside pressure largely solved the temperature contraction problem but resulted an a higher gas leakage rate. Because it was heavier, the "B" type balloon carried less payload and was designed to fly across the Pacific Ocean at a lower altitude than the "A" type balloon (20,000' vs 30,000'). Oddly enough, "the `B' type balloon proved to be a better balloon, but due to a shortage of materials only 300 were made." (6:73-74) See Table 1 (1:55) for a comparison of the characteristics of the two types of balloons.

Both types of balloons used similar flight control devices, incorporating a gas relief valve on the bottom of the balloon and

	A-Type paper	B-Type silk
Volume, cubic feet (maximum).....	18,600	13,450
Diameter of envelope (feet).....	32.81	29.53
Length of foot ropes (feet).....	49.20	no data
Weights:		
balloon w/o equipment (lbs).....	132 to 176	355
flight control equipment (lbs)...	44	18
ballast (lbs).....	198	97
bombs (lbs).....	77	60
Total Weight (lbs).....	451 to 495	530
Gas volume for flight (cu ft).....	7580	8000
Gross lift (lbs).....	520	550

Table 1: Comparison of balloon characteristics.

a pressure sensitive ballast release mechanism. The ballast release mechanism operated through the interaction of aneroid barometers and a series of squib fuses and blowout plugs attached to the bags of ballast. The "A" type balloon had thirty-two bags of ballast, released two at a time. The "B" type balloon had fourteen bags of ballast, released four at a time (two bags on the last drop).

One anti-personnel and two incendiary bombs were also carried on the control frame with the ballast. They were automatically released when all the ballast was gone. The anti-personnel bomb was about two feet long, weighed thirty three pounds and was filled with about ten pounds of TNT. Two types of incendiary bombs were used. One was fifteen inches long and weighed eleven pounds and the other was two feet long and weighed twenty six pounds. In some instances the last two bags of ballast were replaced with two (eleven pound) incendiary bombs.

After all the ballast was released and the bombs were dropped, another fuse was ignited to detonate a flash bomb attached directly to the balloon. This was intended to prevent recovery of the balloons in the United States.

Figure 3 (13:8) is a representative drawing of both types of balloons.

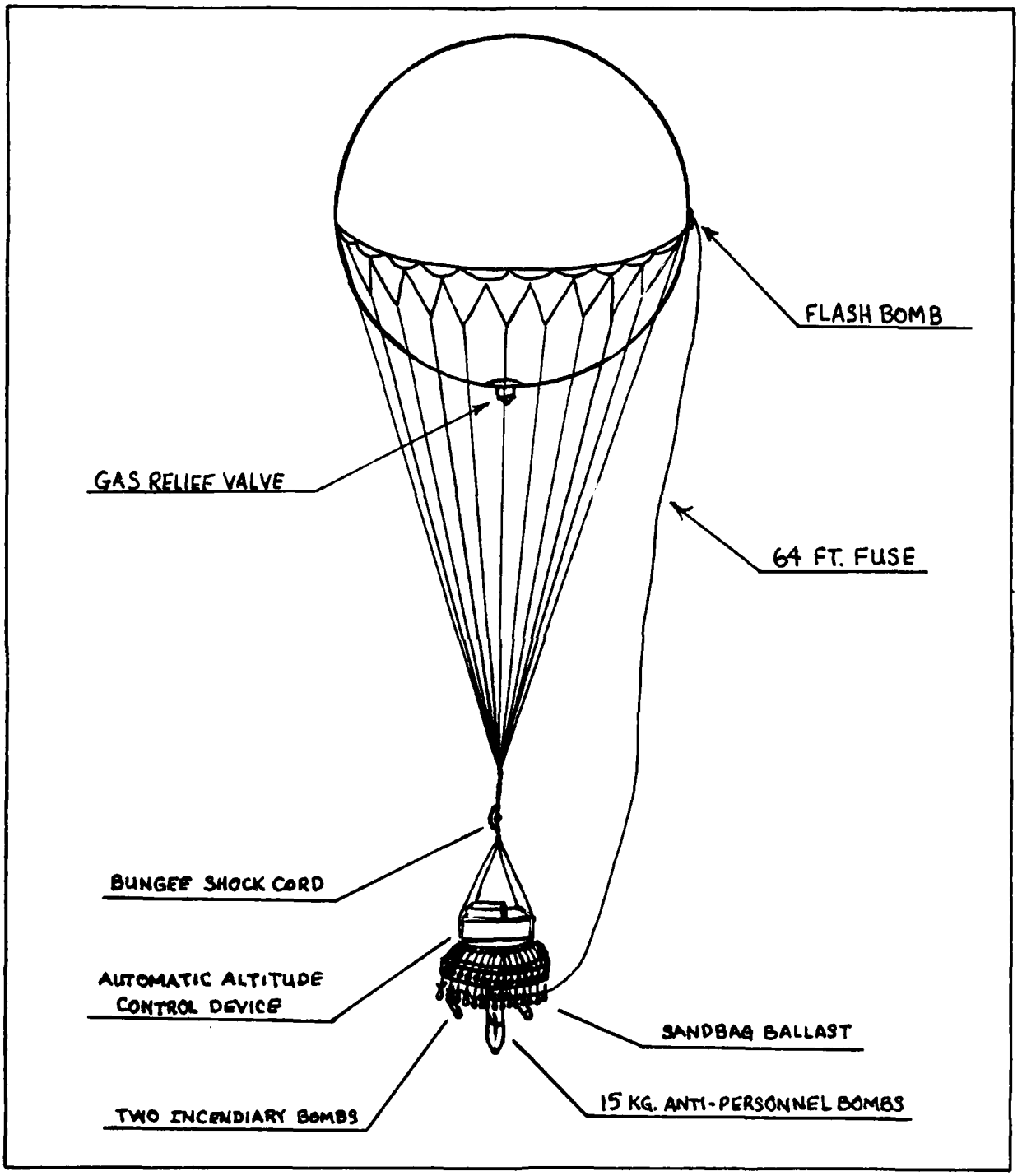

Figure 3. Typical Japanese free balloon.

Chapter Four

AMERICAN REACTION AND U.S. MILITARY RESPONSE

The first balloon discovery was on 4 November 1944 by a U.S. Navy patrol boat. It was a "B" type balloon found adrift about sixty-six miles southwest of San Pedro, California. The deflated envelope, rigging, and some of the apparatus were recovered. Initially, the discovery caused more mystery and curiosity than concern. However, when several more balloons were found in November and December, the United States Army, Navy, and the FBI "immediately instituted investigations of the capabilities of the new weapon and laid plans for counteracting its effects." (14:501)

History shows us the Japanese free balloons carried only small anti-personnel and incendiary bombs designed to start forest fires and terrorize Americans. The program was in direct retaliation for the Doolittle raids on Japan in April 1942 and was ". . . the only recourse that did not involve the loss of badly needed vessels and planes." (13:44) However, the United States War Department had serious concerns about the potential of this new weapon and, at the end of March 1945, issued a statement listing a number of possible uses for the balloons. "In order of importance [they were]: bacteriological and/or chemical warfare, transportation of incendiary and anti-personnel bombs, experiments for unknown purposes, psychological efforts to inspire terror and diversion of forces, transportation of agents, and anti-aircraft [sic] devices." (14:503)

United States authorities realized the most devastating of these possibilities was bacteriological warfare. An American scientist who worked on the project, said: "The balloons had us scared, especially when word came the Japs were planning germ warfare." (8:9) Scientists agreed that the extreme cold temperatures at the balloon flight profile altitudes would be favorable for transporting bacteriological agents. In addition,

> . . . factual evidence from prisoner-of-war statements, captured documents and intelligence summaries all pointed to the Japanese use of bacteriological warfare. Many types of diseases, according to these documents, were being considered, infectious to animals and human beings alike. The reports indicated that the biggest

> project was in Nanking [China] where a Japanese major general was said to be supervising the growth of certain germs (thought to be anthrax) to be launched in balloons. . . . If the Japanese used the full arsenal of dangerous animal diseases available to them, one alarmed veterinary expert said. . . within six months there might not be a hooved animal between the Arctic Circle and the Panama Canal. (8:11)

In response to the possibility of the balloons carrying bacteriological agents, authorities initiated "Lightning Project." On a low-key basis, the Department of Agriculture

> enlisted [the aid of] state health officers and veterinarians, county agricultural agents, 4-H clubs and agricultural college authorities in the defense program. Decontamination squads were trained; stocks of decontamination chemicals, suits and masks were set up at strategic points. Farmers and ranchers were urged to report the first signs of any strange disease in their cattle, sheep or hogs. (12:25-26)

Fortunately for the United States, the Japanese free balloons were never used for bacteriological warfare. The widespread panic alone could have been devastating to the country. After the war, a high ranking Japanese officer said that ". . . the balloons were released solely in retaliation for the bombing attacks on Japan. . . . Nothing except bombs and incendiary agents ever was carried and that there never was any intention to use the balloons to carry poison germs to the United States." (10:6)

The most realistic balloon threat was from dropping incendiary bombs to cause forest fires. During the winter months it was not considered a serious threat. However, in the dry season (summer months) when forest fire danger was high, the bombs could result in many uncontrolled forest fires in West Coast regions. With this threat in mind, the "Ninth Service Command, Fourth Air Force, and Western Defense Command joined in a plan for special assistance in fighting forest and grass fires." (1:28) "Firefly Project" identified military aircraft and troops to be used in fire-fighting missions, but the threat potential never became a reality. (1:28) The only reported damage from incendiaries was from two small grass fires.

As soon as the Japanese free balloons were identified as a potential threat, the United States military was continually on the alert to commit aircraft to intercept and shoot down any

sighted balloons. Only two were shot down over the American continent by aircraft. One was by a P-38 on 23 February 1945 and another by a P-63 on 22 March 1945. In an effort to enhance detection and interception capabilities, "Sunset Project" was activated in early April 1945. A radar site test area was established with search radars located at six sites in northwest Washington. The sites were designed to detect the balloons by skin paint or radio signal as they approached the Washington coast. The results of the project were nearly zero because the last balloon was launched from Japan on 20 April 1945 and the radar sites had no targets. The project was abandoned on 11 July 1945. "Thus, United States military operations against the balloon bomb came to an end." (1:36)

Chapter Five

JAPANESE PROPAGANDA PROGRAM AND ITS EFFECT

Since "Japan's subjection to bombing attacks and her inability to retaliate against them was undoubtedly a deep concern to the Japanese government," (6:75) one of the primary goals of the balloon bombing program was to retaliate and inflict on the Americans the same feeling of vulnerability. The Japanese hoped the balloon bomb attacks would receive widespread media coverage and cause genuine governmental concern and diversion of military resources, as well as widespread public fear and panic.

The United States government realized the Japanese were anxious to know the effects of their program. To prevent them from receiving this information and to negate the psychological impact the program might have on the American public, "the Office of Censorship requested newspaper editors and radio broadcasters to give no publicity to balloon incidents." (14:508) Uncharacteristic of the media in the United States, it maintained a policy of silence until the ban was lifted in May 1945, following the balloon related deaths of five children and a woman in eastern Oregon. On 28 March 1945, the Office of Censorship praised the media as follows:

> Cooperation from the press and radio under this request has been excellent, despite the fact that Japanese free balloons are reaching the United States, Canada and Mexico in increasing numbers. In fact, the performance to date constitutes one of the outstanding achievements of voluntary censorship. . . There is no question that your refusal to publish or broadcast information about these balloons has baffled the Japs, annoyed and hindered them, and has been an important contribution to security. . . . (14:509)

Since the Japanese were almost totally denied any information concerning the results of their balloon bombing program, Japanese government authorities fabricated favorable results to boost the morale of their people. This propaganda was broadcast to the Japanese people as well as to the United States, Europe, southern Asia, and China. One such broadcast occurred on 17 February 1945.

> The Japanese claimed that 500 casualties had been inflicted in the United States and that numerous fires had been started. The broadcast also announced that government authorities in the United States had found it necessary to issue general warnings against attacks by the Japanese balloons and thus had agitated the people. It was emphasized that these occurrences had shattered the American feeling of security from attack by the Japanese. . . . Subsequent broadcasts. . . repeated this same theme and in one instance added that several million airborne troops would be landed in the United States in the near future. (6:77)

The Japanese received no indication their propaganda program was having any significant effect in the United States. The propaganda may have boosted morale and given some hope to the Japanese people, but the Japanese General Staff was becoming increasingly aware of the absence of balloon bombing media coverage in the United States. They had received word of only one harmless balloon reaching America and found it difficult to continue to deplete scarce resources for a program that wasn't effective. They said to General Kusaba, the director of the army's balloon bombing program, "Your balloons are not reaching America. If they were, reports would be in the newspapers. Americans could not keep their mouths closed this long." (12:26)

In April 1945, the Japanese high command ordered the program abandoned. "To [America's] silence is credited the failure of the enemy's campaign." (15:10)

Chapter Six

MODERN APPLICABILITY

Modern technology makes it possible to produce a balloon that is nearly radar invisible and incorporate a propulsion system for limited maneuverability. Advances in meteorology have also improved the accuracy of predicting the movement of air currents. Therefore, it is theoretically possible to launch balloons, made difficult to detect by radar, to fly over a potential enemy nation. For example, balloons could be launched from West Germany to fly over the USSR. If the balloons were launched in large numbers, however, they would be highly visible to any nearby aircraft, thus eliminating the element of surprise. Once detected, they would also be an easy target for interceptors.

What would these balloons carry? A balloon is not a practical method to employ any weapon requiring an accurate delivery system. Nuclear weapons are out of the question because of the possibility, however remote, of an enemy recovering one.

The balloons could carry leaflets or chemical/biological agents, since a pinpoint delivery system is not required. However there are few advantages, if any, in deploying chemical/biological agents by balloon, rather than by ballistic/cruise missile or other remotely piloted vehicle. With respect to dropping leaflets, the cost of the balloons would probably outweigh any benefit gained.

There is possibly one major benefit to be gained. In today's world where acts of terrorism are not only increasing, but are a way of life in many Third World countries, the most important lesson to be learned from the Japanese balloon bombings of World War II is concerning voluntary media restraint. Terrorism thrives on media coverage and without it, might cease to exist. Because the balloon bombings of the United States were not publicized, the Japanese high command assumed the program was unsuccessful and discontinued it. Perhaps the American media should consider a similar approach in an effort to help combat terrorism.

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