

CAUTION: This book reveals what happens
to people caught in nuclear war.

NUCLEAR WAR:



**Hiroshima, Nagasaki,
and**

**A Workable Moral Strategy
for Achieving and Preserving
World Peace**

Raymond G. Wilson

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for Achieving and Preserving World Peace**

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*The cover photograph was supplied by Alex Wellerstein, <http://blog.nuclearsecrecy.com/> and <http://nuclearsecrecy.com/nukemap/classic/>
It is the nuclear test "Item" of the "Greenhouse series," at Eniwetok Atoll, May 25, 1951, 45.5 kTons. Google: "nuclear Greenhouse Item"
and especially <http://www.youtube.com/watch?v=WmcuU2F0Gg4>*

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USEFUL FACTS TO KNOW ABOUT NUCLEAR WEAPONS WHICH HAVE BEEN USED IN WAR-TIME

- 1. Trinity Test, July 16, 1945; about 5:30 a.m., Yield = 21 kton (TNT); south of Bingham, New Mex.; A Plutonium-239 implosion type; Height of Burst = 100 ft; Max. Fireball Diam. = more than 1580 ft = 480 m. The Fireball touched the ground; this was a “dirty bomb.”**

2. HIROSHIMA

3. NAGASAKI

1. Date and time	Aug. 6, 1945; 8:15 a.m.	Aug. 9, 1945; 11:02 a.m.
2. Explosive Yield, equivalents of TNT	16 kton TNT (±20%) Estimates of 2003	21 kton TNT (±10%) Confirmed est. 2003
3. Height of Burst, (HOB), epicenter	600 meters (2003) (580 m 1945-2003)	500 meters
4. Bomb Type	U-235, gun type	Pu-239, implosion type
5. Hypocenter	15 meters west of Shima Hospital, aiming point is the "T-Bridge," (Aioi Bridge)	No. 171, Matsuyama-machi
6. Fireball Diameter, maximum	1370 ft (418 meters)	1636 ft (498 meters)
7. Casualties	140,000 dead by Dec. 31, 1945; 90% (126,000) dead within two weeks; 350,000 directly affected	70,000 dead by Dec. 31, 1945; 90% by ? 275,000 directly affected
8. Area Destroyed	13 square kilometers	6.7 square kilometers

Acknowledgments

My explorations began in 1959, initially, teaching high school *physics* students how to protect themselves in the event of nuclear “exchanges” with the Soviet Union. (You were out of luck if did not enroll in physics.) Later, this venture continued whenever my physics students at Illinois Wesleyan University encountered nuclear phenomena. When the United States initiated the world’s first nuclear war over Hiroshima and Nagasaki in 1945 they created the largest releases of energy ever produced by man on this planet. Those were small and primitive nuclear bombs; today the average weapon is some 10-times more powerful. Some of the world’s bombs release more than 1000 times the energy of those first primitive “gadgets.” It was useful for physics students to understand this (see Chapters 7 & 8).

Something was terribly wrong. In the five decades following 1945 the world was creating *on average the equivalent* of 60 Hiroshima nuclear bombs, *every day* of those 50 years; 60 on every one of those 18,250 days.

Over these years I have encountered many people, sometimes via mail or the Internet, but more often in person, people who shared my concerns about nuclear war and peace. These encounters have been quite helpful in my learning and understanding the possibilities for a peaceful world, and in the preparation of this book. My gratitude goes to: the late President and Chancellor Masuyuki Imaishi of Hiroshima Jogakuin University; Steve Leeper and the staff of the Hiroshima Peace Culture Foundation and the staff of the Hiroshima Peace Memorial Museum, particularly Kahori Wada and Mari Shimomura; Hideaki Nagai; Kazuko Ichikawa & the Mothers’ Peace Movement; Sumiteru Taniguchi; Alan Gleason; Keiji Nakazawa; Mitsuo Okamoto; Ryo Sasayama; Tomoko Nakamura; Susumu Tsuboi; Kazuyo Yamane; the family of Katsuji Yoshida; Brian Burke-Gaffney; the city offices of Nagasaki and the staff at the Nagasaki Atomic Bomb Museum, and Megumi Jinnouchi; Kuniko and Tomoko Watanabe; Naomi Shohnno; Shogo Yamahata; Tago Harumi; Alyona Kuidina; Kimiko Sakai; Gary Kessler, Narendra Jaggi, James C. Warf, Carey Sublette, David Swain, Aya and Taiyo Wilson, and others I am sure. Over many months, over many years, in Hiroshima I am grateful for the hospitality of Sumiko Omoto. My wife, Akiko, anticipates my thoughts and without her help and great patience this document would not exist.

In contrast to others’ writings, this is a peace-proactive document. If you know of better alternative approaches, please let me know: rwilson@iwu.edu



Pictured are the author/editor and Sumiteru Taniguchi of Nagasaki in Nagasaki in 2001. Mr. Taniguchi at age 16 was captured by the Nagasaki nuclear bomb on August 9, 1945. He was on his bicycle, at a distance of about 2 kilometers (1.2 miles) from the hypocenter, at his job delivering telegrams and mail. Two kilometers distant from the hypocenter was too close.

The inset photo shows him on January 31, 1946, just turned age 17, with his badly burned back and left arm. He would remain in this position for some 18 months more. Often he pleaded with the doctors, "Kill me! Kill me!"

The total explosive energy expended in World War II was equivalent of some 3 to 6 *million tons* of TNT. Fifteen years after 1945 *world* nuclear arsenals contained some 23,000 *million tons* of nuclear insanity. Often referred to as "nuclear madness," this insanity remains with us to this day.

CHAPTER 1

Is there any wisdom in the world?

Prologue: “Shine your light on me. Please.”

February 17: The White House

It was a rare occurrence, the President having a private breakfast with his wife, no secretaries about, no phones waiting to ring, no servers bringing this and taking away that. The skylight was bright and warm with the morning sun about to illuminate *many* things.

The sausage, eggs, and muffins were there, well cooked, and the coffee pot and orange juice were on the table. He still had his robe on, but the First Lady could tell he was a bit on edge. She was about to mention it when he remarked,

“You recall last night I was reading that book about what happened in 1945 in Japan?”

“You mean *The Legacy of Hiroshima* that I suggested to you?”

“That's the one, by the Japanese physicist, Shohno. It's from 1986 but there's a lot of material in there that really makes you think,... about the nuclear affairs that have happened since then, and even since 1945; all sorts of problems, not just nuclear ones. Some Japanese refer to this as an ‘era of nuclear madness.’ Can you imagine, 16,000 *tons*, not pounds, *tons*, of high explosive going off over a city? That would light up the sky! ... I never learned Shohno's version in school; it was essentially ‘a big bomb ended the war;’ we won, that was it, one page in our books! I'm pretty sure Shohno disturbed my sleep last night. Did you get any of that Hiroshima information in school?”

“Actually I did.” she responded. “I had an entire course that focused on the world's nuclear problems. We took a very hard look at most everything related to the bombing of both Japanese cities and to the people, and the injuries done to our own people, servicemen, and Marshall Islanders who were downwind from test explosions. And believe it or not we picked up some atomic and nuclear physics along the way. It was obvious that the prof who taught it was really into it all. We used to get into discussions about it in the cafeteria. For me it was the best course I had in those four years; it was a popular one. It should have been required of all students.”

He looked at her with some surprise. “How come you never mentioned that before? Sometimes I think back at all the killing, all the wars since 1945, God!—All the *money* and lives that could have been



Photo by Matt Wade ^{*}[CC-BY-SA-3.0/Matt H. Wade at Wikipedia](#)

better spent! It makes you wonder...Is there any wisdom left in this world? Is it really just because somebody wants something that doesn't belong to them; they can't arrange to get it legitimately, and so they take it by coercion, fraud or force? Where was Congressional wisdom? Or for that matter in any Parliaments'? Democracy, the way we run it, can often be damned inconvenient."

"When I was in that nuclear course some of us wondered at the luck of some people in New Mexico near the Trinity test in 1945. Only 10% of the plutonium fissioned in that explosion; if it had all gone it would have been something like 210 ktons. And at only 100 feet off the ground, the fireball of that size touching the ground, it would have been not just a dirty bomb but a filthy one. Fallout would have spread much farther than it did. I wonder if Oppenheimer and his crew knew only 10% would go. By the way Mr. President, do you know where the other 90% of the plutonium went?..." She sighed, "It would certainly be nice if our kids, all kids, didn't have to live in a world threatened by crazy nuclear terrors. Hell! Threatened by any kind of war. There is *so* much more of importance to be done. Do you want *our* kids marching off to waste their lives in a super-war? She smiled, jokingly, "You're the boss; solve that problem!"

"Sure.... Sorry Dear, but I'm not Superman; I've been around the world but not *that* fast. Would you pass the orange juice? But really, can you imagine, when the North Sea oil runs out, a coalition of Norway, Sweden, Denmark and maybe Finland and others, insisting to some oil rich country, saying 'We're running short, you must supply us with oil or ... Say that to Canada?'"

An observant wife, she sees this is all bothering him. She will let him dump on her this morning.

He went on, "It's like Japan learned something after WWII; military conquest was not how to obtain their "vital national resources." They did it by economic means, with maybe under-the-table payoffs, like we have been doing, are doing. They wouldn't use suicidal war again; that would be imbecilic. Just look at how they started off with their Walkmans, their silk and textiles, ceramics, cameras, Hondas, Datsuns,... And they chose to be patient; not look for spectacular results in 2 years, maybe 20 years would be their horizon. We helped with the Korean War kick-start, but, Lord, how hard they worked! Still do! Look how far they've come since 1945, after being destroyed, physically and socially."

"But what I was getting at before...during the night...some way or another...I don't know how to put this...don't know if I was dreaming or what..." The President searched for his words, words he was hesitant to realize. "I can't get a grasp on it...never had a night like that before. It was a vague impression that somehow nuclear weapons were going to be...I think...not doing what they were intended to do...going to be dysfunctional." His gaze went distant as he remembered, recalling with a hint of optimism, and a hope of reality.

The First Lady looked up from her eggs, smiling.

He felt her gaze, and quickly snapped back to his now typical presidential composure. "Hah! What a 150 kiloton fantasy!...But it seemed to be an insight, and so damn real."

"Ahh! Just like other Presidents, God was speaking to you. Wow! I'm married to a man conversant with God. You ought to try to keep that contact going; you might need it."

"Yeah, sure. Let's save *that* for the next campaign....But last night...It was *undoubtedly* post suggestion from reading Shohno...No one was talking to me,...you know, there was no imagery. I just got the buzz in my head that,...that from this year...somehow nuclear weapons would not be functional, would be broken. And by the way, *I share this only with you! Please keep it that way!*"

"How wonderful; just like a Divine Abolition. Maybe it *was* God speaking to you. . . . So then we could expect a much better world, . . . do you think?"

"A better world? . . . without nuclear bombs? Hmm . . . I do know that if there were no wars, a peaceful, thriving, friendly world would be much more possible. But remember what they used to say of

WWI 'That this was the war to end all wars; one last time and there will be peace.' You remember that?..."

"Yes I do. Keep it *all* in mind; and stay away from the doughnuts in the office today... Love you. Go now, and solve the world's problems. Make it a better place"

In the Oval Office later that day,

"Mr. President, you had a message from the Pope this morning. It was congratulations for your recent forward looking approach to progress in Africa; he admired your political wisdom... And he added a comment that seemed, sort of, unrelated; he said he hoped you will take advantage of any knowledge you may receive related to the nuclear weapons problem... Any thoughts on why he would bring that up?"

Hesitantly, "Ahh... No. But I'd like to see that message." *Nuclear problems are indeed on my mind...*

"Yes, sir. You'll find his message in your in-box, on top."

Six months later, August 7, about 7:15 A.M.:

On his way to the Oval Office the President was met by his National Security advisor, "Sir, I'm glad you're down early; we've had some disturbing communications with the Strategic Weapons Command. Some of our nuclear warheads are not checking out the way they should. As you know our land-based missiles are monitored constantly but overnight there seems to have been a malfunction of some sort; all such stations report a lack of detectable radioactivity in the plutonium pits, the "triggers" of the triple-F process. It's not a cyberware glitch; all are independently monitored and not interconnected. A partial dismantle is being carried out in New Mexico, North Dakota, and Montana to examine the pits. We have no report yet from Bomber Command or Navy since theirs are not constantly monitored in that manner but they are aware and are proceeding with tests of the warheads in their commands."

To himself the President is thinking back, *Uh-oh!* "Assemble our group in the situation room; I'll be there in 15 minutes. Are all early warning systems on alert, aware of a possible problem?"

"Yes sir. And Top Secret. Fully."

7:35 A.M. White House situation room:

The President is inquiring, "So the preliminary tests, the samples from all reporting bases, indicate the possibility that our entire nuclear arsenal is not functional? Is that possible, that our nuclear deterrent no longer exists? How can that be?"

"We don't know, Sir; the Brits have also confirmed they're having the same problem," added the Secretary.

"Sir, the Russian President has been waiting for you to pick up."

Taking the phone, "Good afternoon Mr. President. Are you and your wife enjoying the vacation in St. Petersburg? [a long pause]...No, emphatically not. We have not tampered with your nuclear cyber-command. [placing his hand over the phone mouthpiece, to his staff, "We haven't, have we?"] ... Continuing, (and wondering if he was just lied to by his staff) "No, I assure you, in fact you can take my personal word of honor that we have not interfered with your nuclear weapons cyber-electronics. We have not interfered in any way. The security of your weapons means as much to us as our security means to you...Yes, I understand that your radar systems are on full alert, ours will be also. But we've had good relations for the past 10 months; I don't wish to damage what we have accomplished together...[pause]...Let me suggest that we talk about this tomorrow; perhaps your people will have the

problem solved or at least tracked it down with a little more time. It is regrettable that your well-deserved vacation has been interrupted; you have been putting in long hours these past months . . . You say that you have been concerned about your nuclear weapons for several months? . . . I agree; they are miserable things with which to contend. Yes, I sometimes wish the hideous things had never been invented; we all have enough other problems without them . . . [pause] . . . Yes, *we will* talk tomorrow; I want us to stay connected on this . . . and maybe we should plan on some more thorough discussions about our nuclear weapons; we may have an opportunity here . . . [pause] . . . Yes, yes, tomorrow. *Do svidaniya!*"

Word in the press was that the Chinese government was having problems with cyber-hackers and was rounding them up for questioning and confiscating their computers. Pakistan and India were exchanging charges about spying, and there was some irresponsible talk about North Korea offering to sell a nuclear weapon to an Al-Qaeda splinter group, if the price was right. About a week later the President of France contacted the Oval Office with a request for assistance from some of the people at the Livermore Lab. Israel was quiet; they have no acknowledged nuclear weapons but they do have nuclear scientists.

* * * * *

It was found that when the plutonium triggers, the spherical pits, the hearts of these weapons, were removed from their warheads they actually tested truly as plutonium: radioactivity, purity, neutron cross-sections and all. But when replaced and sealed back into the warheads they behaved as heavy unspecified lumps. On the 18th of August a standard underground test detonation in Nevada failed completely. The plutonium pit survived intact though somewhat worse for wear; and since the rest of the warhead was destroyed the surviving pit behaved just as plutonium should.

In later August meetings the President was assured by his National Security Council and his Defense Secretary that the U.S. could defend itself. He was told that the plans for "full spectrum dominance" of the U.S. Space Command were well underway, and that within three years the U.S. would be right back where it was, or even stronger, and a great deal of it using solar power; that part would be free. A two-year first analysis estimated the cost be about \$800 billion, then \$300 billion per year after, but that was the early estimate—and the project would employ a lot of people. "Our ATK-A200 and the other ATKs will allow us to see everything while the X-37B gives us the capability to blind any opponent." They believe it will work, though so far some of the critical elements of the system are not yet testable. It will require some budget adjustments.

The Chairman of the Joint Chiefs raised a concern, that without our nuclear deterrent, we may need to have more trained boots available on the ground; "Without our "nukes" should we consider reinstating the draft . . . in some form?"

Amazingly, the public is not yet aware that apparently *everyone's* nuclear deterrent has vanished; security has been that tight and so far, successful. Activity at NSA has noticeably ramped up. The President has had a number of lengthy meetings with his Cabinet and top Congressional leaders. So far, no one has found a reason for nuclear weapons' failures, no one has yet had the courage to suggest a reason for the breakdown.

The President is considering whether the U.S. should go ahead, full blast with the solar "full spectrum dominance" project. Should we, in this year, invest in a multi-trillion dollar "Manhattan" type project using solar power and our space expertise that could, if necessary, have the deterrent *capability* to destroy millions of people and their cities?

On the 26th of August the President's Chief of Staff informed him of two requests for consultation, one with the Chairperson of the United States Institute for Peace, the other from the

Commandant of the Army CBRN (Chemical, Biological, Radiological and Nuclear School)...



OK; I'm not a fiction writer so that's where the fiction in this book ends. But perhaps the reader will admit that this would be an interesting state of world affairs. What could/would the world be like without nuclear weapons? Better? Worse? We will pursue this in Chapter 5.

“We often complain that the populace wants peace, but our leaders prepare for war. But in a democracy, leaders are elected, and thus we have abundant opportunities to change them. This can best be done by a public well informed, not only in politics, and economics, but also in issues of war and peace and nuclear questions, . . .” —**James C. Warf**, from Chapter 1 of his ALL THINGS NUCLEAR.

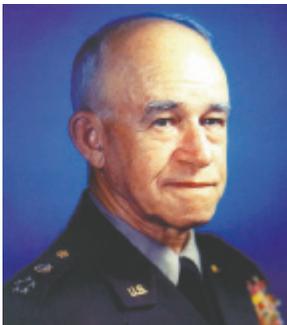
Military opinions:

“Naturally, the common people don't want war, but after all, it is the leaders of a country who determine the policy, and it is always a simple matter to drag people along whether it is a democracy, or a fascist dictatorship, or a parliament, or a communist dictatorship. Voice or no voice, the people can always be brought to the bidding of the leaders. This is easy. All you have to do is to tell them they are being attacked, and denounce the pacifists for lack of patriotism and exposing the country to danger. It works the same in every country.” —**Herman Goering**, Hitler's Reich-Marshall at the Nuremberg Trials after World War II.

Photo-Bundesarchiv, Bild 102-13805 / CC-BY-SA



Goering



Bradley

"Wars can be prevented just as surely as they can be provoked, and we who fail to prevent them must share in the guilt for the dead."

—**General of the Army Omar Bradley**, US Army photo

"I wouldn't go to war again as I have done to protect some lousy investment of the bankers. There are only two things we should fight for. One is the defense of our homes and the other is the Bill of Rights. War for any other reason is simply a racket." —**Major General Smedley Darling Butler, USMC** - (1881-1940) "Old Gimlet Eye" and "Hell Devil Darling," most highly decorated military man from the pre-World War II era; from a speech in 1933. USMC photo



Butler

Correspondence, 9/3/2002 with Carey Sublette.

Hi Carey,

Back in 1982 there was in circulation a "nuclear dot chart." Ruth Sivard used one also in one of her publications. In the 1982 chart it was claimed that the yield of the *world* nuclear arsenal was 18,000 million tons. Jim Warf uses a figure closer to 13,000 million tons, different year. Do you have any estimate of what the world nuclear arsenal maximum value was? Or is, if it has not yet decreased?

Thanks again. —Ray Wilson

(The chart of 1982 can be found here,) <http://c-g-i.info/handbook.html>

Reply,

"**The world's maximum nuclear arsenal** - in terms of total megatonnage - was reached in 1960 when it peaked at about **23,000 megatons [23,000,000,000 tons]** or so. The DOE report RDD-6, "RESTRICTED DATA DECLASSIFICATION DECISIONS 1946 TO THE PRESENT" lists the 1960 U.S. arsenal at **20,491.17 megatons**. The USSR at the time had no more than a few thousand warheads, and its highest yield tests were in the 1-3 megaton range at the time, so I'm guesstimating 2500 megatons for them (without actually looking up any references). The U.S. figure alone represents the world all-time maximum (it had climbed 1000 Mt the previous year and dropped 9500 the following)."

—Carey

[That's the equivalent of 23 billion tons of TNT! In 1960.]



Prior to Glenn Seaborg's 1940 discovery the world was not aware of the existence of element number 94, **plutonium**. If plutonium had existed in nature it would have been only in undetectable trace amounts. All forms (isotopes of different masses) of plutonium disintegrate by radioactivity in such a short time (short half-life) that had some been created when the earth was formed, some 4.54 billion years ago, there would be essentially none left on earth in 1940. (We make an exception here for plutonium-244 with its 83 million year half-life; trace amounts would have been detectable.) Therefore, all the plutonium that exists in the world today (except trace Pu-244) has been manufactured by man. One estimate has it that approximately 1,855 metric tons (2045 tons, 4,090,000 pounds) of fissionable plutonium-239 existed worldwide at the end of 2003. Several tons of this highly toxic material are now present in the earth's environment from nuclear testing and from the Trinity and Nagasaki bombs. (The Nagasaki plutonium fission bomb contained only 13.6 pounds (about 6 kilograms) of plutonium-239. Only 1.176 kilograms was converted to energy; the rest was spewed into the environment, similar to the "Trinity" test fission bomb in New Mexico, July 16, 1945.) Plutonium-239's short half-life, 24,110 years, means that it is relatively highly radioactive, intensely radioactive; thus for living organisms, plutonium is radiologically toxic. In addition, plutonium is a heavy metal, putting it in a class with other heavy metals, such as mercury, lead, cadmium, arsenic, and others, meaning plutonium is chemically physiologically toxic as well. It's bad stuff. Plutonium ignites all our hydrogen (super, *fusion*) bombs. Today, all our, U.S., bombs are hydrogen fusion bombs. Uranium has not been used in U.S. nuclear explosives for many decades.

In 1939 Hans Bethe discovered the hydrogen nuclear fusion *processes* responsible for keeping the sun and stars shining brightly. On the evening after he had made this discovery, during a late-night stroll with his fiancé, Rose, she remarked on how beautiful the stars looked. Apparently to impress her, he said, "Yes, darling, and I'm the only one on Earth who knows how they do it."

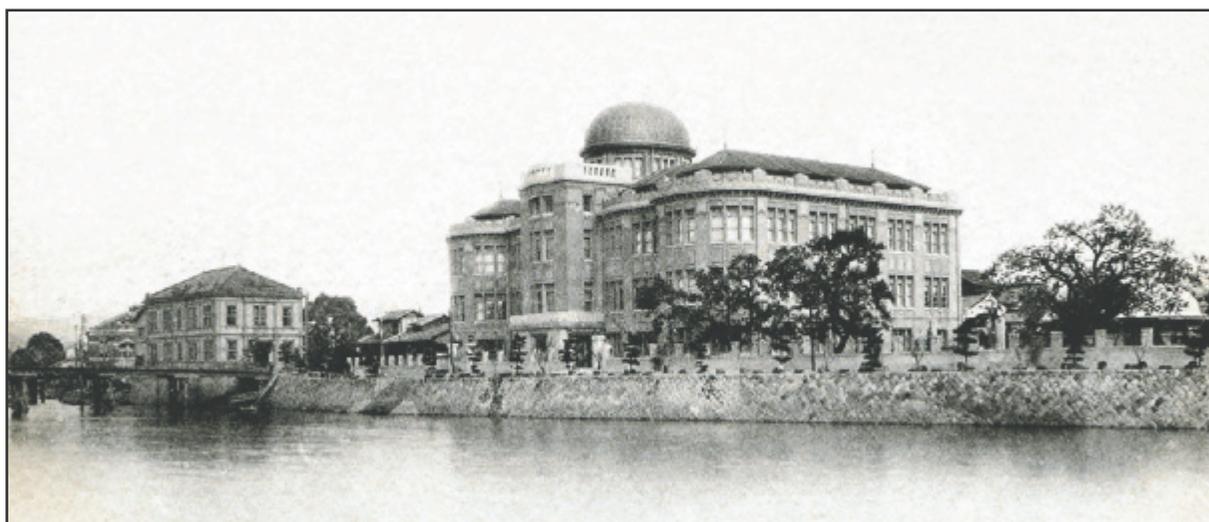
She replied, to the effect, "That's nice."

These nuclear discoveries were capable of providing energy for the world, some 100,000 to one million times more energy rich than the most energetic chemical reactions. But instead the “nuclear age” was initiated with fission bombs and nuclear explosions, killing over two hundred thousand, burning people alive, and radiologically contaminating the world.



This is Aoi Bridge, the east-west "T-Bridge" aiming point for the Hiroshima atomic bomb, as it was before 1945. The vertical part of the "T" extending south can be seen going off to the right. In the right background is the Hiroshima Prefectural Industrial Promotion Hall which after August 1945 will be called The A-Bomb Dome.

Photo ©Postcard Museum



The Hiroshima Prefectural Industrial Promotion Hall became known as The A-Bomb Dome.

August 6, 1945. A streetcar burning red, on the Aioi Bridge, the "T- Bridge" aiming point, Hiroshima. "The passengers were fleeing like mad in the fire. It was just like a scene from hell." Painted by Yoshio Takahara. NG415-04 Used with permission of the Hiroshima Peace Memorial Museum.



Hiroshima: "Inside the fire prevention water tank they were burned red, outside they were scorched black." Drawn by Sagami Ogawa. Code GE15-44, Courtesy of the Hiroshima Peace Memorial Museum Curatorial Division. Please do not reproduce without permission.

It was not always like that.

Albert Einstein
Old Grove Rd.
Nassau Point
Peconic, Long Island

August 2nd, 1939

F.D. Roosevelt,
President of the United States,
White House
Washington, D.C.

Sir:

Some recent work by E. Fermi and L. Szilard, which has been communicated to me in manuscript, leads me to expect that the element uranium may be turned into a new and important source of energy in the immediate future. Certain aspects of the situation which has arisen seem to call for watchfulness and, if necessary, quick action on the part of the Administration. I believe therefore that it is my duty to bring to your attention the following facts and recommendations:

In the course of the last four months it has been made probable - through the work of Joliot in France as well as Fermi and Szilard in America - that it may become possible to set up a nuclear chain reaction in a large mass of uranium, by which vast amounts of power and large quantities of new radium-like elements would be generated. Now it appears almost certain that this could be achieved in the immediate future.

This new phenomenon would also lead to the construction of bombs, and it is conceivable - though much less certain - that extremely powerful bombs of a new type may thus be constructed. A single bomb of this type, carried by boat and exploded in a port, might very well destroy the whole port together with some of the surrounding territory. However, such bombs might very well prove to be too heavy for transportation by air.

The United States has only very poor ores of uranium in moderate quantities. There is some good ore in Canada and the former Czechoslovakia, while the most important source of uranium is Belgian Congo.

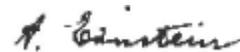
In view of this situation you may think it desirable to have some permanent contact maintained "between the Administration and the group of physicists working on chain reactions in America. One possible way of achieving this might be for you to entrust with this task a person who has your confidence and who could perhaps serve in an unofficial capacity. His task might comprise the following:

a) to approach Government Departments, keep them informed of the further development, and put forward recommendations for Government action, giving particular attention to the problem of securing a supply of uranium ore for the United States;

b) to speed up the experimental work, which is at present being carried on within the limits of the budgets of University laboratories, by providing funds, if such funds be required, through his contacts with private persons who are willing to make contributions for this cause, and perhaps also by obtaining the co-operation of industrial laboratories which have the necessary equipment.

I understand that Germany has actually stopped the sale of uranium from the Czechoslovakian mines which she has taken over. That she should have taken such early action might perhaps be understood on the ground that the son of the German Under-Secretary of State, von Weizsäcker, is attached to the Kaiser-Wilhelm-Institut in Berlin where some of the American work on uranium is now being repeated.

Yours very truly,



Albert Einstein

October 19, 1939

My dear Professor:

I want to thank you for your recent letter and the most interesting and important enclosure.

I found this data of such import that I have convened a Board consisting of the head of the Bureau of Standards and a chosen representative of the Army and Navy to thoroughly investigate the possibilities of your suggestion regarding the element of uranium.

I am glad to say that Dr. Sachs will cooperate and work with this Committee and I feel this is the most practical and effective method of dealing with the subject.

Please accept my sincere thanks.

Very sincerely yours,



Dr. Albert Einstein,
Old Grove Road,
Nassau Point,
Peconic, Long Island,
New York.

* * * * *

It is well-known that U. S. Military leaders do not wish to go to war. People at war get killed. But the military does fervently wish to defend the United States, to defend the people and the way of life; they much prefer to save lives rather than take them. Perhaps the U.S. military's most important task—in the defense of the country—a task not yet undertaken by them, is protecting U.S. citizens from those who send the U.S. into wars. Clearly, the wars the United States has been fighting in recent decades have not been *classical* wars of defense or offense. Neither Iraq nor Afghanistan attacked, was sanely capable of attacking, the United States. The U.S. has a significant military presence in about 70% of the 193 nations of this world. There are people in the world who wish great damage to the United States, but no nation's sane leader would attempt it. It would be suicidal. So who provokes the U.S. into such wars with smaller nations, and why?

2014: In an age of—Global terrorisms; African droughts, -starvation, -epidemics, -genocides, -piracies; stock market ups and downs; unpredictable housing market; Middle East dysfunctions; unemployment; kids being killed; kids having kids; 7 billion+ world population; climate instabilities; the \updownarrow DOW?; threats to “our vital interests” abroad; Congressional competence; Arab Spring; earthquakes; tsunamis; nuclear reactor accidents—it has been *easy to never understand* that with the mere push of a few buttons or chain pulls “by a few citizens in a few nations,” the earth and its inhabitants can still be flushed down a path so catastrophic that “surviving humankind” for the remainder of its perhaps short

existence on this planet could never escape the resulting deep psychological and physiological trauma; *the course of human life on earth would be so drastically altered.*

There were still (year-2014) about 17,000 nuclear weapons in the world, and we're always redesigning "better" ones. Does it seem possible that the world has dismantled some 35,000 in the last 20 years or so? Apparently it has. But the *number* of nuclear weapons revealed is an obscure, nebulous number. Are we counting only those deployed, ready to be used? Do we include those in storage? Do we count those in which the plutonium pits have been removed and shelved? Do we count those which are not programmed with targets?

"...the course of human life would be so drastically altered." I have wondered about that. Have any other events had *equivalent historical impact* for humans? Invention of the bow and arrow? The wheel? Iron smelting? The Black Death (killing $\frac{1}{2}$ - $\frac{1}{3}$ of Europe and more)? The Thirty Years War? Gunpowder? Radio? TV? Computers? The Internet? Does anyone remember *the great war*, WWI? The birth of Jesus? The birth of Mohammed? . . . *so drastically altered.* Think about that.

Nobel Physics Laureate Hans Bethe remarked, "If we fight a war and win it with H-bombs, what history will remember is not the ideals we were fighting for but the methods we used to accomplish them. These methods will be compared to the warfare of Genghis Khan who ruthlessly killed every last inhabitant of Persia." A *war* with hydrogen bombs will affect the entire world, not just one country.



The heat of the Hiroshima explosion was so great that the mushroom cloud reached a height of some 40,000 feet, about 7.5 miles; that's higher than the B-29s were flying. Normal cloud formations are below. U.S Forces photo



Hans Bethe.

Photo credit: Russ Hamilton, Cornell University Photography. Division of Rare and Manuscript Collections, Cornell University Library. Best, Eisha Eisha Neely Reproductions, Permissions and Exhibitions Coordinator

Left: In 1945 Kure was a major naval base for Japan, and one can see why. A naval academy was located on the island Etajima; kamikaze pilots were trained there. The Academy still exists but not *that* training. On July 24, 1945, the Japanese heavy cruiser *Tone* was sunk by American naval aircraft in shallow water of Etajima Bay. The *Tone* was built in the Mitsubishi Nagasaki shipyard. US Army Map Service

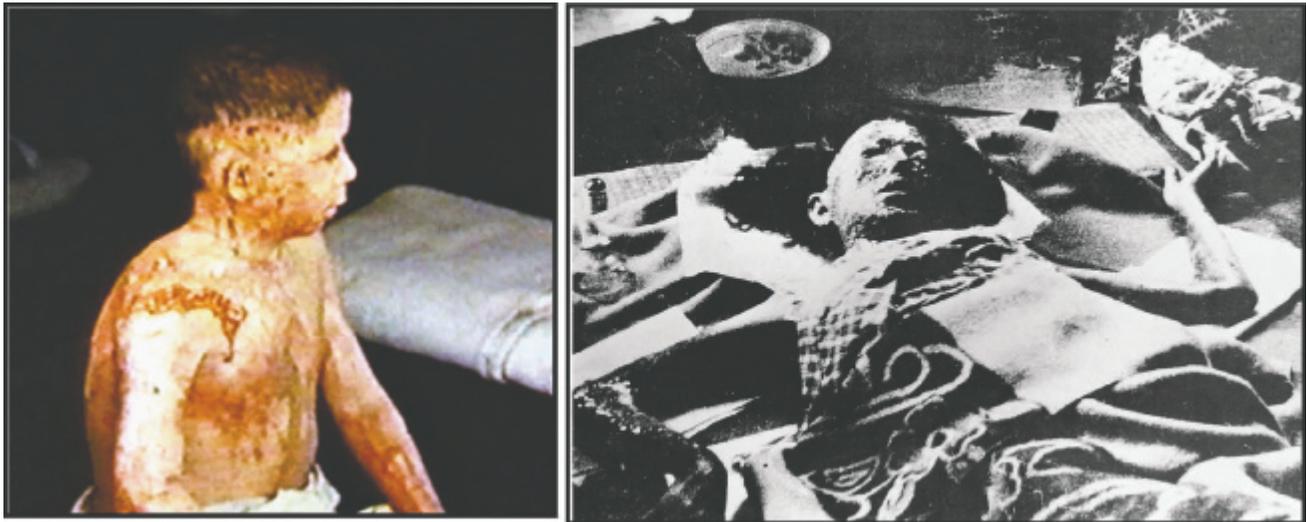
Since the end of our most destructive World War II, since 1946, one estimate has it that 92+ million humans have died as a result of: wars, battles, ethnic and religious cleansings, and insurgencies that were non-nuclear, instigated by ideological differences and power struggles between East and Mid-East and West, and by greed between haves and have-nots. East and West have been the suppliers of the killing machines.

In the first Allied nuclear attack of 1945 a single, primitive and small “atomic bomb” destroyed the city of Hiroshima, Japan, directly affecting 350,000 people, and killing well more than 140,000 of them (details in Ch 2). Estimates are that on that first day alone in Hiroshima, some 60 - 70,000 people were blasted and burned to death, most everyone else, blast injured, burned, or irradiated; another 70,000 destined to more slowly die by Dec 31, 1945. The U.S. government reports stating that this bomb killed some 70,000 people imply that the U.S. government stopped counting at midnight on August 6.

... Then Nagasaki ...

The Hiroshima nuclear explosion delivered by a single B-29, the Enola Gay, was the equivalent of 16,000 TONS, 16 kilotons, of conventional high explosive (TNT) (yield data in Ch. 2, Appendix A). (Conventionally, delivery of such kilotonnage would have required more than 700 B-29 bombers. *What!?! A single small primitive bomb did that?!*) After 1945 world arsenals grew to the equivalent of twenty-three billion tons! (23,000,000,000 tons!) (In 1960.) This was equivalent to 1,438,000 16-kton-Hiroshimas; equivalent to 7,600 WWIIs, as if one was not enough. Our tax dollars at work. Wisely spent?

Even with the smaller world arsenal of 2014 it is still *possible* to destroy all the major cities of the world and most of their people, overnight; and simultaneously wreak devastating radioactive havoc with deadly fallout everywhere else on the globe, and a possible “nuclear winter.” “*the course of human life on earth would be so drastically altered*” All with the mere push of a few buttons.

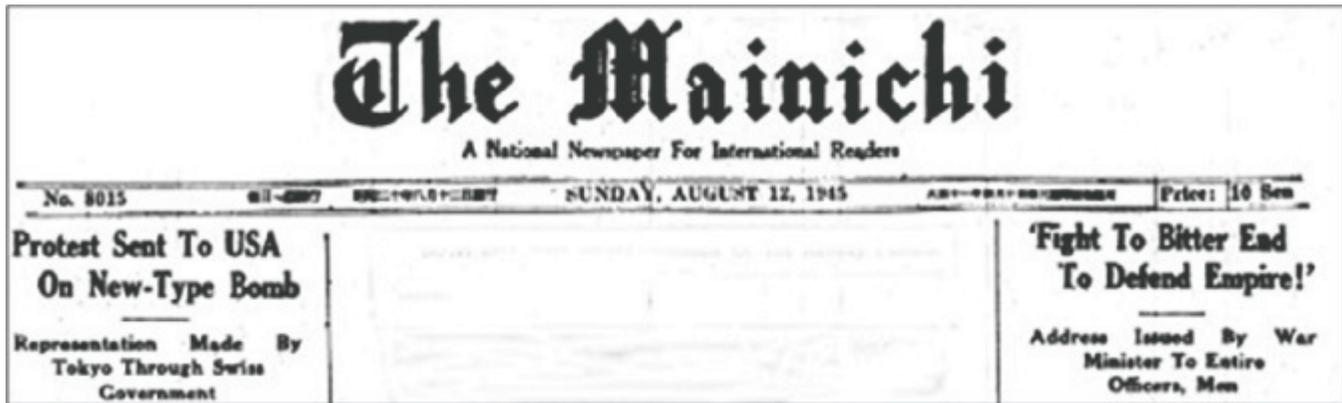


About 95% of the affected population were civilians. The Japanese newspapers referred to the explosions as “thermic” bombs. It is easy to see why. This is 14 year-old Senji Yamaguchi of Nagasaki on the left and a Hiroshima middle-school girl on the right, both shortly after the explosions. Use of Yamaguchi-san's photo was approved by Sumiteru Taniguchi; there is more about both Yamaguchi and Taniguchi in Chapter 3. The girl's photograph (SA152-2) is used with permission of the Hiroshima Peace Memorial Museum. (Girl's photo by Army Marine Division Headquarters.)



This was said to be Hiroshima's only ladder fire truck. US Army photo, NARA 15-046

Sunday, August 12, 1945:



Protest Sent to USA, On New-Type Bomb, Representation Made By Tokyo Through Swiss Government

Concerning the new type of bomb attack carried out by enemy B29s against Hiroshima city on August 6, the Imperial Nippon Government on August 10 filed protest with the United States Government through the Swiss Government. Simultaneously, telegraphic instructions were sent to Sun-ichi Kase, Nippon Minister to Switzerland, ordering him to explain the matter in similar way to the International Red Cross Society.

The protest follows:

The U.S. air force on August 6 dropped a new type of bomb on the urban area of Hiroshima city, thereby killing or injuring a large number of citizens and destroying the major part of the city in an instant. Being an ordinary city not possessing any particular military defense facilities or equipment, Hiroshima as a whole cannot be taken as a military object.

In his statement regarding this attack, United States President Truman said that the attack was aimed at destroying shipyards, factories, and traffic organs. Dropped by parachute [incorrect], however, the bomb in question explodes in the air and exerts its destructive effect on a very extensive area. It is clear, therefore, that it is technically utterly impossible to limit the effect of the attack by this Bomb to a specific target. The United States authorities must know very well the efficiency of this bomb.

Upon inspecting conditions in the area stricken by the bomb, it was found that the damage was widespread and that everyone in the area, combatants and non-combatants irrespective of age and sex, were killed or injured by the bomb blast and its radiant heat. From the size of the stricken area and the number of casualties, the bomb can be called the most atrocious and barbarous weapon ever produced.

That belligerents do not have unrestricted rights in selecting the means of killing the enemy and that they should not use arms, projectiles, or other materials which may give unnecessary pain to the enemy, are the fundamental principles of Wartime International Law. They are plainly stipulated in Article 22 and Article 23 of the regulations and customs of ground fighting.

Since the outbreak of the current World War, the U.S. Government has declared time and again that the use of poisonous gas and other inhuman war methods are unlawful for civilized societies and that the United States will not resort to these methods unless her opponent uses them first. But the new type of bomb far surpasses in effect poisonous gas and other arms, the use of which has hitherto been prohibited on account of their barbarous character.

In utter disregard of International Law and the fundamental principles of humanity, the United States has been carrying out extensive wanton attacks upon cities in the Nippon Empire, thereby killing or injuring numerous old men, women, and children and destroying or burning down shrines, temples, schools, hospitals, and houses of the people in general. Now she has begun using this new type of bomb which is incomparable to any hitherto existing arms and projectiles in its indiscriminate and atrocious character. The Imperial Nippon Government does hereby accuse the U.S. Government in its own name as well as in the name of entire mankind and its civilization, and at the same time demands that it renounce the use of the weapon at once.



The Hiroshima Gas Works, “You could hear their screams.” The land across the river will become Hiroshima Peace Park. About Oct. 1945; notice a few wooden “shacks” have been built. US Army photo.

Does nuclear weapon production continue? We are always making improvements. As a national policy, only one nuclear nation gave up their small arsenal. Do you know who had such wisdom? It was South Africa; they dismantled their former apartheid government’s six warheads about 1990; Applause, please. (<http://nuclearweaponarchive.org/Safrica/SADisarming.html>)

The *world average* rate of production of nuclear warheads for the 50 years following WWII is an amazing number. There were produced the *equivalent* of 60 Hiroshima bombs per day, every one of those 18,250 days. And we continued; our tax dollars at work, supporting, very possibly, doltish government ideas.

The *most bitter hatreds*, instilled in normally peaceful people, slaughtered some 40-50 million men, women and children in WWII alone. And now most of us of the Allied nations are on generally friendly terms with the Japanese, Germans, and Italians. In 2014 it does not seem likely that 100’s of millions will be killed in a nuclear war with Russia or China. And yet, their missiles can still be targeted on us and ours on them. And elsewhere the killing goes on. Was it 150,000 that were killed in the 1991 Desert Storm? Have you ever wondered how many? What connotation does “*The Iraqis*” have for you now? How about “*North Koreans?*” “*The Russians?*” “*Iranians?*”

Myself: I was indoctrinated during World War II, and can still feel all the connotations of those times associated with “*The Japanese.*” I can feel them, but I understand them. Emotional involvement lasts a long time. Until death? Who threatens you? Who will you war against? Al Qaeda?

The Taliban? North Korea? China? Iran? Will you be drafted? What emotions will you carry to your grave? How many *WWII* veterans are still fighting *that* war, carrying that burden to their graves?



Part of the My Lai massacre, Vietnam. US Govt. photo by Ronald L. Haeberle

March 21, 2000, Chinese *military* newspaper outlines Taiwan plan

Beijing (Knight Ridder) . . . a Chinese military newspaper laid out in chilling detail how China could conquer Taiwan by force. Beijing’s tactics, the publication said, might include a neutron bomb attack on Taiwan and a nuclear showdown with the United States. “The United States will not sacrifice 200 million Americans for 20 million Taiwanese,” . . . “They will finally acknowledge the difficulty and withdraw.” . . . (China) “will announce a timetable for reunification at the proper time this year.” [“...acknowledge the difficulty and withdraw...”? That's what the Japanese military thought in August, 1945. Would the Chinese sacrifice 500 million? Maybe so, but I think they have much more wisdom. —R. W.)]

Estimates are, that at any given time some twenty wars are being waged on earth, with many weapons created and supplied by the “intellectually advanced and developed” nations; emotions supplied by history, ideology, propaganda, greed, and religion. In the 1980s, 1990s, and now into the 2000s, the butchery occurs daily: in the past, directly by the “Powerful,” often by our agents like Blackwater (now named Academi), and sometimes by power seeking demagogues and their “ethnic cleansing,” and of course by terrorists and insurgents who feel they have an ax to grind against the “intellectually advanced and developed” “western” nations who operate in their native lands. In our backyard, in El Salvador where the Monroe Doctrine has been in effect since 1823, 75,000 was the death toll in twelve years of “internal” conflict. Thirty-five years of civil war in Guatemala resulted in 200,000 deaths. But the world seems to be changing for the better. Is it peaceful now in Nicaragua? In El Salvador? Guatemala?

“At least 50 million people were killed in the two world wars, but that was out of a global population that was nearing 2 billion people: a 3 percent fatal casualty rate for war over a period of 30 years...And in the six decades since 1945 far less than 1 percent of the world’s people have died in war.” —Gwynne Dyer, *‘Genetic’ warfare getting less violent*, The Japan Times, May 9, 2013, p.11

But now, since 9/11/2001, it seems we have a doctrine for “preemptive war.” Is North Korea next? Any oil there, lithium or copper? Rare earths? Iran? —Get ready!

The U.S. (about 5% of the world's people), taught to Americans as the champion of world peace and justice, is the champion exporter of killing-tools, and of military expenditures. We do roughly 30% of world military expenditures, and are the source of about 28% of world military exports. Is that considered wealth creation? No wonder our nation has fiscal problems with more to come. And some of our people have problems of conscience. Does it matter to you? Or, if you are young, do you leave such matters for your parents, your Congressmen, your President, and other “informed adults?” In any case you should realize that, such practice continuing, annual U.S. military budgets approaching \$700 Billion+ (Center for Defense Information figures), you will work four to five or more years of your life *just to pay your share* of this insanity, i.e., the production of killing tools to bring peace and justice. *You will pay!* All Americans and even aliens living here cannot avoid it; there are federal taxes everywhere.

It's a good thing that you have a job and can afford your taxes, social security and health insurance payments. But in the United States of 2014, productivity has been down or uncertain, population has increased, there is less wealth created to be shared by a larger number of people. The President's salary stays fixed. The leaders of banking, investment, and industry do not generally decrease their incomes no matter how stressed the nation's economy; while the actual creators of real wealth get frozen salaries, fewer benefits, unpaid furloughs, layoffs, or firings. Anyone can understand the future of such imbalance. Perhaps the salaries of national leaders and policy-creators should be tied to the nation's Gross Domestic Peacetime Products per Capita with an additional factoring in some ratio of exports-to-imports.

Those former American jobs, now outsourced overseas, do they still contribute to the U.S. Social Security and Medicare funds? Maybe they should be “tariffed” so that they do. Are those non-American workers overseas making up for the lost U.S. Income Taxes? Someone has to make up for such losses if one expects to have social security and health care in older age, and military budgets of some \$700 billion per year. Do you see some clouds on your horizon? Plan your future carefully!

Perhaps it may be clear to you that considered in totality, diplomacy over the years since 1945 seems to have failed and the proliferating nuclear armed world remains a very dangerous place. In 2014 it is a major concern, Iran, N. Korea. War consistently continues to be used as a problem solving tool, except in a very few enlightened nations. But is war a problem solution or does all the killing lead to greater problems? What would the greatest humanists you know recommend?



"What kind of peace do I mean? What kind of peace do we seek? Not a Pax Americana enforced on the world by American weapons of war. . . . I am talking about genuine peace, the kind of peace that makes life on earth worth living, . . .not merely peace for Americans but peace for all men and women—not merely peace in our time but peace for all time." —President John F. Kennedy, American University, June 10, 1963.

HE WAS MURDERED,

"...at the time of his death, Kennedy was actually trying to negotiate a reconciliation with Castro. (1)

This writer believes it was not diplomatic efforts which have temporarily resolved our problems with the (former) Soviet Union. Or do you believe contrary? Or do you remember that there was a problem?

If it were not so damned serious it would be laughable; that the great majority of all people of the earth want peace and a better life so badly, and their leaders seem powerless and sufficiently witless to obtain it for them.

Would world leaders recognize a solution to the peace problem? Apparently not. Would such a solution have a dollar value? How much would the UN be willing to pay to put the world at peace? (725 missiles “shocked and awed” Baghdad @ \$1,000,000+ each = about \$1 billion. (2)) Do world leaders even understand what the problem is? The war problem is inextricably linked to many global problems, and yet it seems that some governments cannot even recognize the linkage between—their costly growing military arsenals, arms trade, and nuclear ambitions—and the threat to them, of war. Will Norway be attacked? Sweden? Liechtenstein? Switzerland?

The drought of original thought among congressional bureaucrats has been characterized not so long ago by some wanting to dust off for re-presentation, old proposals and tentative agreements, some 60+ years old. It seems that the US Congress has not learned any new ways of thinking.

For at least one reason this book in Chapter 5 intends to go considerably beyond the problems of nuclear abolition; for as Tad Daley put it: “The nuclear weapon’s greatest irony, it would appear, is that it is both inconceivably powerful and astonishingly powerless.”(3)

But why not consider this question right now? Was the dropping of two nuclear bombs on two cities of Japan in 1945 justifiable? You might think about that. The United States is often characterized as a Christian nation. How do you think Jesus Christ would have answered that question? Have you found yourself on the horns of a moral dilemma? (See Chapter 6.)

Your future is very closely linked to all others on this earth. Will you be able to live as well as your parents? What might you give up so that others might survive? Are oil-rich nations obligated to supply oil (of “vital interest”) to the U.S. and other western Christian nations, and to China and India?

Note from Jim Warf 5/23/99

Dear Ray,

Here is an interesting, if sad, note. Maybe you have already seen it. This is from a review of *HIROSHIMA'S SHADOW: Writings on the Denial of History and the Smithsonian Controversy*, Kai Bird and Lawrence Lifschultz, eds., the Pamphleteer's Press, 1999. Here is the quote,

"A recent Gallup Poll suggested that one in four Americans does not even know that an atomic bomb was dropped on Japan, let alone what happened after it exploded." Cheers, Jim

The years immediately following the end of WWII should have been years of great progress *throughout the world*, probably with the then powerful United States leading the way toward peaceful prosperity for every nation. But problems were seen in the attitude and actions of Joseph Stalin and the Soviet Union, and in other nations like China where communism had a strong foothold. Yes, they too wanted something better than they had had for centuries.

But in the United States the future was seen differently. In 1944, even before WWII was over, Charles Wilson, off-and-on leader of General Electric and later Secretary of Defense, noted that "The revulsion against war...will be an almost insuperable obstacle for us to overcome. For that reason, I am convinced that we must begin now to set the machinery in motion for a permanent wartime economy." Extremely influential in the defense industry, in 1950 he said, "If the people are not



Charles Wilson

convinced (that the Free World is in mortal danger) it would be impossible for Congress to vote the vast sums now being spent to avert danger. With the support of public opinion, as marshaled by the press, we are off to a good start. It is our Job—yours and mine—to keep our people convinced that the only way to keep disaster away from our shores is to build up America's might."

He saw that as the *only way*. Thus began the United States Military-Industrial complex we were warned about by President Eisenhower in his farewell address to Congress. And here's what might have happened, just after the Korean police action:

“NEW YORK, Aug. 9, 1954, UP — William C. Bullitt, U.S. first Ambassador to the USSR, Monday urged the United States to organize a "concerted attack" on the Red China mainland by giving

air and sea support to Nationalist China and South Korea. Bullitt said this nation (the US) is in "mortal peril." He said the Soviet Union is building hydrogen bombs "as fast as it can in order to inflict on us a nationwide H-bomb Pearl Harbor." "...It will not stop," he said. "... Our skies will be filled with death unless we either, destroy the productive centers of the Soviet Union before they produce *enough bombs* and bombers to annihilate us, or swing the world balance of power strongly against the Soviet Union, so that when it possesses those weapons of annihilation, it will not dare to use them."” (Wikipedia has an interesting article on William Christian Bullitt, Jr.)



William Christian Bullitt, Jr.

In 2014 the Soviet Union no longer exists; both Russia and China are now major trading partners with the U.S. But the U.S. has had no difficulty in finding new enemies; perhaps we should say, making new enemies. Why did that happen? Ah! It has to be...

Our vital interests abroad!

The U.S. seems incapable of understanding other cultures, other peoples and their desires. Here is President Ronald Reagan on March 21, 1983, "To watch the courageous Afghan freedom fighters battle modern arsenals [of the USSR] with simple hand-held weapons is an inspiration to those who love freedom. Their courage teaches us a great lesson— that there are things in this world worth defending. To the Afghan people, I say on behalf of all Americans that we admire your heroism, your devotion to freedom, and your relentless struggle against your oppressors." Along the way the U.S. military-industrial-complex made multimillions in profits from this warfare and the foreign warriors received generous stipends from U.S. workers' tax payments. This is like using our present day drones, except in this Afghan case the drones were the foreign warriors. Some are shot down but at least for drones we don't have to pay the medical costs or death benefits.

“Today as never before in their history Americans are enthralled with military power. The global military supremacy that the United States presently enjoys—and is bent on perpetuating—has become central to our national identity. More than America's matchless material abundance or even the effusions of its pop culture, the nation's arsenal of high-tech weaponry and the soldiers who employ that arsenal have come to signify who we are and what we stand for.” —Andrew Bacevich in *The New American Militarism*

Do not misunderstand. I fully support the U.S. military in their desires to save lives and help create a better world for all. My own military service, in my formative years of 1952-54 introduced me to that aspect of military activities. But war initiated for highly questionable reasons does not seem a fruitful approach to the kind of peace that makes life on earth worth living. Even if the difficult choice to go to war was made possible by a proper majority in Congress, is sufficient wisdom to be found there?

But here may be a glimpse into the future:

“[A look behind the philosophy and practice of Americas push for domination of the world’s economy and culture. First published From *Parameters*, Summer 1997, pp. 4-14: US Army War College]”

Constant Conflict, US Army War College Quarterly (lead paragraph)

“There will be no peace. At any given moment for the rest of our lifetimes, there will be multiple conflicts in mutating forms around the globe. Violent conflict will dominate the headlines, but cultural and economic struggles will be steadier and ultimately more decisive. The de facto role of the US armed forces will be to keep the world safe for our economy and open to our cultural assault. To those ends, we will do a fair amount of killing.” (Major (P) Ralph Peters is assigned to the Office of the Deputy Chief of Staff for Intelligence, where he is responsible for future warfare.

<http://www.informationclearinghouse.info/article3011.htm>

I have raised many questions here. Some will be answered in later chapters, particularly Chapter 5.

* * * * *

In this twenty-first century, if there were no nuclear weapons, should the United States and its allies embark on what would become a multi-trillion dollar race for weapon based *full-spectrum strategic military world dominance* based upon superiority in mass destruction and killing power? If your answer to this is no, then we must logically ask why the United States and it allies possess *weapon based strategic military world dominance* reliant upon superior power in killing and destruction, rather than a different approach. Who would suggest a different approach?

You might say, all this is because the adversary has nuclear weapons.

But at the 1986 Iceland Summit Conference Gorbachev wanted to go to zero nukes by the year 2000.

("Gorbachev ... suggested eliminating all nuclear weapons within a decade."

http://en.wikipedia.org/wiki/Reykjav%C3%ADk_Summit)

Apparently, at that time, the U.S. government did not want nuclear disarmament.

January 27, 2014: “A new Washington Post-ABC News poll finds that only 37 percent of Americans are confident that President Obama will make the right decisions for the country’s future, while 63 percent are not.”(4) That has happened to other presidents also. If confidence is lacking for decisions on health care, immigration, the economy, foreign policy, etc., do you have confidence that Occupants of The White House can make right decisions about the use of nuclear weapons? Do any national leaders of any nation have your confidence that they can make proper decisions about using nuclear weapons? We will demonstrate in Chapter 5 a strategy that would make such questions unnecessary.



Reagan and Gorbachev at Reykjavik, Iceland, 1986. White House photo

Notes

*White House south facade photo, CC-BY-SA-3.0/Matt H. Wade at Wikipedia,
<http://en.wikipedia.org/wiki/User:UpstateNYer>
<http://creativecommons.org/licenses/by-sa/3.0/>

1. “Everyone knows that President John Fitzgerald Kennedy was against communism. He presided over the failed Bay of Pigs invasion and the Cuban missile crisis. But at the time of his death, Kennedy was actually trying to negotiate a reconciliation with Castro.”

<http://pri.org/stories/2013-11-21/how-kennedys-assassination-ended-hopes-reconciliation-castro#>

2. http://www.huffingtonpost.com/2011/03/25/cruise-missiles-missile_n_840365.html “Cruise Missiles: The Million-Dollar Weapon”

3. Tad Daley, APOCALYPSE NEVER: Forging the Path to a Nuclear Weapon-Free World, Rutgers University Press, 2010.

4. <http://www.redstate.com/2014/01/27/only-37-percent-of-americans-are-confident-obama-will-make-the-right-decisions/>

Chapter 2. Hiroshima and the future of the world

August 6, 1945, 8:15 AM: At the *hypocenter* in Hiroshima, just above Shima Hospital, it seemed like the sun had descended to the earth, followed by the sky blasting down in a Richter-10 cosmic quake from the gods, rattling the earth's axis, scorching, searing, roasting, radiating and crushing everything and everyone below; a blazing inferno with no escape; nuclear radiation, and 200+ mph blast winds. Clothing was scorched within this furnace; the blast tore it from their bodies. The blast overpressure blew out ear drums and forced eyeballs out of their sockets. Scorched blistered skin sloughed and peeled off their bodies and dragged on the ground. The retinas of eyes looking up were burned.

(*Hypocenter* is a point below, i.e. is "ground zero; an *epicenter* is a point above; earthquakes have epicenters.)

In this first nuclear war some people disappeared they say, completely vaporized by the heat from the bomb. (That's what some said and it is understandable why some would think that, but this may not be realistically possible.)

Imagine the hottest clear day of the year. Remember walking out into the sunlight and being amazed, that even at a distance of 93 million miles, how hot the radiation of our sun made your skin feel? The surface temperature of the small primitive Hiroshima uranium atomic bomb was 1000 Celsius degrees hotter than the Sun's. It hung in the air only 300 yards, 0.17 mile, above the people of Hiroshima. Literally, the sun touched Hiroshima and Nagasaki. Were some people on the streets near the



Sadako Sasaki. Some signs of leukemia were present. Permission granted by brother, Masahiro.

hypocenter simply blasted back to atoms? Tens of thousands of others were trapped within and beneath destroyed wooden homes and buildings, all to be consumed by the immediate widespread firestorm that in Hiroshima left 13 square kilometers of ashes and rubble and bones. Butterflies and birds never had a chance. This was the first day that the United States chose to bomb hospitals, temples and churches, and elementary schools as had never been done before. It would be done again.

On that day it is estimated that in the 24 hours after the nuclear explosion equivalent to 16,000 tons of TNT some 68,000-70,000 died in Hiroshima. Within two weeks the death toll reached 126,000. By December 31, 1945, about 140,000 ($\pm 10,000$) were dead. Three days after August 6, on August 9, 1945 at 11:02 AM, a 21,000 ton plutonium bomb struck Nagasaki and by December 31 another 70,000 were dead. (See this chapters Appendix A.)

December 31, 1945: 210,000 victims of our first nuclear war brought about by two small and primitive nuclear explosions. Should the counting stop on Dec 31?

The *dying* did not stop then. Immediately in the two destroyed cities the nuclear radiation began its dirty, deadly, prolonged and profane massacre. It and the blast and burn injuries killed for years. By 1950 the deaths in the two cities had reached some 250,000 or more. Some have

estimated as high as 340,000. Deaths continued. In 1955, ten years after the bombings, 12-year old Sadako Sasaki in Hiroshima and many others succumbed to the ravages of leukemia induced by our earth's introduction to nuclear war. Folding 1000 *origami* paper cranes did not save her life. (1)

The *average* nuclear weapon of today is some 10 times more powerful than the Hiroshima bomb; some are 1,200 times greater. One, the Soviet Union's *Tsar Bomba*, had a yield 3000 times the Hiroshima bomb. Imagine what it could be like now, over any city.

I do not know that beforehand President Truman ever asked, "What are the expected fatalities?" I think he only asked how large the explosion would be. He was a WWI artillery captain. Writing in his diary about the atomic bomb: "We have discovered the most terrible bomb in the history of the world. It may be the fire destruction prophesied in the Euphrates Valley Era, after Noah and his fabulous Ark." Truman grew up on a farm and did not attend college.

<http://www.biography.com/people/harry-s-truman-9511121?page=1>

Concerning the death toll in Hiroshima, the official Hiroshima City figure is 140,000 ($\pm 10,000$); not everyone agrees with this estimate. Often U.S. government figures are lower. Why would that be so? Yale University, in its Avalon Project, using data from The Manhattan Engineer District's best available figures concerning the end of WWII, still (in 2014) reports the death toll at Hiroshima to be only 66,000. Why? Did they stop counting at noon on August 6, 1945?

The Yale Avalon Project also reports, "No casualties were suffered as a result of any persistent radioactivity of fission products of the bomb, or any induced radioactivity of objects near the explosion." Wrong again, because we know that people who were not present when the bomb exploded but who worked in the rescue effort afterward, died of radiation induced leukemia and other cancers a few years later or suffered "radiation sickness." (2) "Many cases have been found that diseases developed on account of residual radiation even though they had not been exposed to initial radiation, some even dying because of this." Radiation sickness may be akin to AIDS; Russian doctors have found similarities, the breakdown of the immune system. (Perhaps I should not be so critical of the Yale Avalon Project; they are merely reporting the Manhattan Engineer District's figures. Still... Yale does educate Presidents and influential government officials.)

But to deny the harmful effects of residual radiation would be to claim that fallout radiation was harmless to those who experienced fallout from: the Nevada test site, the Marshall Island's tests, tests near Semipalatinsk, and other nuclear bomb testing. There is a linear, *no-threshold* dose-response relationship between *exposure to ionizing radiation and the development of cancer in humans*. (See this chapter's Appendix B.) On August 13-14, 1945, Japanese physicists noticed high levels of radioactivity near the Hiroshima hypocenter.

Exploring the death toll in more detail, the Hiroshima City Peace Museum which documents this data said "...the number of people who were DIRECTLY exposed and died by the end of 1945, and whose NAMES were KNOWN, totaled 87,833..." continuing, "...The vault under the Atomic Bomb Memorial Mound located in the Peace Memorial Park still contains the ashes of roughly 70,000 victims. These were persons whose ashes were unclaimed because the entire family had perished or because they were persons of unknown identity..." Probing a bit further, the Research Division of the Atomic Bomb Survivors Relief Department in the Hiroshima City Hall, which is in charge of the relief measures for A-bomb survivors said, "We cannot completely deny the possibility that the ashes of roughly 70,000 victims in the Peace Memorial Park contain the ashes of some identified A-bomb victims because some

remains were never found or returned to their families even though the families confirmed the deaths of their loved ones.” (This could be part of the $\pm 10,000$.) The 140,000 ($\pm 10,000$) was reported to the UN in 1976.

My opinion is that the 30 years preceding 1976 was sufficient time and self-examination for the Hiroshima City government to obtain a “reasonable” estimate. (1976 is the date of the two cities’ “Appeal to the Secretary General of the United Nations.”)(3) This writer will continue to use the city’s official figure, 140,000 \pm 10,000 (by December 31, 1945). It can only be an estimate; on those days the rivers in Hiroshima and in Nagasaki overflowed with burned people, bodies sunk and washed out to sea, never to be recovered, lost forever. People watched some, bloated, float by, and under the remaining bridges.

Nov 01, 2007, Obituary: Paul Tibbets, 92: Dropped bomb on Hiroshima. “I’m not proud that I killed 80,000 people, but I’m proud that I was able to start with nothing, plan it and have it work as perfectly as it did.”

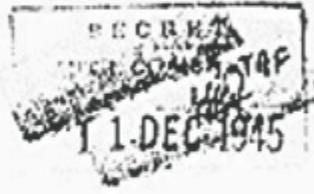


*No objection to
declassification
by AFSWP
15 June 1947
AFSWP
W.D.C.*

1925
~~CONFIDENTIAL~~
WAR DEPARTMENT
OFFICE OF THE CHIEF OF STAFF
WASHINGTON 25, D. C.



25 July 1945



TO: General Carl Spaatz
Commanding General
United States Army Strategic Air Forces

1. The 509 Composite Group, 20th Air Force will deliver its first special bomb as soon as weather will permit visual bombing after about 3 August 1945 on one of the targets: Hiroshima, Kokura, Niigata and Nagasaki. To carry military and civilian scientific personnel from the War Department to observe and record the effects of the explosion of the bomb, additional aircraft will accompany the airplane carrying the bomb. The observing planes will stay several miles distant from the point of impact of the bomb.
2. Additional bombs will be delivered on the above targets as soon as made ready by the project staff. Further instructions will be issued concerning targets other than those listed above.
3. Dissemination of any and all information concerning the use of the weapon against Japan is reserved to the Secretary of War and the President of the United States. No communiques on the subject or releases of information will be issued by commanders in the field without specific prior authority. Any news stories will be sent to the War Department for special clearance.
4. The foregoing directive is issued to you by direction and with the approval of the Secretary of War and of the Chief of Staff, USA. It is desired that you personally deliver one copy of this directive to General MacArthur and one copy to Admiral Nimitz for their information.

Thos Handy
THOS. T. HANDY
General, G.S.C.
Acting Chief of Staff

End #1



70226A.C

HQ U S FORCES EUROPEAN THEATER

STAFF MESSAGE CONTROL INCOMING TOP SECRET MESSAGE

U R G E N T

From: AGWAR Washington
TO : Tripartite Conference Babelsberg, Germany
NO : **WAR 41011** **30 July 1945.**

To the President from the Secretary of War.

The time schedule on Groves' project is progressing so rapidly that it is now essential that statement for release by you be available not later than Wednesday, 1 August. I have revisited draft of statement, which I previously presented to you, in light of

- (A) Your recent ultimatum,
- (B) Dramatic result of tests and
- (C) Certain minor suggestions made by British of which Byrnes is aware.

While I am planning to start a copy by special courier tomorrow in the hope you can be reached, nevertheless in the event he does not reach you in time, I will appreciate having your authority to have White House release revised statement as soon as necessary.

Sorry circumstances seem to require this emergency action.

ACTION: Gen Vaughan

VICTORY-IN-733

(31 July 1945)

312217

ghp

TOP SECRET

HQ US FORCES EUROPEAN THEATER

STAFF MESSAGE CONTROL

INGOMING ~~TOP SECRET~~ MESSAGE

W

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See Over

ACTION: Gen. Vaughan

VICTORY-IN-733

(31 July 1945)

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80P

DECLASSIFIED

EO 11652, Sec. 602 and 603 or 60

OSD letter May 2, 1972

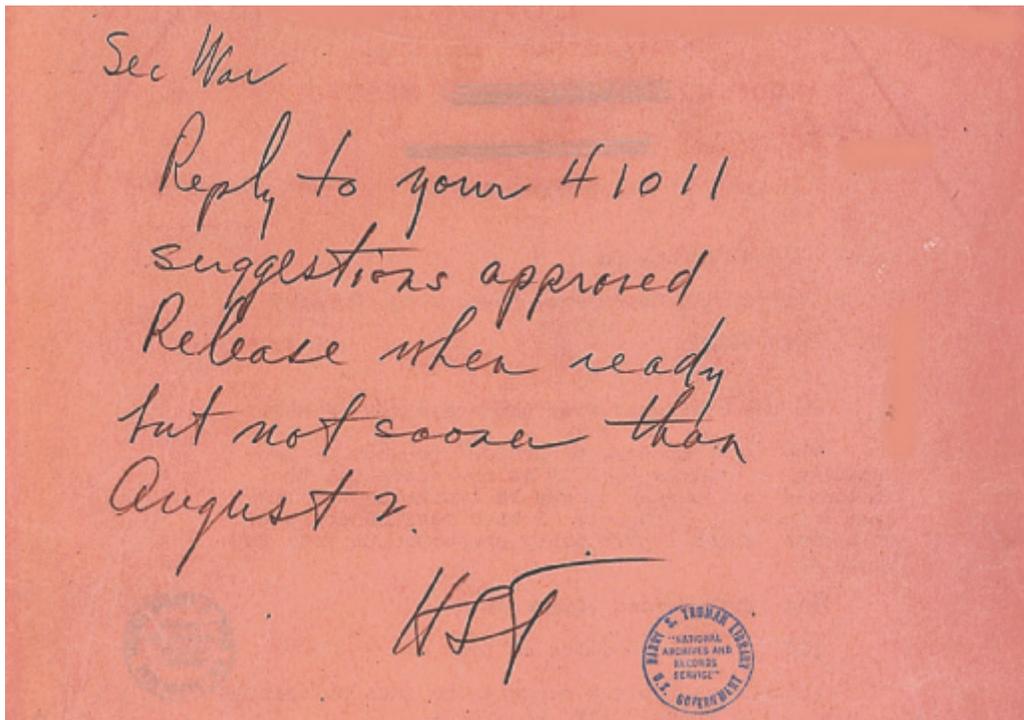
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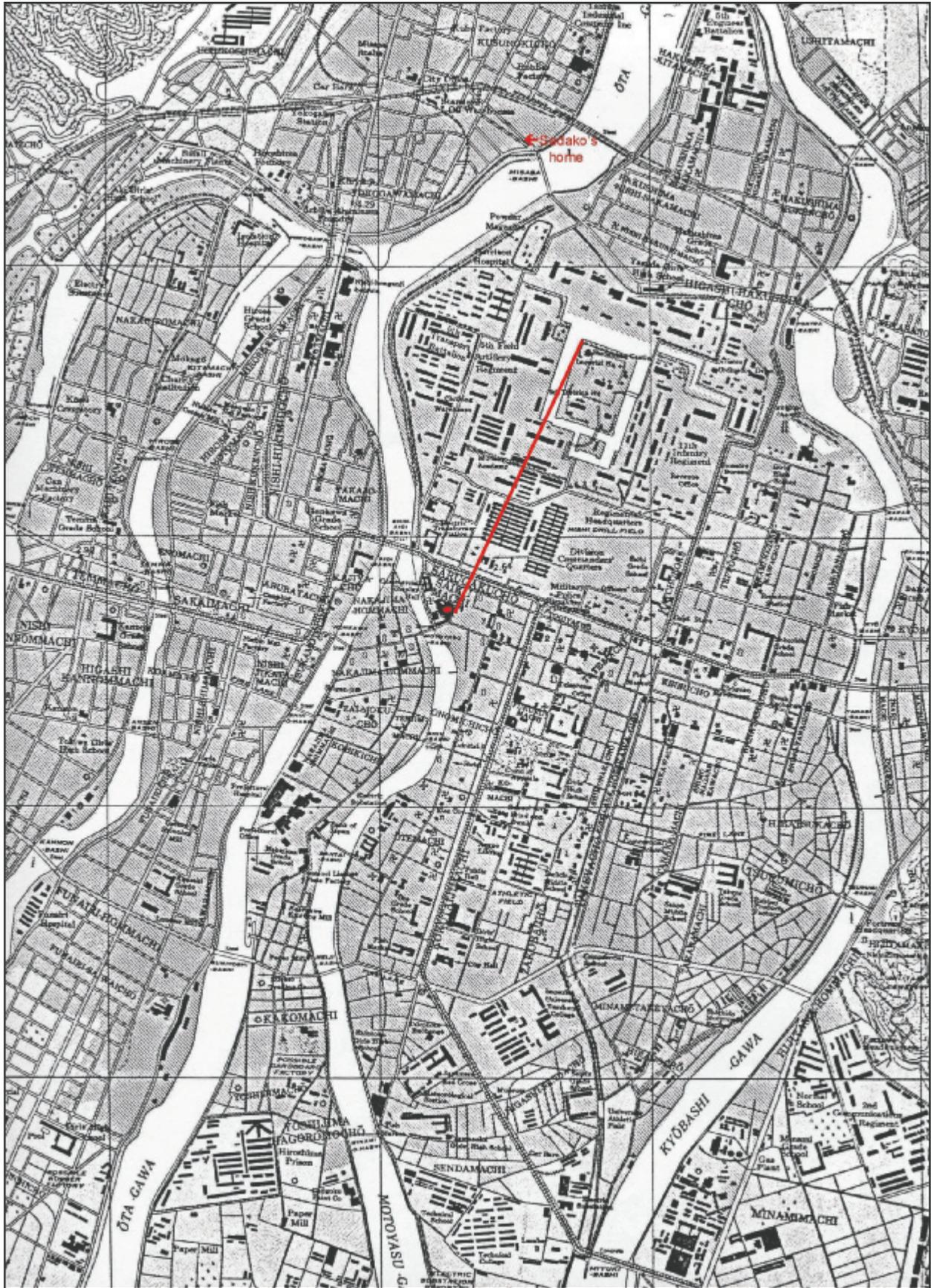
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THE MAKING OF AN EXACT COPY OF THIS MESSAGE IS FORBIDDEN

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In the map on the following page Sadako Sasaki's 1945 home location is marked in red near the Misasa Bridge. The red line drawn from the hypocenter to *that* corner of the castle moat represents 1.0 kilometer on the ground, an easy walk. Notice that in 1945 there was no other bridge across the Ota River between the "T-bridge" and the Misasa Bridge near Sadako's home. Complete map, next page at http://www.lib.utexas.edu/maps/ams/japan_city_plans/txu-oclc-6558024.jpg



R E S T R I C T E D

An official public announcement has just been made of the existence and general purpose of this project and associated projects under the cognizance of the Manhattan District. From time to time further information will probably be released. The decisions on what may be released, and what it is in the public interest to release, have been made by the highest authorities of the country. I am sure that they would be glad to consider well-motivated suggestions about future releases. I should be glad to transmit such suggestions to them.

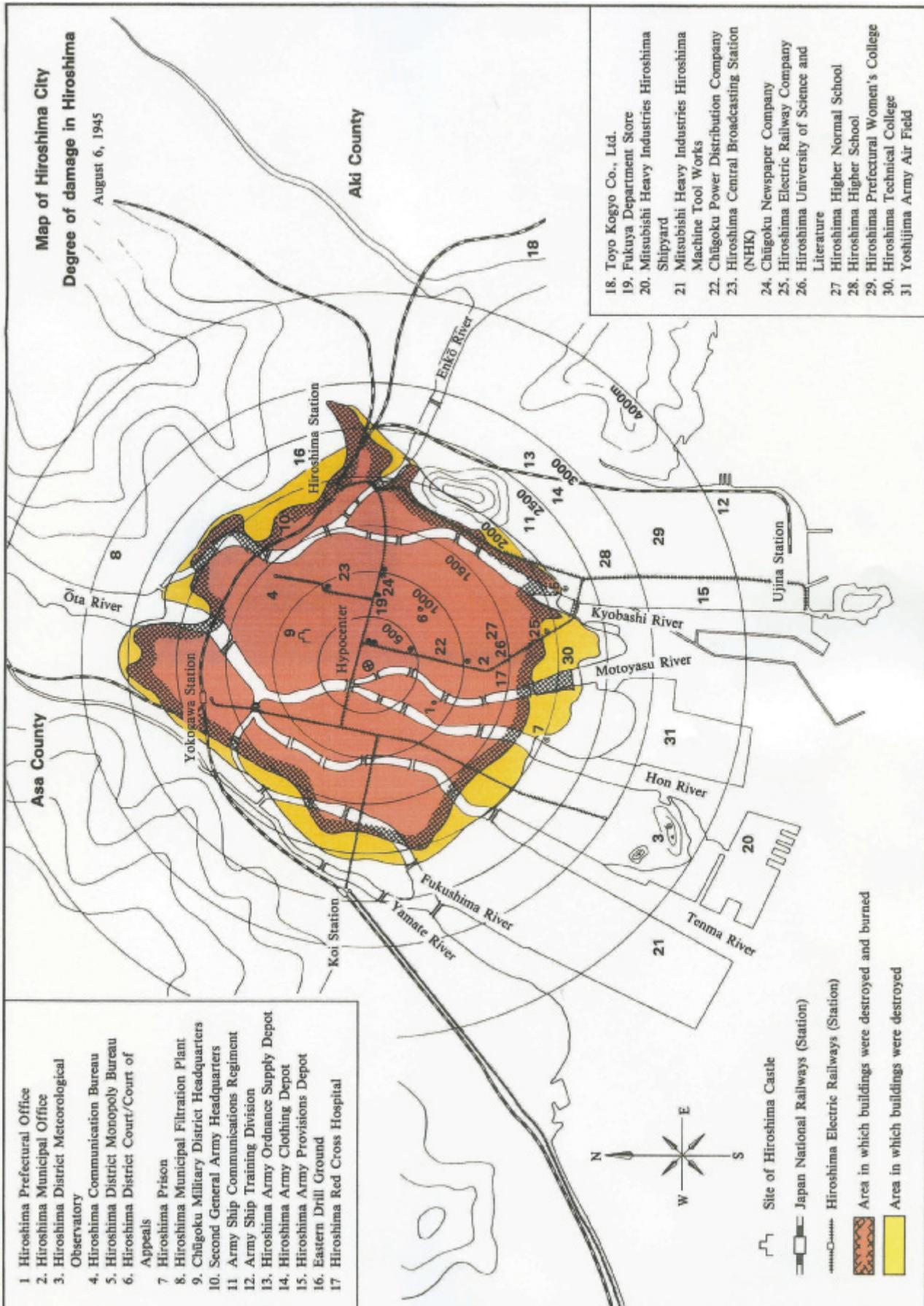
As you will have noticed, many technical matters have not been referred to in the release. We must be guided by the fact that the material not officially released for publication is still classified as secret; and it is still our obligation to maintain it so. I know that it will be some comfort to all of you to have the general purpose of our work known, and to be able to admit your association with it; beyond that, and the confirmation of matters known to you to have been released for publication, no information about our work may be made public.

It is realized by all of us that the partial relaxation of security makes the maintenance of security more difficult, but on behalf of those responsible for overall policy I must ask your cooperation and help in this as I have in the past.

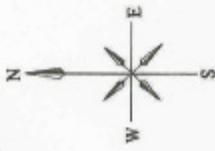
J. R. Oppenheimer
J. R. Oppenheimer

atw

Map of Hiroshima City
Degree of damage in Hiroshima
 August 6, 1945



- 1 Hiroshima Prefectural Office
- 2 Hiroshima Municipal Office
- 3 Hiroshima District Meteorological Observatory
- 4 Hiroshima Communication Bureau
- 5 Hiroshima District Monopoly Bureau
- 6 Hiroshima District Court/Court of Appeals
- 7 Hiroshima Prison
- 8 Hiroshima Municipal Filtration Plant
- 9 Chūgoku Military District Headquarters
- 10 Second General Army Headquarters
- 11 Army Ship Communications Regiment
- 12 Army Ship Training Division
- 13 Hiroshima Army Ordnance Supply Depot
- 14 Hiroshima Army Clothing Depot
- 15 Hiroshima Army Provisions Depot
- 16 Eastern Drill Ground
- 17 Hiroshima Red Cross Hospital



- Site of Hiroshima Castle
- Japan National Railways (Station)
- Hiroshima Electric Railways (Station)
- Area in which buildings were destroyed and burned
- Area in which buildings were destroyed

18. Toyo Kogyo Co., Ltd.
19. Fukuya Department Store
20. Mitsubishi Heavy Industries Hiroshima Shipyard
- 21 Mitsubishi Heavy Industries Hiroshima Machine Tool Works
22. Chūgoku Power Distribution Company
23. Hiroshima Central Broadcasting Station (NHK)
24. Chūgoku Newspaper Company
25. Hiroshima Electric Railway Company
26. Hiroshima University of Science and Literature
- 27 Hiroshima Higher Normal School
28. Hiroshima Higher School
29. Hiroshima Prefectural Women's College
30. Hiroshima Technical College
- 31 Yoshijima Army Air Field



A few black and white snapshots were taken in Hiroshima on *that* day. The U.S. Government black and white photographs of some weeks later and made public revealed only the physical destruction of buildings; they did not show what happened to the people. This illustration by Keiji Nakazawa is of the Funairi, Nakamachi area as he saw it on that day. Multiply this picture 15,000 times to understand what happened to the people of Hiroshima and Nagasaki. The heat radiation, blast, flying glass, and deadly nuclear poison were intense. Permission from Keiji Nakazawa.

The 1989 Japanese motion picture “Black Rain” (*Kuroi Ame*), directed by Shohei Imamura, attempts to relate this destruction of humans in Hiroshima. The story is adapted from real events, from the book by Masuji Ibuse. At the story’s end, 1950, five years after the nuclear devastation, the death toll from the two bombs has now reached an estimated 240,000 - 250,000; Mr. Shizuma, a survivor, is listening to radio news about the possible use of nuclear weapons in Korea. He caustically comments, “Human beings learn nothing. They strangle themselves. Unjust peace is better than war of justice. Why can’t they see?”

It would be some 22-30 years after 1945 before the United States would *allow* anyone to see. The two primitive



Scene from “Black Rain”: Trying to walk their way out of Hiroshima City.

© Imamura Productions

nuclear bombs resulted in a human slaughter of 250,000 or more people and the deadly truthful evidence of it, the photographs of the victims, were confiscated by the American occupation forces, held as “secret,” then “confidential,” and not revealed until, at earliest, 1967.(4) Very little of this *human* story appears in standard, supposedly scholarly textbooks in American schools even though these atomic bombs were selected by journalists as *the* “story of the past century.” Human beings anywhere in the world, U.S., Europe, Asia, Middle East, Africa, cannot learn if they are not taught. Here, we will be able to illustrate only a few examples of these two nuclear slaughters.

"I always had the sense that people in the Atomic Energy Commission were sorry we had dropped the bomb. The Air Force - it was also sorry. I was told by people in the Pentagon that they didn't want those [film] images out because they showed effects on man, woman and child...They didn't want the general public to know what their weapons had done—at a time they were planning on more bomb tests. We didn't want the material out because ... we were sorry for our sins." —Lt. Col. (Ret.) Daniel A. McGovern, who directed the US military filmmakers in 1945-1946, managed the Japanese footage, and then kept watch on all of the top-secret material for decades.



The burned back and left arm of Sumiteru Taniguchi of Nagasaki, age 16, a month or two after August 9, 1945. More about Taniguchi-san is ahead in this book. This photo is by Marine Sergeant Joe O’Donnell who waved away the flies and brushed out the maggots before taking the picture. The smell made him sick. He decided to take no more pictures of burn victims unless ordered to do so. Permission of Kimiko Sakai and Sumiteru Taniguchi. (See Chapter note 9)

And still, in the 21st century, when people make their first visit to the exhibits of artifacts and



This is the scene that Naomi Shohno may have seen as he left the train in Hiroshima on August 9, except that this view is perhaps a month or two later. The city has stopped burning and there seem to be no cremation pyres. Hiroshima Peace Memorial Museum, RA143-152

photographs in Hiroshima and Nagasaki, what you continually hear is, “I knew it was bad but I never understood it was *this* bad.” There are reasons they “never understood.”

On the 7th and 8th of August Japanese Army photographer Yotsugi Kawara was under orders to take photographs in Hiroshima. “All the relief camps were like hell. As I visited each area of the city in the lingering heat, taking hundreds of pictures, I could not help feeling depressed by the emptiness of the war, particularly with the misery of our defeat. At the end of the war in anticipation of the entry of U.S. Forces, Headquarters ordered us to burn all secret documents. All my photos were destroyed except for 25 photographs.”(5)

Sumiteru Taniguchi, a postman of Nagasaki, delivering mail and telegrams at age 16, was on his red bicycle a little more than one mile away from the Nagasaki hypocenter. A mile away from a bomb? That should be safe. No. A mile is not far enough from a 21 kiloton nuclear bomb. Of the 28 postmen in his group, he alone survived. He knows of only two other boys, burned, blasted, and radiated as badly as he was, to survive to 2011; and one died early in 2011, the other in 2013. Taniguchi spent 21 months *on his belly* in vicious pain, often pleading to his doctors, “Kill me! Kill me!” And many more months, hospitalized. As he said, his bed became his eating place and his toilet. He is not yet, year 2014, without pain and never will be until he leaves this world.

Taniguchi’s personal feelings: “The people that built this bomb, the people that gave the orders, the people that let it be used, and those who enjoyed this, I don’t think those people are human; I can never forgive them.”

Taniguchi knows the truth about nuclear war and wants all people to know. He finds it strange for a country with so many nuclear weapons to tell other countries that they can’t have them. We will reveal more about Taniguchi-san in Chapter 3.

Professor Naomi Shohno, *he*, was a student on the western Japanese island Kyushu in 1945. When he heard what happened on August 6 he returned to Hiroshima: “I was born in Hiroshima

Prefecture in 1925. When an atomic bomb was dropped on Hiroshima on August 6, 1945, I was a science student at Kyushu University in Fukuoka, 380 kilometers away. I heard on the radio on August 7 that a new kind of bomb had devastated Hiroshima, and the next day I took a train for Hiroshima to find out if my parents were safe. Just after one o'clock in the afternoon on August 9 I got off at Koi Station (present-day Nishi Hiroshima Station); two and one-half kilometers (1.55 miles) west of the hypocenter. [Back on the island Kyushu, Nagasaki had just been bombed two hours earlier.] I held my breath at the sight. The station had been totally destroyed, and an expanse of rubble stretched as far as the eye could see. A city of death lay in ominous silence under a scorching summer sun.

(The following excerpts are from Naomi Shohno's book, *The Legacy of Hiroshima: Its Past, Our Future*, and are used with permission from the International Publishing Section of Kosei Publishing Co. Tokyo, Japan.)

“As I (Shohno) hurried home I saw dead bodies laid out in long lines on both sides of deserted roads, awaiting cremation. Most had begun to putrefy and gave off a stench. Innumerable bodies floated in the river, burned red and bloated to the bursting point. Women and children lay dead in the fields along the lanes. At first, whenever I saw the body of a woman, I looked into the face to see if it was my mother. But there seemed no end to that, and I dashed to where our house had been. Fortunately my parents had survived, but many of my relatives, friends, teachers, neighbors, and acquaintances had perished.

“The experience of facing the horrendous destruction a single bomb can cause influenced me and my life decisively. I became a researcher in nuclear physics after graduation. My thinking was strongly influenced by my occupation, too. I began to think about Japan's sin in perpetrating a war of aggression, the sin of scientists who had developed nuclear weapons, and the fundamental sin of a political system that gave rise to these other sins. I began to feel the heavy social responsibility of scientists in the nuclear age. I have since been involved in research on the damage and aftereffects of the atomic bombing of Hiroshima and Nagasaki and in the antinuclear movement in Japan.”

Dr. Shohno wrote several books in the aftermath of the atomic bombings about world policies that could lead to more catastrophes or to peace. In his *The Legacy of Hiroshima: Its Past, Our Future* he reports what happened to many victims of both Hiroshima and Nagasaki:

“By 8:00 A.M., the workday had begun in the city's factories and shops. Even earlier, housewives and middle school children had begun the demolition work being carried out to make vacant lots in eight locations in the central city, a plan to prevent the spread of fires that might be caused by (incendiary) bombing. Preschool children and those elementary school students who had not been evacuated to the suburbs could be seen resting or playing outside or in their houses on that sunny morning. There was no way of knowing the great tragedy that was to occur.”



Naomi Shohno, right, with Nobel Peace Laureate-to-be, Joseph Rotblat in Hiroshima Peace Park, 1977.
 Permission from Naomi Shohno

“A bit before 8:15 A.M., Hiroshima Chuo Broadcasting Station, having again received a report from the military that three B-29 planes were approaching Hiroshima, began to announce the news. Just at the moment, Shintaro Fukuhara, then an elementary school pupil, reports: ‘My younger brother had just stretched out his hand to touch a red dragonfly on a fence, when I saw a flash and felt an enormous shock all over, as if I had been thrown into a smelting furnace.... I found myself blown eight meters away to a corner of the fence. When I opened my eyes, it was dark. I felt as if I had bumped against a wooden fence blackened by India ink. Then, gradually, it grew brighter, and I saw a flat plain from which were rising clouds of sand and dust.’”



This burn was perhaps just from the flash of the Hiroshima bomb. His skin where it was covered was not burned.

Contrast this with the corpse images completely burned who may have been burned by the bomb's flash but afterward they were caught up in the conflagration of the entire city. He was less than 1 km from the hypocenter. Who will next use a nuclear weapon on a city? Photo by Masami Onuka, Code SA002-2, Courtesy of the Hiroshima Peace Memorial Museum Curatorial Division. Please do not reproduce without permission.

“Iwao Nakamura, another elementary school boy, recalls: ‘I was reaching with my chopsticks for another serving of rice. At that moment a pale flash like a magnesium light hit my face, accompanied by an earsplitting crash; it became pitch-dark all around. I stood up, throwing down my chopsticks and rice bowl.... When I recovered my senses—how long had I been unconscious?—my body was pressed down by something heavy, like a big stone. It seemed that I was buried under a fallen wall. Everything happened so suddenly that I couldn't believe my eyes; I thought I was having a nightmare. Though I made frantic efforts to escape, the heavy wall pressing me down couldn't be budged. An awful smell came wafting in from somewhere with the wind. My chest was being squeezed harder and harder and it was difficult to breathe. My ears were ringing loudly and my heart beat violently, as if it would burst.’”

“Chieko Watanabe, then a girl in middle school (Nagasaki), remembers: ‘At the moment of the flash, I was at the Mitsubishi Electrical Engineering Factory, 2,500 meters [1.5 miles] from the hypocenter. I

remember I frantically ran out of the building to a sturdily built air-raid shelter behind the factory, and then I became faint. A little later, recovering consciousness, I looked around to find myself buried under a huge steel frame bent and twisted out of shape, as if it were made of spaghetti.... My body was bent over, so that my legs were on my head. Because the steel frame pressed upon my back and head, I could not free myself.... I have never been able to get back on my feet since.”

“Mommy! Mommy! Crying for my mother, I frantically ran through the fire. Since I could hardly tell how far the sea of flames reached and was afraid that I might not be able to find refuge, I madly jumped into a rainwater tank. I put a piece of tin plate on my head to avoid sparks. The water in the tank was as hot as that in a bathtub. Several people as well as I were in the tank, crying out the names of others. While I was under water, I began to drift off and finally lost consciousness.” (Setsuko Yamamoto, Hiroshima, an elementary school girl)

"Many people held on to the edge of the boat I was in, but, with the skin taken clean off their hands and faces, none of them had the strength to climb aboard, and I wasn't strong enough to pull them up. A school girl who looked fifteen or sixteen years old swam up to the boat, but when she came within reach, she was exhausted and began to sink. She happened to look up, and then the skin of her face suddenly split open as if a mask had come off. Only half of her head, which appeared as smooth as a pink pebble, remained, except for some pits which had been her eyes, nose, and mouth. Her face sunk under again, with her hair flowing away in a black eddy." (Michiyoshi Nukushina, Hiroshima)

"A girl who looked to be about a sixth grader came close to me, carrying a child (I couldn't see whether it was a boy or a girl) about six years old on her back. Looking closer, I saw that both of them were naked. Half of their hair had been burned, and the child's eyes were closed and covered with sores. Another girl walking before them had her wrists bent in front of her chest like a ghost. The skin of her arms was loose from her elbows, and was hanging down in flaps at her wrists, as though she were trying on a pair of long gloves for ladies. She was walking in a daze, and her cries and tears seemed to have been utterly spent. Only black trails of tears were sticking to her cheeks. Many other such dismal troops went by me, one after another." (Takeshi Yamaguchi, Hiroshima, twenty-nine years old)

"After a while, the houses on both banks caught fire. Having swum to the sand bank on the other side of the river, I flopped down as my strained nerves collapsed. At that moment, the rain, which was as black as ink, came pouring down upon me while a strong wind [the firestorm] blew about. Meanwhile, a lot of sparks fell on my head. I rose to make my way back to the water, but I was blown off my feet by the wind. Thinking that I would die then and there, I lay with my hands covering my face. Though hot sparks were falling on my legs, I could not sweep them off for fear that I might be blown off my feet again. Some of them were bits of fire rather than sparks. They continued to fall like rain. At last I was unable to endure the heat and pain. Just as I managed to get up to go close to the water, I was blown off my feet again." (Yoko Kuwahara, Hiroshima, a girl in middle school)

"In the meantime, large drops of rain began to fall. It rained harder and harder, more so than normal rain. Everyone rushed into shelters in order to shield themselves. But most had already gotten soaked. When it stopped raining, my teeth chattered because of the cold." (Eizo Nomura, Hiroshima, forty-seven years old)

"As I was unbearably thirsty, I went to scoop up water. Something oily was floating on top of it. Feeling sick at the sight of it, I went back without drinking it at first. Then, I could no longer stand the

thirst, and at last I drank the oily water." (Sachiko Yamaguchi, Nagasaki, a girl in elementary school)

Shohno continues, "The black rain was not only oily and sticky, but contaminated, containing various radioactive elements (deadly ashes), which were produced by the fission of uranium or plutonium. Deadly ashes are made up of two ingredients: 1.) the products of the fission of uranium or plutonium [fission fragments], which contain about three hundred nuclear fragments emitting beta rays and gamma rays; and 2.) uranium or plutonium that have escaped fission, emitting alpha, beta, and gamma rays. The former is the main ingredient of deadly ashes. As the accounts above testify, many atomic bomb victims were soaked by the rain contaminated with deadly ashes or drank water from tanks or rivers after the rain. In the suburbs of Hiroshima where it rained heavily, fish in the river died and cattle suffered diarrhea after eating grass in open fields." [The "cold" some mentioned was likely due to the radiation dose they had received. – R.W.]



In Japan the bombs were described as "thermic." Little did they suspect what would next happen to the more than 210,000 victims. Photo by Gonichi Kimura, Code HP 143, Courtesy of the Hiroshima Peace Memorial Museum Curatorial Division. Please do not reproduce without permission.

Yoko Fukabori, Nagasaki, a girl in elementary school, "On the morning of the bombing, my family went to Urakami (Nagasaki) to search for my sister. I could find nothing but corpses. There were corpses everywhere—to the right, to the left, and in front of me. Surrounded by so many corpses, I stood still, not able to take another step. I felt so dizzy that I was about to faint. The ground was as hot as a frying pan, having been swept by flames, and we continued along looking into the faces of every one of

the victims lying about us on the ground. But for all our efforts we could not find her."

"I looked for my husband among the dead who were lying by the roadside and the banks of the rivers, their bodies blistered from burns. I looked into air-raid shelters, where a lot of people lay dead, one on top of another. But all of them had been burned black, and I could not find my husband among the charred bodies. Later, I thought that I might be able to find him by looking into the mouths of the dead, because he had several gold teeth. I opened and looked into hundreds of corpses' mouths. I was so desperate that I did not feel fearful at all. On August 8, the corpses began to stink, and maggots began to hatch in them. I also peeped into the mouths of the slimy dead bodies that had been pulled up from the river. I became unable to tell gold teeth from maggots. It was all so hideous. I kept on searching for him for three days, but in vain." (Setsuko Nishimoto, Hiroshima)

"A temporary infirmary was set up at the ruins of the Urakami Arms Factory. There were no floorboards, but only loosely woven straw mats on the ground. It was dark inside. On the mats hundreds of naked victims were lying. They looked ghostly, as if they were not breathing any longer." (Chiyoeko Egashira, Nagasaki)

"Those who failed to escape from the afflicted area are staying at the hospital where I work [Hiroshima Communications Hospital, about 1.5 kilometers [0.93 miles] from the hypocenter]. Most of them were seriously wounded. The patients often vomit and experience violent purging. Those who cannot walk leave their vomit and excrete on the floor; those who can, go out of the entrance or out of the back door to urinate or defecate. People come and go through the doorways walking on the excreta left by the patients. In one night, the doorways of the hospital were filled with a heap of feces. It is easy to dispose of the dead, but it a very difficult task to get rid of urination, defecation and vomit in the rooms and the corridor, because there is no place to move the patients while doing so. In addition to that, the skin of many of the burn patients has exfoliated and their bodies are slimy. Their appearance is hair-raising. I am at a loss as to what to do for them." (Michihiko Hachiya, Hiroshima)

"All buildings such as shrines, factories, and barracks, not to mention the schools that had already been designated as refuges and the hospitals that remained unburned, were used as temporary relief camps. Most buildings in the city, even if their superstructures remained intact, were half-destroyed, with their windowpanes and walls blown out and a heap of debris lying scattered about on the floor. Medical treatment was most difficult, because many doctors and nurses were injured—in Hiroshima, for example, 90 percent of its doctors (270) and 93 percent of its nurses (1,650) suffered death or injury in the bombing—and medical supplies and equipment had been destroyed."

"Although most injuries involved burns caused by thermal rays and fire, the only appropriate medical supplies were zinc oil and zinc ointment, and they soon ran short. Various kinds of oil, even machine oil, were used in the end. To external wounds, the only thing the doctors could do was apply Mercurochrome."

"There was a big stone by a narrow roadside leading to a field. I found a woman lying there. I recognized the pattern of her work pants. Mommy! I said, running up to her, but she neither answered me nor called me by my name, which is Shizuko. My mother's miserable face lay on the ground with a lot of blood flowing from it. Standing still, I stared vacantly at the corpse. The sight was so cruelly stunning that I neither shed tears nor felt sad." (Shizuko Kubo, Nagasaki, an elementary school girl)

"When I found a woman who seemed to be my mother among the victims, my heart began to race. I ran to her crying. At first glance I was startled by her face, which was swollen out of recognition. Her burns were much worse than that of any of the other victims I had seen the day before. I was so glad to meet my mother again that I could not speak at all. Then I found another victim beside her, on a grassy spot near her lap: my sister had died and gone to heaven, burned badly." (Susumu Desaki, Hiroshima, a boy in elementary school)

Professor Shohno passed away in February, 2012 at age 86. Though his memory was diminished in his last years he was still conversational in English, his second language. The accounts you have just read are those of people who survived. We cannot know the thoughts of the 140,000 of Hiroshima and the 70,000 of Nagasaki who succumbed to this first nuclear war.

Japan was and is a nation poor in most "natural" resources. In the early 1900s, to achieve greatness, the decision was made to obtain by force if necessary, Japan's needed and vital resources from other Asian countries. Other nations, industrialists, and warlords had been doing this for generations—if not eternity—throughout the world. The Japanese militarized government failed to recognize that its most vital resource was its own people and they sacrificed some three million of them in many years of war.

One of my favorite authors to write about the lead up to this war is Digby George Gerahty (1898-1981), who as Robert Standish, Stephen Lister, and George Digby, wrote some 80 popular novels and short stories. Standish's *The Three Bamboos* (April, 1942) relates an industrial and power growth of Japan from the Meiji era to WWII. "Standish" knew the Orient extremely well. The dedication for this book reads, "Dedicated to the gentle, self-effacing and long-suffering mothers of the cruellest, most arrogant and treacherous sons who walk this earth—to the women of Japan—who will, as always, reap the richest harvest of suffering as their reward."

In his 1942 Preface "Standish" mentions that the book is based upon notes he made in 1920, 1927, and 1930, and that the book is not influenced by anything that occurred since December 7, 1941. He writes, in 1942, "It would be a mortal error to assume that the Japanese are entirely vile, for nothing entirely vile could have survived, untouched by other influences for several thousand years. No creature that is brave is wholly bad! Common fairness, furthermore, demands that one admits that much of the vileness of modern Japan is of western origin. That the Japanese seized it avidly is also beyond dispute." "...Such is the nature of these strange people as I know them that I do not believe them now capable of steering a middle course. By which I mean that either they will achieve their dream of world domination, or they will go down to such appalling destruction as the world has not seen since the fall of ancient Carthage." (April, 1942)

Appalling destruction was the result. But look what the Japanese people, a natural resource, did without war and mainly with their own resources and ingenuity in reconstructing their destroyed nation in only the 35 years following 1945. How much more wisdom, creativity, inventiveness, and productivity was lost among the three million killed? "*They strangled themselves.*"

The postwar development of Japan I consider as proof that it is possible for any nation that is poor in natural resources can build itself a productive successful society with the needs of its people met. Indeed if one examines rural Japan 1850-1950, or any nation under similar conditions, it is possible to build a successful productive society without going to war, provided there is no corrupting and misleading inside or outside influence and interference. Who can provide protection against such interference? Who stirs the pot of conflict?

Since 1946 an estimated 92+ million humans have died as a result of wars, battles, ethnic cleansing, and insurgencies that were non-nuclear. (92+ million seems a bit high, I thought the number was closer to 30 million, but you can add up the numbers as I did from this Internet document, <http://necrometrics.com/20c5m.htm>)

Nuclear weapons are a *symptom* of a much more profound and widespread malignancy of the spirit of the world and of humankind. All nuclear weapons states and would-be states have contracted this cancer; it is deadly. There is a practical cure for this disease which would make the possession of nuclear weapons a counterproductive unnecessary hindrance. Oppenheimer recommended such a cure; derivations from his cure are a major part of this book, Chapter 5.

Approximately 4,126,000,000 people have died during the *entire* 20th century from all causes. If man-made megadeaths account for about 185 million of them, then one out of every 22 (or 4.5%) human deaths during the *entire* 20th Century were caused by fellow humans. (Sources: <http://www.chacha.com/question/how-many-people-have-died-since-1900> Nowadays, you can on-line just open up a statistical abstract and find reasonably accurate numbers for how many people died last year. “Unfortunately, that's a very recent ability. Only industrialized countries keep vital statistics, and most of the people who have lived in the 20th century have not lived in industrialized countries. So there can only be estimates here, with uncertain errors.”)

We need to think about the future of America and the world. With the world's most powerful killing machines, shall the United States succeed through wartime force and nuclear threats to secure our “vital national interests” in other less developed nations? Or is there a better way to achieve the peace the world craves, the world peace that is possible? I cannot think of any weapons newly developed in a war that have not been used in subsequent conflicts: stones, spears, bows and arrows, trebuchets, poison gas, ... Oppenheimer put it this way, “...In the last war, the two nations which we like to think are the most enlightened and humane in the world, Great Britain and the United States, used atomic weapons against an enemy which was essentially defeated...it is not thinkable that in any future major conflict, where the very life of a nation may be at stake, these weapons will not be used—they are much too effective for that.” —J. Robert Oppenheimer, 1946 (6)

I can understand why Israel believes that it needs its nuclear weapons, and why oil-rich nations such as, Iraq, Iran, and others, might also seek them. Trust is gone. Robert Newman is of the opinion that the Iraq war began about 1917, which, perhaps not coincidentally, is about the same time that the oil-poor British Empire began converting its navy from coal to oil. Robert Newman tells it via Google videos: “Robert Newman History of Oil.” More on this can be found at, <http://mrzine.monthlyreview.org/2010/wilayto300610.html> (7)

An American university professor, Jamal Nassar, remarked, “Our [USA] troops are not the first to enter Iraq [seeking] after a military victory. In 1917, the British did so as well. General Stanley Maude made a speech to the Iraqi public as he entered Baghdad. In that speech, he told the people of Iraq: ‘We come to you not as occupiers, but as liberators.’ When the British finally left Iraq in 1932, they left behind a cemetery with the remains of 33,000 British soldiers buried there. Most of those were killed at the hands of a vicious insurgency determined to rid the homeland of foreign troops. History is there for us to learn from rather than repeat.”

Averaged over the 50 years following WWII, the *world's* military industrial complexes created an arsenal *equivalent* to making **60 Hiroshima A-bombs every day** of every one of those 50 years. Sixty on each of those 18,250 days.

Just one day's worth of 60 bombs could yield 8,400,000 and more killed in a new war (60×140,000). The World has been most fortunate, so far. Think what just 365 days of 60 bombs per day would do!

The *world* arsenal just referred to is the equivalent of about 1,095,000 Hiroshima A-bombs. Only two were ever used for their intended purpose. Is there anything wrong here? What does this imply about diplomatic leadership and efforts over *those* 50 years? What does this say about wasted resources! (Worldwide total warheads created, from 1945 to 2000, more than 128,060.(8) Most were much larger than the Hiroshima or Nagasaki bombs. 128,060; is that enough?)

In this twenty-first century, if there were no nuclear weapons, should the United States and its allies embark on what would become a multi-trillion dollar race for a weapon based strategic military world dominance based upon a superiority in mass destruction and killing power? If your answer to this is no, then we must ask *why* the United States and its allies possess weapon based strategic military world dominance based upon superior power in killing and destruction.

Let me note here that for a 20 kton nuclear bomb (approximately Nagasaki), the TNT equivalent would have a volume of about 11,000 cubic meters. If laid out one after another along a highway, these 11,000 one meter cubes would stretch for 11,000 meters, 11 kilometers (6.8 miles). (The Hiroshima bomb, 16 kton would be 4/5 of the 20 kton, or stretch 8.8 kilometers (5.5 miles)). Would you want to be near any of that? Twenty *Megatons* of one meter cubes of TNT stretch 1000 times farther than 20 kilotons, 11,000 km (6,832 miles). In one bomb, that would be from my town, Normal, Illinois, all the way to Hiroshima (if we could get them to float).

Many photographs of atomic bomb victims and city destruction are available on the Internet. BEWARE! Some photos are lies. Some websites portray earthquake destroyed Japanese cities as nuclear destruction. One gross lie is to cite the portrait of a person with leprosy as a burned and irradiated victim of a nuclear bomb. Some victims of depleted uranium weapons will also show up in Internet searches using search words such as: Hiroshima, Nagasaki, atomic bomb victims, *hibakusha* (A-Bomb survivors), and of course, depleted uranium.

We need to think about the future of the world. If we don't who will? Who, what, will lead the way?



Harold Agnew, LANL photo

“People say, ‘What did you do in those days?’ And my answer is, ‘Whatever I was told to do.’ I guess I wasn’t learned enough or sophisticated enough to appreciate what it meant in the long run for the future of the world.” —Harold Agnew, Enola Gay scientific observer and later Director, Los Alamos National Laboratory. Photo courtesy Los Alamos National Laboratory.

"I suspected I was just part of a racket at the time. Now I am sure of it. Like all members of the military profession I never had an original thought until I left the service. My mental faculties remained in suspended animation while I obeyed the orders of the higher-ups. This is typical with everyone in the military service." —Major General Smedley Darlington Butler. USMC (Ret.), "Old Gimlet Eye," "Hell Devil Darling," "The Fighting Quaker," and "Old Duckboard." Brevet Medalist, Congressional Medal of Honor (twice).



Major General Smedley Darlington Butler. USMC(Ret.), US Navy photo



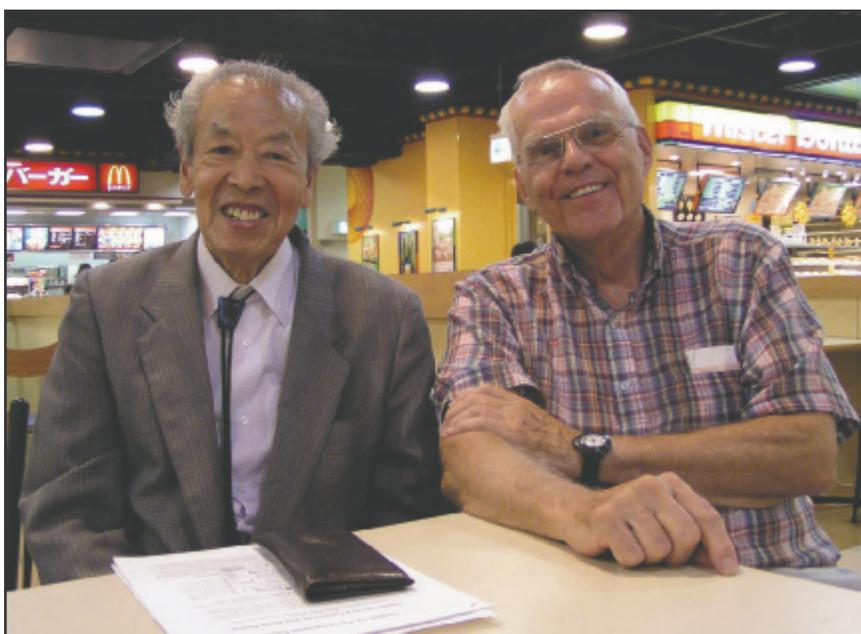
John T. Flynn
Photographer unknown

"*The enemy aggressor* is always pursuing a course of larceny, murder, rapine and barbarism. *We* are always moving forward with high mission, a destiny imposed by the Deity to regenerate our victims while incidentally capturing their markets, to civilize savage and senile and paranoid peoples while blundering accidentally into their oil wells." —John Thomas Flynn, 1944. (Flynn was a journalist, a leftist with populist inclinations. He supported Franklin D. Roosevelt for president but criticized the New Deal. In 1939, he predicted that Social Security would be under water by 1970, and insolvent by 1980. He may have been a good journalist but perhaps not too accurate at actuarial science. Flynn's 1944 comment of, "blundering accidentally into their oil wells" is supplementary to Robert Newman's Google video that the Iraq war began in 1917.) Photo from Wikipedia.

Lastly, in this chapter, some further speculation from Naomi Shohnu,

"Humanity is actually on the verge of self-annihilation. Under these ominous circumstances, to live our lives in a way worthy of being called human we must try ever harder to seek our ideals and make efforts to realize them. This may seem a roundabout way, but it is the only course to take, because the difficulties facing us are not to be solved at a stroke.

Yet we are infirm of purpose and lack foresight,



Naomi Shohnu and R. G. Wilson, August, 2004, Hiroshima.

pressed by our daily needs and caught up in finding solutions to our own problems. We lack the time or energy to think full time about the larger perspective. Moreover, we have evil and unfair thoughts as well. Even if we know the right choice, it is often very difficult to make it. On the other hand, we also possess the seeds of goodness and justice that humankind was given by nature and has fostered over the ages. We have the ability to cultivate self-control and consideration for others and to strive to live together in a humane and harmonious manner with others. The revival of such true humanity—not only between individuals, but also between nations—is an absolute necessity today, for the age has come when one nation's self-centered behavior could lead all humanity to annihilation." —Naomi Shohn, 1986



Hiroshima, July 25, 1945: The “T-bridge” is the aiming point. The hypocenter is at the red dot; right, across the street is the Shima Hospital. The Industrial Promotion Hall is along the river just right of the “T-bridge. The Honkawa Elementary School is along the river just left of the bridge. The street at the bottom of the picture will become Peace Boulevard. Photo: US National Archives



Hiroshima, August 11, 1945. Photo: US National Archives

Appendix 2A The Radiation Effects Research Foundation (RERF)

Reassessment of Yield and Epicenter for the Hiroshima and Nagasaki Atomic Bombs.

Over the past two years, a Joint U.S.-Japan Working Group, chaired by Dr. Robert Young and Dr. Hiromi Hasai, has undertaken a comprehensive evaluation of the calculations that comprise the RERF dosimetry system and the measurements that are used to verify these calculations. At a meeting in Tokyo on March 14-15, **2003**, a Joint U.S.-Japanese Senior Review Group, chaired by Dr. Warren Sinclair and Dr. Wataru Mori, approved DS02 (Dosimetry System 2002), which was developed by the Joint Working Group.

The RERF is supported by the DOE Office of Health Studies and the dosimetry reassessment effort in the U.S. was funded both by the DOE Office Biological and Environmental Research (SC-72) and EH-6. The current reassessment was made possible largely by the development of techniques such as accelerator mass spectrometry for the measurement of trace-amounts of neutron activation remaining from 1945, and by the availability of massively-parallel computing capacity that permits three-dimensional calculation of a problem as vast and complex as an atomic detonation.

The new calculations and measurements produced during this reassessment have confirmed the yield and epicenter for the Nagasaki detonation while refining both these values for Hiroshima. **Current measurements and calculations confirm a 21-kiloton-yield for the Nagasaki bomb and a burst point to within 2 meters of previous assessments. In Hiroshima, the estimated yield has been increased from 15 kilotons to 16 kilotons and the epicenter has been repositioned 20 meters higher and 15 meters to the west.** While supercomputing technology made recalculation of the nuclear explosions possible, application of current geographic information systems technology has reconciled the exact hypocenter locations on new, more accurate maps with World War II vintage maps. The new dosimetry system will be implemented at RERF as quickly as possible. (The current DS86 report is available on the RERF website. Chapter 1 is quite readable:

<http://www.rerf.or.jp/shared/ds86/ds86a.html>).

Although significant changes in risk estimates are not expected, the improved calculation and refined shielding considerations should reduce the uncertainties and provide much confidence in the validity of risk assessments.

Appendix 2B

Radiation levels and cancer in humans

In the recent National Academy of Science, National Research Council report, "The committee concludes that current scientific evidence is consistent with the hypothesis that **there is a linear, no-threshold dose-response relationship between exposure to ionizing radiation and the development of cancer in humans.**" Committee to Assess Health Risks from Exposure to Low Levels of Ionizing Radiation, National Research Council of the National Academy of Science, "Health Risks from Exposure to Low Levels of Ionizing Radiation, BEIR VII PHASE 2," The National Academies Press, Washington, D.C. 2006, p.15.

ISBN 0-309-09156-X. also,

http://www.dep.state.pa.us/brp/radon_division/BEIR%20VII%20Preliminary%20Report.pdf

Appendix 2C

THE LEGACY OF HIROSHIMA, Its Past, Our Future.

By Naomi Shohno. Tokyo: Kosei Publishing Co., 1986. (Tuttle in the U. S.)

Reviewed by WILLIAM FEUILLAN. Copyright © 1986, The Japan Times. All rights reserved. (Nov. 29, 1986)

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Doubtless there is no way to get this sane, thought-provoking little book into the hands of the world's leaders and their military advisers. Is it too much to hope that it will come to the attention of at least some of those who should know better but, inured as they are to the threat of annihilation, shrug fatalistically at the mere mention of Hiroshima, Nagasaki, the nuclear arms race?

Dr. Naomi Shohno is a nuclear physicist and a professor at Hiroshima Jogakuin College who has written widely on the subject of atomic weapons and their effects on human beings.

This new book is a companion to *Hibakusha: Survivors of Hiroshima and Nagasaki* from the same publisher and in a similar format for which he wrote the introduction and which was reviewed by this writer in these pages on Aug. 2.

It is regrettable that when attempts are made to discuss the important subjects raised by Dr. Shohno in books of this kind, the issues are clouded by emotional arguments about who started the war anyway and name calling that sinks to the "bleeding hearts" level.

To pretend that some individuals and organizations have not dwelt on playing the role of victim would be hypocritical. But it hardly seems unfair to remember that only one nation has suffered this devastation and that any lessons for the future must be learned from those who have experienced it.

Rather than grinding political axes or debating questions of guilt, the author of this sane plea for disarmament pointedly reminds us that the fate of Hiroshima and Nagasaki was "a tragedy of all humankind."

He forthrightly states his belief that "the assumption of the inhuman point of view that all is fair in war . . . no matter how cruel" was an underlying factor in U.S. President Harry Truman's triumphant announcement of the dropping of the first atomic bomb.

"At the same time," Dr. Shohno writes, ". . . we should never forget that the same point of view provided the motive for the Japanese military's invasion of China and . . . its surprise attack on Pearl Harbor."

Among the non-Japanese victims of the two nuclear bombings were some 10,000 Korean forced laborers brought over from the then-colony, although the exact number of such dead and injured has never been determined.

Others included small numbers of Chinese, Mongolian, and Southeast Asian students at local universities, some 1,740 prisoners of war from the Netherlands, the U.S. and Great Britain, and perhaps 1,000 Japanese- Americans.

The Legacy of Hiroshima does not make pleasant reading. It documents not only the immediate destruction of persons and property, but the continuing physical toll of radioactivity, including the lingering illnesses and the birth deformities that have followed in the wake of the bombings more than 40 years ago.

Dr. Shohno's chapter on the history of nuclear testing is of particular interest. Too many have forgotten or never knew the sad saga of the testing in the Pacific in the late 1940s to mid-1950s and the fate of the Bikini islanders who were removed from their atoll home, first to allow the test and again several years later when previous promises of safety from the threat of lingering radiation were found to have been seriously premature.

American tests are stressed because there were so many of them and so much is known about them,

but those of the Soviet Union and other countries are not ignored, nor is the development of nuclear weapons by more and more governments.

Indeed, it is surprising how much such information this small book contains, often in the form of easily comprehensible charts. The whole presentation is admirable, in particular the translation by Tomoko Nakamura and the adaptation of it for English-speaking readers by Jeffrey Hunter.

Two sections of photographs are included, one showing the horrendous damage wreaked on Hiroshima and Nagasaki and many of the victims in those cities, the other dealing with the later Pacific tests, newly deployed weapons and the peace movement.

Several pages are devoted to notes on points raised in the text and the book closes with what is probably the most comprehensive annotated bibliography on the bombings of Hiroshima and Nagasaki readily available to the layman. (in 1986)

In his final chapter, entitled "What Can We Do for Peace?" Dr. Shohno writes: "It is meaningful to quote here a sentence from the preamble the Constitution of Japan, which was imposed ... by the United States immediately after World War II: 'We believe that no nation is responsible to itself alone, but that laws of political morality are universal . . .'"

The continuing failure of the United States and the Soviet Union to reach a meaningful agreement on limitation or abolition of nuclear weapons, and their ongoing mutual distrust and development of newer and more terrifyingly destructive armaments, give the search for a rational approach to international understanding outlined in these pages a particular urgency.

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"On September 5, 1945, Wilfred Burchett, a correspondent for the *Daily Express*, based on data gathered in Hiroshima reported as follows: "People are still dying, mysteriously and horribly--people who were uninjured in the cataclysm--from an unknown something which I can only describe as the atomic plague." Concerned about this report, Brigadier General F. Thomas Farrell, chief of the War Department's atomic bomb mission (Manhattan Project), issued a statement denying that the damage was from radiation. He said, "the atomic bombs dropped on Hiroshima and Nagasaki were detonated at such a high altitude that no radiation remained, and that even if some people died later, it was because of injuries sustained at the time of the explosion." According to *The New York Times* on September 13, 1945, he said, "The weapon's chief effect was blast" and that "his group of scientists" found no evidence of continuing radioactivity in the blasted area on Sep. 9 when they began their investigation. [Sept. 9, about one month after the explosions.]

After this statement, the Manhattan Engineer district continued an investigation of residual radiation in Hiroshima and Nagasaki. Mentioning the data which were collected in late September and early October 1945, they concluded, "No harmful amount of persistent radioactivity was present after the explosion."

However, in 1950, scientists of ABCC [Atomic Bomb Casualty Commission] noticed the effects of residual radiation and started the "Residual Radiation Survey" by collecting information on the people who had radiation signs and symptoms after entering the city after the bombing. However, according to Lowell Woodbury, physician in the statistic department of the ABCC, "Due to pressure of other work and a shortage of investigators, this project was not actually initiated."

Woodbury pointed out the possibility that "The black rain left a deposit sufficiently radioactive to cause radiation signs and symptoms in extremely sensitive individuals, and that deposit was largely washed away in the September rains and typhoon," and the necessity of more detailed investigations. But this investigation was not conducted. On the other hand, the conclusion of the Manhattan District Report, "No harmful effect of residual radiation in Hiroshima and Nagasaki," even though it was conducted after the typhoon and rains, is still the standard which is applied today.

The US government has continuously denied the influence of residual radiation in Hiroshima and Nagasaki. However this official view was not based on detailed scientific research."

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"Being able to estimate the exposure dose from fallout using the ABCC's hair-loss survey enabled me to understand the extent to which the RERF, which disregarded calculations based on rate of hair loss, underestimated the risk of late onset disorders such as cancer. The Hiroshima University Research Institute for Radiation Biology and Medicine undertook a study entitled Mortality Statistics among Atomic Bomb Survivors in Hiroshima Prefecture, 1968-1972, which compared death rates from malignant neoplasms in *hibakusha* who lived in Hiroshima Prefecture with those of Hiroshima Prefecture residents. Using this study, I managed to calculate the excess relative risk of cancer per Sv (Sievert = effective biological dose) of radiation based on the relationship between exposure dose and rate of death from malignant neoplasms in one year for directly exposed *hibakusha*. With non-*hibakusha* residents of Hiroshima Prefecture as the control group, the excess relative risk per Sv of radiation is 0.53. However, if, like RERF studies, the control group consists of distally exposed *hibakusha* who were beyond 2km, the excess relative risk per Sv falls by half to 0.23. So it is glaringly obvious that we should consider the effects of exposure from radioactive fallout in risk estimation. Internal exposure is the main form of exposure in nuclear accidents, so it stands to reason that doubts will be raised about the application of the ICRP's radiation protection standards which rely on the RERF's research that is limited to exposure from initial radiation and disregards the effects exposure from radioactive fallout."

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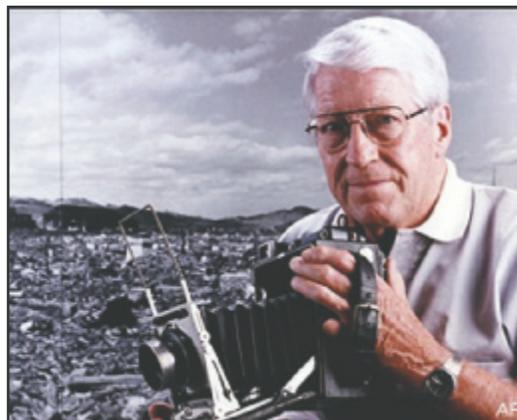
8. Robert S. Norris and William M. Arkin, "Global Nuclear Stockpiles, 1945-2000," Bulletin of the Atomic Scientists, Vol.56, Issue 2, March 1, 2000.

<http://bos.sagepub.com/content/56/2/79.full.pdf+html> This page is included in the Appendix of this book. (Very informative.)

9. Joe O'Donnell has authored two books of his photographs:

JAPAN 1945 – A U.S. MARINE'S PHOTOGRAPHS FROM GROUND ZERO, Vanderbilt University Press, Nashville, 2005. ISBN 0-8265-1467-7

JAPAN 1945, IMAGES FROM THE TRUNK, narrated to Jennifer Alldredge, Shogakukan Inc., Tokyo, 1995. (Text in English and Japanese) ISBN 4-09-563013-2 (トランクの中の日本—米従軍カメラマンの非公式記録)



Joe O'Donnell,
photo courtesy of Kimiko Sakai

Exploring Hiroshima



Hiroshima, on the delta of the Ota River. 1. Hiroshima Station where one is likely to arrive whether by train or by shuttle bus from Hiroshima Airport, 2. Hiroshima castle and moat, 3. The “T-Bridge” and immediately beyond it Hiroshima Peace Park, 4. Hijiya Hill, location of RERF, 5. Hiroshima Port at Ujina, 6. Misasa Bridge near Sadako Sasaki’s home, 7. Eba, where Keiji Nakazawa (Barefoot Gen) and his mother sought refuge, 8. Nishi-Hiroshima train station where Naomi Shohno arrived from Kyushu on August 9, 1945, 9. Yokogawa Station where the story and film *Black Rain* begins as Mr. Shizuma was about to depart for the town of Kabe, 10. Kamiyacho corner, the “main” intersection of Hiroshima City. Beyond Hiroshima Port is Hiroshima Bay and the islands of the Seto Inland Sea.

Photo courtesy of Hiroshima Convention & Visitors Bureau.

It has been my good fortune to be able to learn and to write for some twelve summers in Hiroshima and Nagasaki. I was able to establish professional friendships and make acquaintances with others, all very pleasant, enjoyable, and *helpful* relationships. If you become able to visit Japan you may wish to do the same. You might ask for help before planning such a visit from Japanese acquaintances in your locale. Professional and occupational groups might assist also. I have found help willingly provided. The people of Hiroshima and Nagasaki are ready and willing to help people from all nations learn about their cities and their A-Bomb experiences. Conversations can be started and you might be

surprised at the usage of English in Japan. (It was once suggested to me, if help is necessary, ask young people who appear to be recent high school graduates, for they may have just completed some 4-6 years of English learning.) In Hiroshima, the World Friendship Center can help steer you to connections that may last a lifetime. This book's Appendix tells a bit more about the World Friendship Center.

<http://homepage2.nifty.com/wfchirosima/>

A visit to Hiroshima will undoubtedly include Hiroshima Peace Park, the Peace Museum and Memorial Hall. But Hiroshima is a modern city with many enjoyable places to visit. I don't care for trips such as, "*See Japan: Ten Cities in 9 Days!*" That's why I planned my visits for 2-3 summer months. You might wish to plan at least a week each in Hiroshima and Nagasaki, or longer. I am not fluent in Japanese but I do know, "How much does this cost?" "Where is the toilet?" and "Thank you."

What follows are some suggestions for visiting Hiroshima:

Wiki Travel - Hiroshima

"Those expecting to step off the Shinkansen (bullet train) into a pile of smoldering rubble will be in for a surprise, as Hiroshima has all the ferroconcrete and blinking neon of any other modern Japanese city. Teenagers stream in and out of the station, where McDonald's and the latest *keitai* (mobile phones) await; hapless salarymen rush down Aioi-dori to their next meeting, casting a bloodshot eye toward the seedy bars of Nagarekawa as they pass. At first glance, it can be hard to imagine that anything out of the ordinary ever happened here."

This is a useful page that covers just about everything.

<http://wikitravel.org/en/Hiroshima>

Hiroshima City Museum of History and Traditional Crafts

"Unfortunately, everything in this museum is written only in Japanese so if you don't read Japanese this may not be a very informative activity for you. However, there are plenty of little dioramas and examples of the produce from the area so it is possible to work out a little of what went on by sticking your nose into one of the miniatures or following the diagrams."

http://www.hiroshima-navi.or.jp/en/sightseeing/bunkashisetsu/shiryokan_toshokan/21670.php

Hiroshima Children's Museum

"The Children's Museum is located in the center of Hiroshima city, next to the Green Arena convention center and the Family pool, a short walk from "Genbaku dome mai" tram or bus stop (heading north away from the peace park). There is an old-fashioned train next to the museum children can climb on, on the other side of the museum is the Family pool (open July~August) and in front of it there is a large concrete courtyard popular with skateboarders and BMX trick riders.

Entry to the museum is free except to the Planetarium. The main building has a 1st floor science discovery area where you can manipulate machines to learn about gravity and electric currents and measure your speed by racing on a short track. There is also a maze that you can climb through and access the second floor or shoot down a slide at the end, back to the first floor."

Our children very much enjoyed visits to this museum, conveniently located near the city center.

<http://www.gethiroshima.com/lifestyle/hiroshima-childrens-museum/>

Miyajima

"Miyajima is a fairly large island off the coast of Hiroshima. It has many attractions including the 'floating' *Itsukushima Shrine* with its iconic red *torii* gate built in the sea, tame deer that roam freely and interact with visitors, and maple trees that turn a brilliant red in autumn. Mt. Misen, the highest mountain on this mountainous island, has a number of hiking trails, as well as a cable car. Miyajima is

dotted with some particularly beautiful shrines and temples. The island is also a shameless tourist trap, in the best possible way, and the streets near the port are lined with shops selling souvenirs and some rather delicious snacks such as the *momiji manju* cakes in the shape of maple leaves, and various confections made of *chikua* fish paste.

Taking the fast boat from **Hiroshima Port Ujina Passenger Terminal** is a convenient way of getting to Miyajima. This port also serves ferries to Kure and Matsuyama. The fast boat costs 1,800 yen one way, and the trip takes 22 minutes. It stops briefly at the Prince Hotel on the way.”

<http://en.japantravel.com/view/the-fast-boat-to-miyajima>

But there is a streetcar marked, Miyajima-guchi, that runs from Hiroshima Station right down Hiroshima’s main street, Aioi dori, to the Miyajima end of the line, from where you take a 10-minute ferry ride to the island. Maybe use ferry one way, streetcar the other; a streetcar also runs to Hiroshima Port at Ujina.

Hiroshima Beer Gardens

These are often (always?) located on rooftops.

<http://www.gethiroshima.com/nightlife/hiroshima-beer-gardens-2012/>

Tokyu Hands

I like to visit the store, Tokyu Hands; it’s fun to look into all the DIY items and tools. The floors are small; take the escalator to the top floor, survey it, then progress down to street floor. The store is a very short walk from the Hatchobori intersection.

<http://www.hiroshima-navi.or.jp/en/shopping/commercial/22002.php>

Japan National Tourism Organization, Hiroshima and Miyajima

A useful page, there are pages for most locations throughout Japan.

<http://www.jnto.go.jp/eng/location/rtg/pdf/pg-603.pdf>

Hiroshima Streetcars, Economical Tickets

One-day and two-day Trip Cards are available, and will cover a trip to Miyajima.

<http://www.hiroden.co.jp/en/ecotickets.html>

Hiroshima Urban Rail System Map

Perhaps not the best map but it does show all streetcar routes and the Astram line out to Hiroshima suburbs. Expand to see the line to Miyajima-guchi. A nice map is available free at Hiroshima Station, Hiroshima Port, Nishi-Hiroshima (Koi), and possibly Yokogawa Station.

<http://www.urbanrail.net/as/jp/hiroshima/hiroshima.htm>

Hiroshima Bookstores

I enjoy visiting the bookstores in Hiroshima; they are somewhat like U.S. Barnes and Noble, maybe better; the Japanese are incessant readers. Ask for the location: of English, or *your* language, books. Try:

Kinokuniya on the 6th floor, SOGO department store at Kamiyacho corner, NW corner.

<http://www.kinokuniya.co.jp/contents/pc/store/Hiroshima-Store/>

Maruzen on the 7th and 8th floors of the Tenmaya-Hatchobori Building, along Aioi-dori at the Hatchobori intersection, SE corner.

http://www.junkudo.co.jp/mj/store/store_detail.php?store_id=27

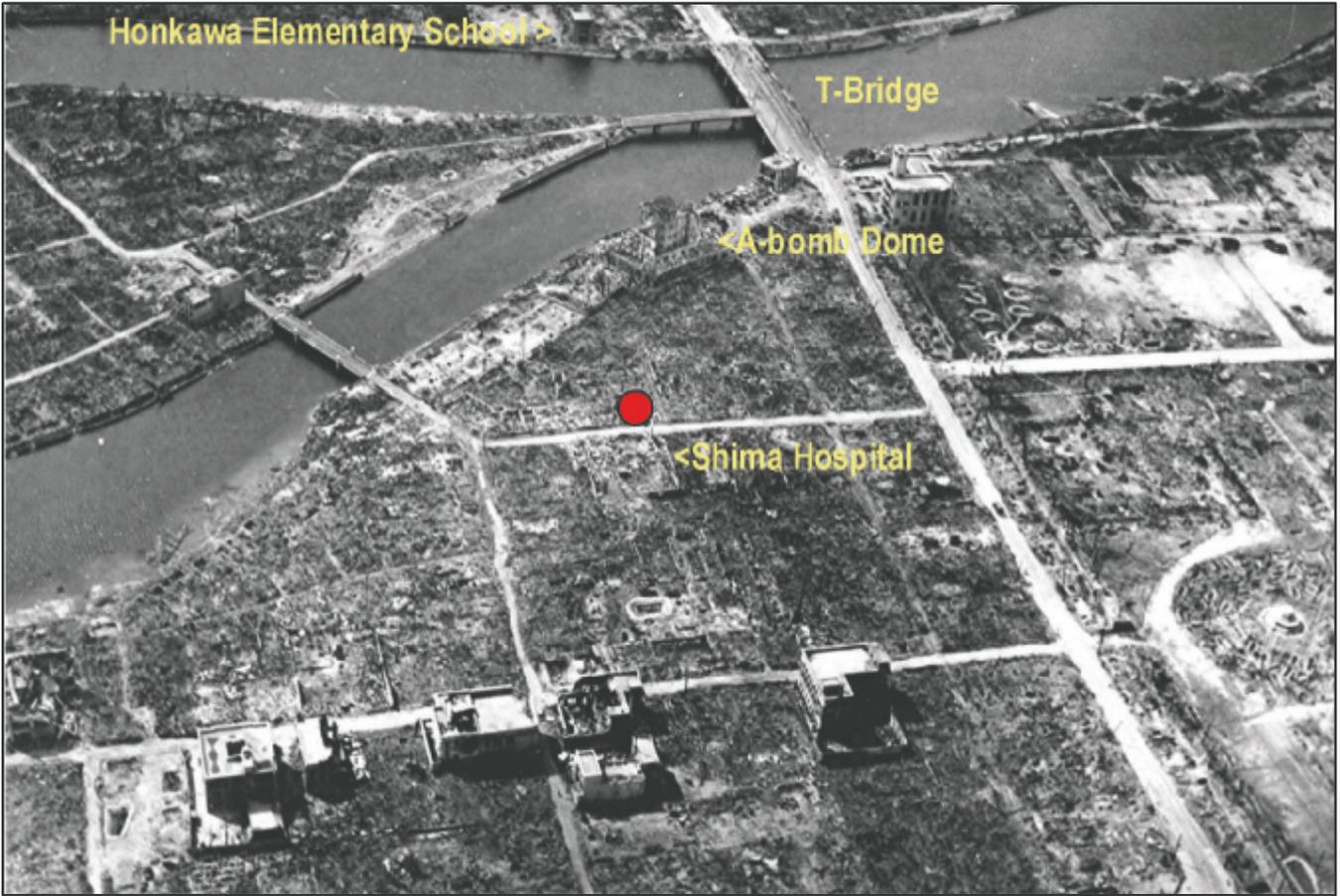
Junkudo on the 10th floor of Hiroshima Yale Yale A-Kan, Fukuya Hiroshima store, south across the street from Hiroshima Train Station. (Walk the underground outside the station to the Fukuya store.) (There is another Fukuya Department store on Aioi-dori.)
http://www.junkudo.co.jp/mj/store/store_detail.php?store_id=28

And by all means, take a stroll through the 1 km long shopping street Hondori, below.



I hope to see you in Hiroshima someday. Bring a friend or your family.

You can “visit” Hiroshima and Nagasaki via “street view” of Google Earth.
And five panoramas of destroyed Hiroshima, and contemporary panoramas, are available here,
<http://www.360cities.net/search/hiroshima>



A different view of the Hiroshima hypocenter. Photo: US National Archives

Chapter 3

Testimonies of the Atomic Bomb Survivors: A Record of the Devastation of Nagasaki

City of Nagasaki

This Chapter is adapted from a book produced by the City of Nagasaki in 1985. From the original book, 20 of the 30 testimonies were translated by Brian Burke-Gaffney (“What they actually saw was probably far worse than any conception they had of hell. . . .countless numbers of corpses burned and mangled beyond recognition, lay scattered and rotting in the city weeks after the explosion. . . .unidentified; this meant that the survivors would never be free from worry, guilt, and the sorrow of not being able to pray for their loved ones at the family grave.” —Brian Burke-Gaffney)
Other translators here are J. Philip Gabriel and Kunihiko Fukamaki.

**These testimonies with the original images are used with permission from the City of Nagasaki.
There are additional images.**

Initials: _____
Date: 8 August 1945

FIELD ORDERS) TWENTIETH AIR FORCE
: GUAM
NUMBER 17) 8 August 1945 - 0800H
Map: JAPAN Aviation Chart 1:218,880 Copy _____ of _____.

1. a. Omitted.

b. (1) Omitted.

(2) (a) No friendly aircraft, other than those listed herein, will be within a 50 mile area of either of the targets for this strike during a period of four hours prior to and four hours subsequent to strike time, except for one routine weather aircraft of this command. **In no case will any friendly aircraft fly at any time in smoke column resulting from this strike.**

(b) Air-Sea-Rescue facilities will be provided for this mission through standard channels by Headquarters, Twentieth Air Force.

(c) An incipient storm developing southeast of IWO JIMA and moving west, together with a concurrent strike by other aircraft of this command, will necessitate scheduling aircraft of the 509th Group west of IWO JIMA on the route to the target.

2. Twentieth Air Force attacks targets in JAPAN on 9 August 1945.

3. a. Omitted.

b. Omitted

c. 313th Wing, 509th Group:

(1) **Primary target: 90.34 - 167 KOKURA ARSENAL and CITY.**

(a) Aiming Point: 104082, Reference: XXI BomCom Litho-Mosaic KOKURA ARSENAL No. 90.34 - 168.

(b) Checkpoint: 3243N - 13233E.

IP: 3343N - 1313830E.

(c) Breakaway (if target is bombed):

Left turn of at least 150 degrees
3343N - 1313830E.

(2) **Secondary target: 90.36 NAGASAKI URBAN AREA.**

(a) Aiming Point: 114061. Reference: XXI BomCom Litho-Mosaic NAGASAKI AREA, MITSUBISHI STEEL and ARMS WORKS, No. 90.36 - 546.

(b) Checkpoint: 3225N - 13141E.

IP: 3239N - 13039E. **(Hypocenter Coords: 32°46'25.58"N, 129°51'47.71"E)**

The (August 8, 1945) order for the atomic bombing of Nagasaki, issued by Colonel J. B. Montgomery. Recreated from a scan of a partially legible copy of the original; bold emphasis by R. Wilson.

On the following map the hypocenter is marked red; the red line from the Shiroyama Elementary School to the Urakami Church represents one kilometer. Nagasaki harbor is bottom-center.





This is the area near Nagasaki Harbor about 1900; sailing ships are at anchor. Dejima and the Chinese Factory show up here at water's edge. This is an area of homes and shops. With flat land at a premium in Japan, note how close packed the homes are; it is the same up the Urakami River Valley to the hypocenter. "(1945)...the present view of the Manhattan Project Interim Committee was that the Hiroshima bomb should be used against Japan as soon as possible; that it be used on a war plant surrounded by workers' homes; and that it be used without prior warning."

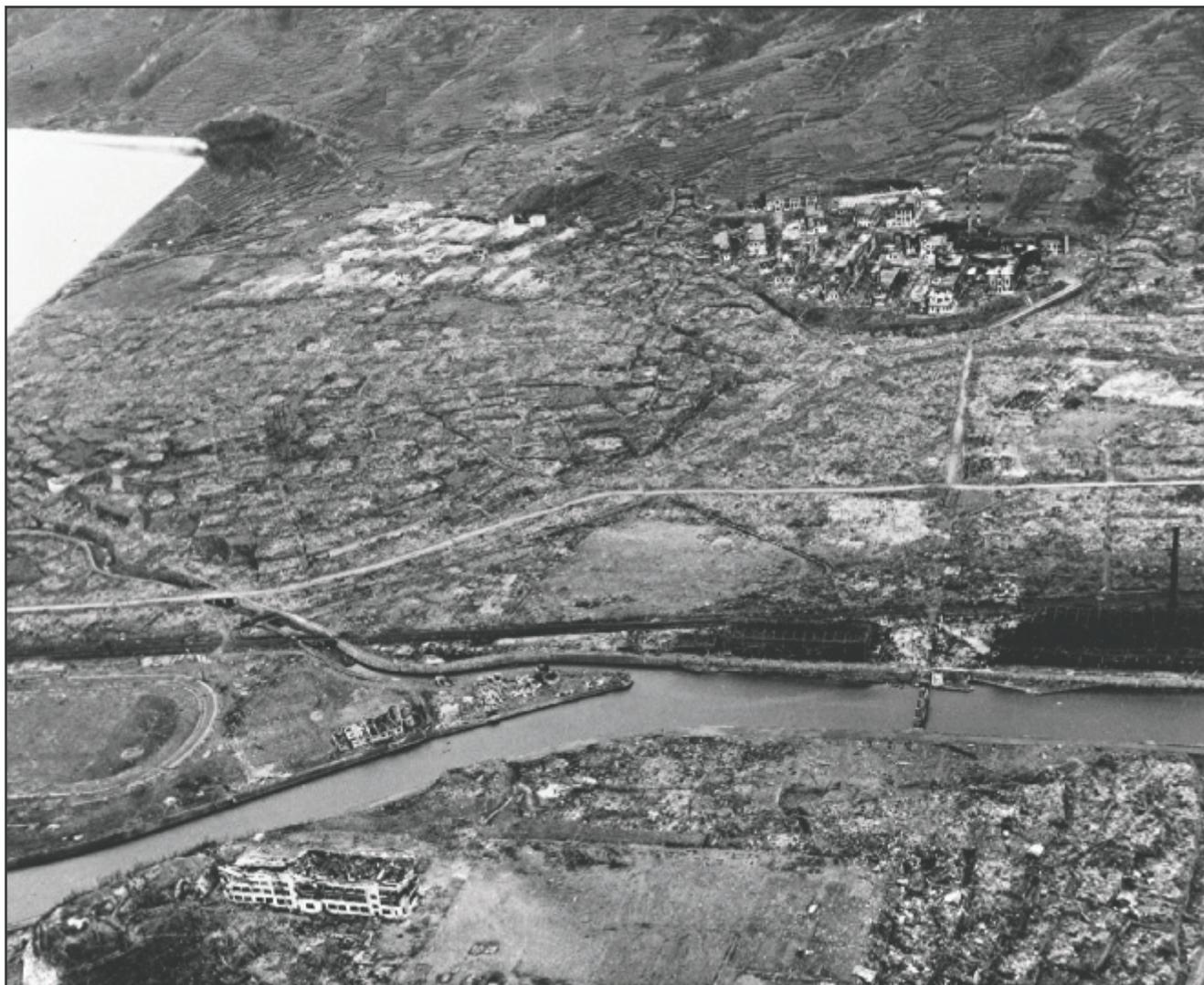
The photo illustrates worker's homes. Henry and Nancy Rosin Collection of Early Photography of Japan Freer Gallery of Art and Arthur M. Sackler Gallery Archives Smithsonian Institution, Washington, D.C.: Partial purchase and gift of Henry and Nancy Rosin, 1999-2001

The Human Dam

By Ms. Chie Setoguchi

I left the house very depressed and started down the hillside. It was the house where my children and I sought refuge after evacuating the city during the war. I went there to retrieve our winter clothes, but the owner of the house told me that they had been stolen in the confusion after the atomic bombing. I had to turn back empty-handed. "I wonder if that big parcel I saw in the corner is ours...Maybe I should go back," I speculated hesitatingly as I walked slowly along the narrow path behind the Fuchi Shinto Shrine. "I should have come and asked for our things right after the bombing. I guess it was my own fault. If I had taken time from my work and come I wouldn't have had to listen to that man say, 'If you leave something lying around for more than ten days, it's no surprise when it disappears!'" My feeling of

contrition made me remember how lucky we had been to survive. I shifted to a fatalistic point of view, and, reasoning with my basically simple and good-natured self, made up my mind to forget about the whole affair as quickly as possible.



The northern end of the steel works to which Chie Setoguchi refers is the dark twisted steel along the river. In the background left is the Medical School, and right, the University Hospital; airplane wing tip is at upper left border. In the foreground is the Chinzei Middle School with its crushed upper floor. Truman Library, U.S. Army Air Corp, 67-6812

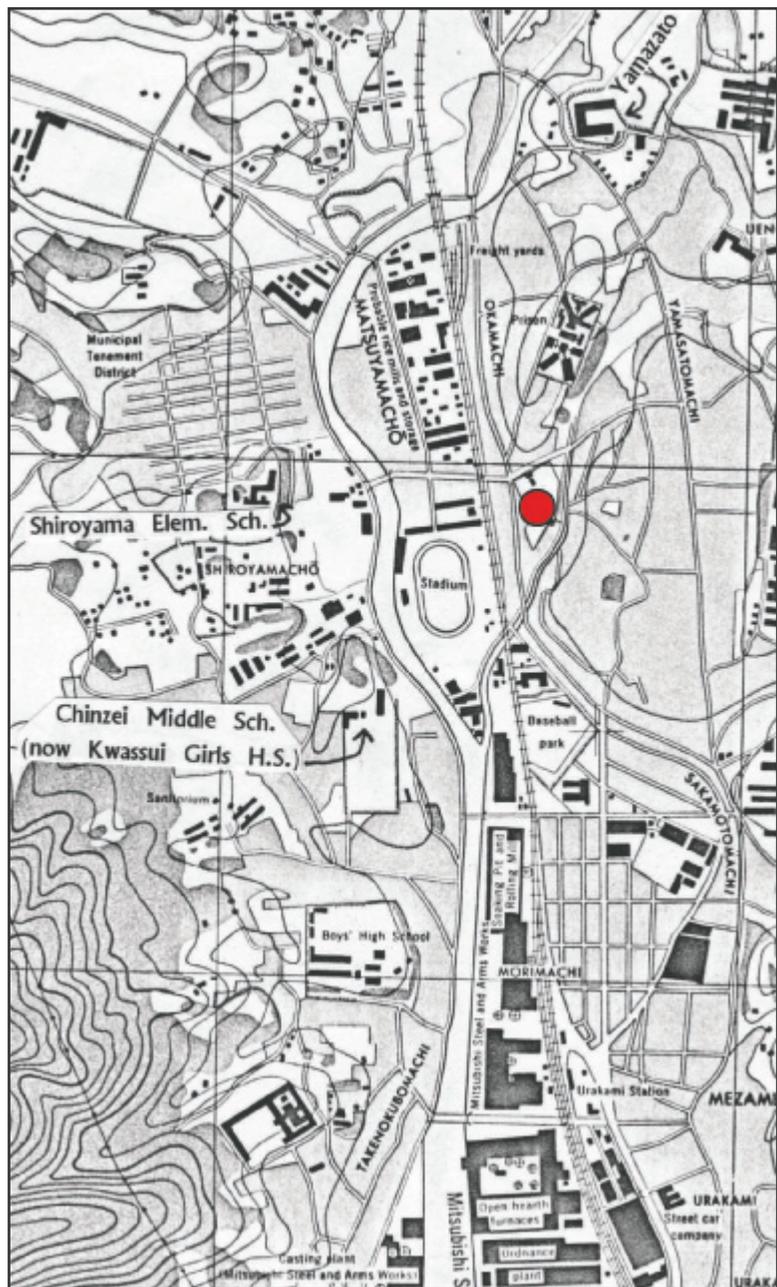
I noticed the ruins of the steel works below me in the valley. Like looking at atrophied entrails through the ribs of a dead animal, I could see a demolished steel forge inside the bare twisted framing of the building. The works had sent up flames to the sky for two or three days, but the fires were out now and the anguished screams for help that echoed there could no longer be heard. The sweltering summer sun continued to beat down. The grass, trees, and rocks had lost their natural color, and were stained in a strange gray-brown hue.

The city of Nagasaki was a monotony of rubble as far as the eye could see. The surrounding mountains managed to maintain some dignity, although only beyond a certain distance. Buildings had been completely leveled except for a few stubborn and ravaged carcasses that stood tottering in the

wasteland. The only movement in the whole panorama was a scattering of people trudging along the road and one or two rickety trucks driving away in clouds of dust.

Halfway down the winding mountain path, I stopped and bent over with my hands on my wobbly knees. "It's hot!" I muttered, breathing hard, when suddenly an intensely unpleasant sensation shot up my spine. I had been experiencing such symptoms the past few days. My body was very languid and

even though I felt the urge to urinate I had trouble passing water. There were no trees or thickets where I could hide myself. Looking around furtively, I held my abdomen with my hands and walked until I found a big rock behind which I could crouch down and pass water. The urine was murky and tinted amber. I tried to squeeze it all out by straining the muscles of my abdomen, but I still couldn't achieve a feeling of relief. For a week and a half since the explosion of the atomic bomb I had been walking almost twenty kilometers [12 miles] a day through the ruins under the hot sun, oblivious to the danger of residual radiation. I was working all day and getting only three or four hours of sleep. It was obvious that if I kept up this pace I would eventually collapse. There were limits to my strength and they had now become very clear to me. "It's already August 18th," I murmured to myself.



out of the toilets and closets. The school dormitory had to be closed temporarily, and I began to receive word that many of the young girls who had gone home to recuperate were also becoming sick and showing the above symptoms.

Injured people were dying by the hundreds in the relief stations scattered throughout Nagasaki. The corpses were being collected in garbage trucks and cremated en masse in school yards and other open

areas. The bodies were dragged off the mats in the relief stations and, already stiff with rigor mortis, thrown with echoing "thuds" into the bowels of the garbage trucks. The next patient was then carried into the station and laid down for treatment on the mat only minutes before occupied by a corpse. Trapped in these ghoulish circumstances, both the people bound to live and those bound to die would become inhuman if they didn't go insane first.

I still hadn't focused clearly on the fact that Japan had lost the war. Even on August 15th when I listened to the voice of the emperor declaring Japan's surrender over the radio which sounded all the more sad for its slight effeminate tone, the tears I shed did not exactly connect with the problem of what would happen now that the war was over and we were defeated. As I dragged my feet heavily down the mountain path my mind was occupied with thoughts about having to wander about the corpse-strewn streets of Nagasaki or worries about how we were going to spend the winter without our clothes, but even then I was in a kind of fog and lacked a keen sense of reality.

I continued my zigzag trek through the ruins, trudging slowly beside the dried-up river behind the Take-no-kubo Steel Works, and negotiating the piles of rubble on the stone foundations where houses once stood. To my right was a river and to my left was a demolished residential area. Corpses were scattered in the river and on the roadside. Dead for ten days, they were infested with maggots and dripping with a foul liquid. Hundreds of flies were buzzing around me. Holding a towel like a mace, I swatted them off my back, head, and face as I walked.

Among the human corpses I noticed the carcass of a horse. Its abdomen was crammed with a squirming swarm of plump maggots, which were moving around from the abdomen to the exposed white ribs of the horse with astounding vitality. The swarm was so large that it bulged out to the original size of the horse's stout under parts. Why were they eating with such gusto? I spat out my saliva onto the ground. A sickening sensation crept up from my stomach to my throat, but the feeling went beyond nausea. It was as though the agony of being alive had condensed to liquid form and was slowly seeping into my chest. The maggots in the horse's abdomen had transformed into a mass of bitterness that threatened to overcome me.

I quickened my gait as though fleeing from a hidden pursuer, but came to a halt when I arrived near the Chinzei Middle School (the present Kwassui Girls High School). At the side of the road I noticed a young boy standing beside a tree, probably a pine tree, and the vision made me stop in my tracks. His legs were spread open in a running posture and his hands were thrust forward as though about to grasp something. It was the corpse of a boy frozen like a statue. Looking closely, I noticed a dead kitten clamped to the two meter-tall pine tree in front of the boy. The kitten was frozen in a half-playful posture with its face to the boy, obviously having jumped up onto the tree to avoid his grasp, and its body was scorched and covered in the frizzled remains of fur. Without disintegrating or falling from the tree, it glared with eternally-locked eyes in the direction of the boy.

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A young boy four or five years old was burned black, lying on his back with his arms pointing to the sky. Drawn by Masato Yamashita.
GE13-05 Courtesy of the Hiroshima Peace Memorial Museum Curatorial Division.
Please do not reproduce without permission.

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Under the sweltering sun and in the midst of that all-pervading destruction, the naked boy, the tree, and the cat were like illustrations in an action cartoon. The pine needles and slender branches of the tree were gone, but the characteristic pine bark remained like charred fish scales. The boy's shorts were burned and stuck to his buttocks. His hair was frizzled and his face and body were hideously bloated, although otherwise uninjured. His whole body was glistening as though smeared with oil, and his skin seemed stretched to the bursting point. He stood so steadfastly on the ground that both legs appeared to be rooted down. The mysterious fact that he had remained standing, despite the ferocious blast wind generated by the atomic bomb explosion, only enhanced the unearthliness of the vision. I stood silently staring at the strange phenomenon: a boy and a cat standing delicately in the wake of a wrath that had been enough to twist and bend iron pillars. Perhaps a kind of wave had formed in the blast wind and a

perfect vacuum surrounded the boy, the cat, and the tree as it passed. The result was a tranquil but bloodcurdling apparition that bordered on the enchanting. The summer wind was blowing and the bizarre combination of the boy, the cat, and I, stood there in the shimmering and fading waves of heat tainted with the stench of death.

Most of the injured had been interned in makeshift hospitals, but many unclaimed bodies were left to decompose in the rubble. Among them in the summer heat were corpses wrapped in bed quilts. The whole area was strewn with the dead, and I wondered how on earth they were going to be disposed of. We had lost the war and it was over. The relief of being able to throw off the air-raid hoods we had worn for so long was undeniable, but we had no prospects for the future whatsoever. The horizon was bleak. At that moment it was all I could do to swing the towel and ward off the swarms of flies. The sky had been liberated from the scourge of wailing sirens, and was now blue and beautiful, but below it was a picture of hell that seemed to stretch endlessly. The misery of the citizens of Nagasaki was sewn forever into the fabric of these two contrasting strata.



Shiroyama Primary School and the 45 degree wall of the staircase, U.S. Forces Photo

Gazing deep in thought at the boy and the cat, I was overcome once more by the urge to urinate, and I squatted down and passed water at the roadside. I was like a dog, and the sharp pain in my urinary tract made me feel that the only thing I could do properly was breathe. I stood up and turned away resolutely from the corpse of the young boy. "As long as you stand you will be a vivid monument to the war," I said as I took a last look at him. "No, even when you decompose and not a trace remains of your body you will still be a monument to the horror of war. If, like the immortality of your spirit, the human race



West and southwest of the hypocenter. The Shiroyama Elementary School at upper left, Chinzei Middle School near the bottom, and the Urakami River where people sought relief from the burns. The hypocenter is upper right. The 45 degree wall of the Shiroyama School can be seen as well as the collapsed wing near where cremations will take place.
U.S. Forces photo.

FROM A DIARY BEFORE AND AFTER THE ATOMIC BOMBING

By Mr. Atsuyuki Matsuo

1945. February 15th.

My eldest son Umito's entrance examination is approaching. I hope he gets into the school without any trouble. On top of all the irritating worries in our personal lives, the war is taking a very bad turn for the worse. The future is dark for our forces in the Philippines—the enemy has already entered Manila. We can no longer scoff at the possibility of our main islands being invaded. Rumors are going around that we may have to hand over a portion of Kyushu Island to the invading armies. [Nagasaki is on

Kyushu.] Yet despite all the things troubling me day and night, I am very grateful that except for Michiko the children are healthy and happy. I am very, very grateful.



Chinzei Middle School, Mitsubishi arms factory chimneys beyond. Photo by Torahiko Ogawa, 6-05-01-13-001, permission from the Nagasaki Atomic Bomb Museum

1945. August 9th (written later)

It was a beautiful clear day, and so hot I wore only an undershirt at the office. I had been on duty the night before and didn't return home. My wife called me in the evening to ask if I would come back for dinner.

"Starting today we are instructed to stay here," I said, warning her in an offhand way. "It seems that the air raid in Hiroshima caused severe damage. Please be on guard."

My fellow worker Mr. Wataya decided to go out for lunch in Kabashima-machi and I ascended the stairs to the second floor, where I heard the last part of a radio announcement saying: "... flying west over Shimabara Peninsula." Musing that Kumamoto, Shimabara, and Nagasaki run in one straight line from east to west, I said to everyone as I entered the office room: "If it's flying west over Shimabara it's on its way to Nagasaki." Before I could reach my desk the bell that warns of the approach of enemy

airplanes began to ring, although the air-raid sirens remained silent (the air-raid alarm had been lifted about 9:30 that morning).



Urakami Catholic Cathedral and the winding road to it. In all these scenes the hills and the valley were covered with workers small homes, all now rubble. And beneath the rubble...U.S. Army photo possibly by Shigeo Hayashi. L 6-01-01-06-0005. Permission from the Nagasaki Atomic Bomb Museum

In the short space of a second or two, the distant drone of airplanes came to my ears and I stood up to don my jacket, intending to place documents in an emergency bag. Suddenly a brilliant yellow light enveloped everything. At the same time a tempestuous gust of hot air blew in through the conference room from the direction of Ohato, and a thunderous "Boom!" shook the earth.

Someone shouted, "Get down!" and we all hit the floor in unison, but the blast wind rocked the whole building and smashed the windows and window frames in a violent avalanche of sound. Lying prone under our desks, we waited for the rocking to stop and then shouted frantically to each other, "Let's get out!" We tried to descend the emergency staircase but the door was blown off and the way blocked by hurled debris. We headed back to take the other stairs, but it was treacherous because the floor was strewn with jagged splinters of wood and glass. I was wearing only a pair of thin sandals because of my athlete's foot, and so it was extremely difficult to walk. The whole area was billowing with black smoke.

We fled as fast as we could to the air-raid shelter, noticing that many among us had been injured by flying glass.



The Yamazato Elementary School, only 600 meters from the hypocenter. The school had 1,581 registered students, and about 1,300 of them in the school district died in the bombing. U.S. Forces photo

We gave first-aid treatment to the wounded in the shelter, but even the worst cases were relatively light. Soon people from the processing plant and warehouse began to come into the shelter, and some of them had suffered burns. They went to receive treatment in the air-raid shelter of the army hospital next door. The warning bell was still ringing and so we hesitated to go outdoors. Fires were breaking out and spreading around Nagasaki Station and the Ohato area. I found an opportunity to leave the shelter and went to look from the nearby elevation where Kwassui School stands (Chinzei Middle School in 1945), and I could see fires raging and smoke churning up as far as the arms factory in Mori-machi, but the area beyond that was completely hidden from view. I was overcome with worry about my daughter Michiko who was working at the time in the arms factory. I suspected that fires were burning near our home in

Shiroyama-machi as well, but there was no information available about that part of the city.

At about four o'clock in the afternoon, I learned that the security police were going to carry a load of biscuits to the Prefectural Girls High School, and out of some sort of presentiment, I volunteered to help. The fires were spreading furiously and already the Prefectural Government Building had burned down. Arriving at the girls' school I was informed by the warehouse guardman, Mr. Fukagawa, that Michiko was injured and interned in the school. Shocked yet joyful, I was directed by a teacher to the Tachibana dormitory and I found Michiko there with burns on her face and arms. She was up, though, and able to walk. Tears flowed from my eyes.

I wanted to let the other members of our family in Shiroyama-machi know that Michiko was safe. I decided to take the mountain pass from Nishiyama reservoir over to the Urakami Seminary. It was probably about seven o'clock in the evening when I set out.

It was pitch dark by the time I reached the path and I began to meet groups of injured people coming the other way. I could see the crushed or burned ruins of farmers' houses silhouetted in the darkness. There were no signs of human life near them. From time to time as I walked, someone would call out, "Who is it?" and when I replied, "A passerby", the person would become silent. I wondered to myself why they were asking that.

When I arrived down in the city I found trees lying on the streets and telephone wires scattered all around. The embers of the gutted Urakami Seminary were still glowing. The scale of the destruction far surpassed my fears. The ground was so hot I could go neither forward or back. I jumped into a field from the road leading to the Urakami Cathedral, and made my way around the elevated fields where vegetables were grown but had now completely disappeared. The demolished remains of the arms factory appeared to my right.

I heard the sound of an approaching airplane. As I ducked into an indentation in the field a bomb exploded over the arms factory, which was still burning, and for a moment the area was illuminated. There was no blast wind, like the bomb this morning, and I thought to myself that it had been an incendiary bomb. I was amazed at the enemy's persistence in bombing places that were already on fire.

In the middle of a field where the gate to the industrial school had been, I met a group of four or five people lying on the ground, apparently staying the night there, and again I was asked, "Who are you?"

"I'm trying to return to Shiroyama-machi," I answered, "but I can't find the way."

"Go down to the Urakami River and cross it," one of the people instructed me. "Then head back along the other bank. You'll make better headway if you go over the places where the vegetable plots used to be."

Following that person's advice, I decided to pass the area between Yamazato Elementary School and the prison and go down to the river. The school was still in flames and the crackling sound it emitted was probably the rice reserves burning. From the shadows of a nearby field I heard the voice of someone begging for water, and I began to realize more clearly the horror of what had happened.

I crossed the Urakami River and then, crossing back again at Ohashi Bridge, made my way toward Shiroyama-machi along the bank of the river. It was very dark, but everything visible was burned to the ground. The commercial school was in flames. The artificial embankment on the river had crumbled and huge blocks of concrete were barring my way. I arrived at last in Shiroyama but the whole area was a scorched field of rubble and I couldn't discern which road led to my house. As I stood there dumbfounded, Mr. Wakita, who was a section chief at the Food Supply Headquarters where I worked, came along. He had gone to the site of his house but there was nothing left but ashes. His wife had been ill and was probably killed in the fire, and Wakita was on his way back to the office, having abandoned all hope for her survival. Hearing his story, a dark premonition that my family too had been killed stabbed my heart. We separated there and I hurried along a clearing that I thought would lead to my

house. The time was probably about 10:00 p.m.

The Shiroyama main street, which had been such a familiar sight to me, was now part of the gutted wasteland and completely indiscernible. I managed to recognize the stone stairwell leading up to our house, but the trees in Yasaka Shinto Shrine had vanished and I was confused and disoriented. When I finally arrived at the site of our house, I found that a group of houses including our own had been demolished by the explosion but didn't burn. It was amazing because the whole surrounding area was reduced to ashes. I stood on the road and gazed in mortification at our house, which was now just a chaotic pile of old lumber. I cringed at the thought that my wife and children were perhaps lying beneath it. I moved towards the house, stepping over the pillars and beams scattered wildly about the yard, and called out the names of my wife and children. There was no response whatever.

I asked the few remaining people in the neighborhood if they knew my family's whereabouts, but they didn't and I went back to the house once more.

Listening carefully I could hear the faint sound of a voice. I shouted, "I'm coming!" and ran in the direction of the voice, which I soon realized was coming from the ruins of the Koga family's house next door. "Please lift away this beam," said the voice feebly when I approached. I tried with all my might to lift the beam but every time I moved it a deluge of soil and broken roof tiles rushed in onto the trapped person. It seemed to be Mr. Koga's wife, and near her I could also hear the voice of a little girl begging for help. I tried again and again but it was no use. I asked another neighbor to help but he said it was too dangerous in the dark and suggested that we wait until dawn and then go with several others. (We rescued the mother and child the following day but they both died later.)

I decided to wait until dawn to dig out my wife and children too, and I went to the dug-out in our garden, planning to spend the rest of the night inside it. When I crawled in, though, my hand touched the cold foot of a human being.

"Who is it?" I blurted in surprise.

"It's me, Umito," came the voice of my eldest son. It is impossible to describe the joy I felt at knowing he was alive.

"I was sitting out on the verandah doing some work when the bomb exploded," he explained. "I was pinned under the debris of the house but managed to crawl out. I searched for mother but couldn't find her and I came in here to sleep."

"Are you injured?" I asked.

"I've got some burns, but they're not serious," he replied. "Chihara (a neighborhood friend) and I ate some pears and canned sardines that were in here, but I think they were spoiled because we vomited and got diarrhea."

"It's pitch dark and enemy planes are flying over, so let's wait until dawn," I said, suggesting that we sleep inside the shelter. "Your wounds are light and Michiko is safe in Yanohira-machi. The three of us have to do our very best. Your mother died with Hiroto and Yukiko, and I know that she would want us to carry on now."

During the night Umito had several bouts of diarrhea and I helped him out of the shelter each time. The mountains were smoldering with fire and the whole area was a desolate wasteland. I thought about the transitory lives of my wife Chiyoko and my children Hiroto and Yukiko, and, exhausted but unable to sleep, spent the rest of the night in a kind of stupor.

1945. August 10th.

When the light of morning began to color the sky, I emerged from the shelter and looked around. The entire three-kilometer space of land stretching from the mountains on the east to those on the west was flattened, and everything including trees and the tiered mountain vegetable fields was reduced to ashes. This indescribably desolate and miserable vision unfolded before me as far as my eyes could see.

There was also a strange mist hanging in the air and it differed from anything I had ever seen before. Umito's burns were much worse than he had led me to believe. They spread over half his back and the backs of both arms. I wanted to get medical treatment for him, but it was unlikely that a rescue team would come yet. In the distance I could see a few members of the Obama Volunteer Corps, men and women wearing *happi* coats, and I shouted to them and beckoned them to come over. When they came I carried Umito out of the shelter and they scooped a white liquid from a bucket and spread it over his burns with a brush, picking away the dangling skin as they did. The large extent of the burns worried me very much.

Someone walking by on the road beside the house said: "Your wife is just down the street." Almost jumping up and dancing with joy, I immediately ran off to look for her. I found her near the road leading out to the right from Yasaka Shrine, no more than 20 meters away from where Umito was. She had been only a stone's throw from the house, but lacked the strength even to make her way back.

Chiyoko was lying in the middle of a field on a tatami mat provided by a family who had also fled to the field, and lying beside her were the tiny corpses of Hiroto and Yukiko. It was a crushing blow to see them. Chiyoko had burns on her face, arms and legs. Four year-old Hiroto had no serious wounds, but apparently he had developed brain fever soon after the explosion and did things like suck on a wooden stick saying: "This is sugar cane. It's good." He lost his favorite wooden clogs in the chaos and it troubled him very much. He spoke from time to time saying things like, "Was that an air raid?", but his condition gradually worsened and he died kicking and struggling that evening. One year-old Yukiko had been in good spirits despite the deep wound on her forehead, and sucked milk from her mother's breasts, but she died suddenly that morning.

I carried Chiyoko, who was very weak, put her in the shelter, then laid the corpses of the children in the yard and covered them with a piece of cloth. It was an agony to have to leave the two of them lying there on the ground. The hot summer sun was beating down and flies were swarming about.

Chiyoko also had diarrhea. There was neither emergency food distribution nor any kind of relief whatever. The injured were being left to die. An announcement came from somewhere that rice porridge was going to be provided. I went to the place in our neighborhood where it was being cooked and received a small amount. The only utensil we had was a dipper with its handle broken off, and I used it to receive the porridge and to feed it to Chiyoko and Umito. Both of them were incredibly thirsty.

Around noon Umito started to get chills. He seemed to have a fever and was experiencing great discomfort. He couldn't lie still and sat up, only to lie down again and repeat the cycle over and over. His burns seemed to be agonizing him terribly, so I took the little oil we had left and spread it over the wounds, and also applied talcum powder I found in a cosmetics box owned by the Koga family. His brain became affected by the fever and he began to mumble things about his work at school, all the time moving his fingers in a rhythmical way as though tapping something. His legs began to turn cold and I tried to warm them up by rubbing them, but a feeling of hopelessness came over me. I went to draw some water but when I returned I found him lying face down and dead, having crawled out to where his mother was lying. (Umito had been in the interior of the shelter while Chiyoko was lying at the entrance.) Chiyoko told me that he had moaned, "It's painful!" and crawled out towards her. She said that he seemed to be smiling, and looking in his face I saw that his expression had become peaceful and relieved. This gave me some measure of comfort. He had survived the day before, and I thought that he would somehow manage to live. His death was and always will be a great thorn in my heart.

From the time Umito's condition worsened until he died, Chiyoko just laid where she was in a semi-comatose state. She sometimes awoke and asked me to suck the milk from her breasts because it was unbearably painful. It only filled me with grief that, even though her children were dead and she herself was nearing death, her breasts continued to produce milk.

The two small children were lying out in the garden, but for tonight I wanted to be near Umito, and so I left him lying as he was at Chiyoko's side inside the shelter, and we greeted the arrival of night. Smoke had begun to curl up from the hillsides that afternoon. Fires broke out around dusk and they burned all through the night. I could hear the crackling sound of fires at Shiroyama Elementary School—again; it was probably the rice reserves going up in smoke. From time to time enemy airplanes flew by overhead. Our neighbor Mr. Koga (who later became director of the Mitsubishi Shipyard) arrived home and inquired about his wife. (There were two Koga families in our neighborhood.) According to Chiyoko, Mrs. Koga had left for the Matsuyama post office after the morning air-raid alarm was lifted, and she was probably in that area when the bomb exploded. I related this information to Mr. Koga. Among the thirteen housewives living in our immediate neighborhood, only Chiyoko had survived the explosion. Therefore, all I could do to obtain information was ask Chiyoko about what had happened. Almost all the people who were in this area at the time of the explosion were dead. That day I had witnessed the death of my son Umito, and the grief I felt now was deeper than any I had ever imagined. Umito, Hiroto, and Yukiko. My life of devotion to my children—the life I worked so hard to establish—was torn up by the roots.

1945. August 11th.

Chiyoko, Umito, and I spent the night in the dampness of the shelter; one of us dead and one dying. The misery I felt was boundless.

When morning came I carried Umito out of the shelter and placed him on the ground beside his brother and sister. The three corpses lay there on the ground under the rays of the hot summer sun. The pumpkin field Umito had diligently cultivated had been ravaged by the blast, and not even a leaf or piece of stem remained. The three dead bodies of my children lay side by side in an open space amidst the pile of shattered beams and broken roof tiles. A neighbor named Mr. Kino had helped me to carry Umito's body out of the shelter. Kino, Urakawa, Urakawa's son, Mori, and Nakamura were survivors from our neighborhood association, and they had all been away at work at the time of the explosion. In actual fact, all the people who had been at home in Shiroyama-machi when the bomb exploded were killed immediately or died soon after. The survivors gathered near the site of the local kindergarten and busied themselves on a floor fashioned out of odd tatami mats and doors. At night they slept outside or in an underdrain laid with boards. Mr. Kino had lost his wife and two children in their gutted house, and he wanted to stay nearby until he found their remains. Our food supply consisted of rice that had been kept in the shelter in case of emergency and a few half-burnt pumpkins we found in the scorched fields or freshly-planted potatoes we dug up. We retrieved a few dishes and pots from the ruins of houses that hadn't burned and used them for our simple meals.

I noticed that a relief team from the Army Hospital had finally arrived and set up camp on the hill above the Shiroyama Elementary School. Instructions came to bring all the survivors in this area to the kindergarten, and so I carried Chiyoko there on my back and laid her down to rest on a bed quilt. The morning sun was shining brightly and I tried to give my wife some shade by setting up a torn mosquito net over her face. There were another two injured people waiting for treatment.

Chiyoko's injuries did not seem serious, but she was extremely weak, and was suffering from diarrhea. I waited impatiently for the relief team to come, but crowds of injured people were gathered at their camp. It was taking so long for our turn to come that I decided to bring her to the underdrain shelter. It was very dark inside and the boxes of personal belongings that had been stored there were broken by the blast wind and the contents scattered about the floor. Even if people had taken refuge here before the explosion, I doubt very much that they would have escaped injury. Tea chests were smashed and the zinc plates that had been inside them were twisted wildly out of shape.

I wanted to carry Chiyoko to the relief camp, but there was no one to help and it was dangerously

slow to try to carry her myself with the threat of enemy attacks. Moreover, she suffered greatly when I carried her on my back. Around noon I decided to go alone and ask the relief team to come quickly. I made my way towards the camp but just before I reached it an enemy plane zoomed by and I dove for cover into a dug-out shelter on the hill. As I did, I ran into Mr. Sugahara. I remembered seeing him go by that morning carrying his wife on a stretcher, and I asked him how she was. He told me that she died when they arrived at the camp and that he was going to cremate her body. Funeral pyres were already burning here and there among the ruins, and the sight was a dismal one indeed. Unidentified corpses were still scattered at the sides of the roads. There were corpses bloated and partially decomposed, the features of which were no longer human, and others that were charred black. One person had died at the bottom of a well, presumably after being surrounded by the blaze and jumping in.



Nagasaki, August 10, 1945: This boy was caught by the bomb, killed, then, as so many others were, he remained to become a victim of the city's massive conflagration. Photo A-13-20 by Yosuke Yamahata, © Shogo Yamahata

I brought two soldiers and a nurse back with me, and lifted Chiyoko out of the underdrain and onto a tatami mat for treatment. The treatment consisted of simply spreading oil and talcum powder on the wounds and applying bandages. Her face was encrusted with what appeared to be black leaves, and the nurse spread the oil over these without attempting to remove them. I asked if she could receive treatment every day. "It's difficult to say," they told me. "We recommend that you carry her to the Army hospital in Nagayo. If you take her as far as Ohashi you can catch one of the trains going out."

My mind became flooded with aching thoughts about what I should do: whether or not she could

survive a trip to Nagayo, what kind of treatment she could receive there, and, especially, how I could possibly carry her to Ohashi.

I put Chiyoko back into the underdrain shelter and tried to feed her with rice porridge I received from the other survivors, but she only wanted water. She enjoyed drinking a hot cup of tea and then slipped into a deep sleep. I had to cremate the children's bodies before they began to decompose. I noticed that others were gathering lumber from demolished houses and using it to build funeral pyres. Just as I was thinking this, my fellow workers Kinoshita, Mizogoshi, and Moribayashi from the Food Supply Headquarters came to help me and I felt tremendously grateful to them.

We gathered scraps of lumber and made a neat pile. A lot of wood was necessary. We carried the children's bodies over and placed them on the pile with Umito in the middle. I dressed Umito in a nightshirt of Michiko's I found in the ruins of our house and on top of that put his uniform trousers that had a tag saying, "Matsuo, 1-6" sewn on the lining. I covered little Hiroto and Yukiko with blankets—the last gesture of love I could make for my children. We stacked another heap of wood over their bodies. I said a small prayer, lit the fire below their heads, and then passed the match to the four corners of the pile. There was a stiff wind blowing and immediately bright flames began to lick up the sides of the lumber.

*Under the scorching sun
A fire rages,
And in an instant,
Three cherished children
Are clothed in flames.*

I sat down with a sigh of deep spiritual exhaustion, and accepted a cigarette from one of my friends. Before long the three of them left me to myself.

The fire was lit around four o'clock and was still burning at six. By dusk the bodies were completely cremated but the embers were too hot to try to pick out the ashes of the children's bones. I was afraid that the fire might become a target for enemy airplanes and bring havoc to the other survivors, so I took some metal roof sheets that were lying about and covered the fire so that it could not be seen.

While I was watching over the fire I went several times to the underdrain to check on Chiyoko. Her consciousness was clear but she was very sick. She had no appetite and the diarrhea was as bad as ever. I decided to spend the night at her side, and thoughts of my three children and their ashes still lying out under the stars filled my mind.



Nagasaki: Fourteen-year old young girl brought to Omura Naval Hospital; her skin hung as if rags. Photo by Dr. Masao Shiotsuki on August 10 or 11, 1945. He said his first assignment was mercy killing. Photo L 6-06-01-01-0013, Permission from the Nagasaki Atomic Bomb Museum

1945. August 12th.

After waking up in the morning I went immediately to collect the ashes of the children's bones. I had placed a sheet of metal roofing at the bottom of the pyre, and now the ashes of the bones could be seen lying on it. The outline of Umito's body was in the middle and beside him the slender remains of his brother and sister. Of course there was no mortuary urn available, but I found an iron vase and used it to hold the ashes. I put all of the ashes into the one container, and appeased my sadness a little by using a whole bolt of white cotton cloth to wrap it up.

Chiyoko's condition had not improved. The other survivors cooked porridge for her but she refused to eat it. These people from our neighborhood were very kind to us. I took a moment from my vigil over her to go back and look at the ruins of our house, which had been a wooden bungalow built on a slope below the road. It was an absolute shambles with the hurled debris from the houses to the front and sides piled over it. Two officials from my office came to inquire about my family as I stood there, and they urged me to bring Chiyoko to the city for treatment as soon as possible.

As night fell, Chiyoko seemed to have more pain and discomfort than ever, and she asked me repeatedly to take her to the hospital in Nagayo. I was torn between taking her to the Food Supply Headquarters, which had been converted into a relief station, and taking her to Nagayo outside the city.

1945. August 13th.

I decided to take Chiyoko to the Food Supply Headquarters for treatment, and then to her parent's home in Yanohira. I felt that going to Yanohira and letting her meet her relatives was more in keeping with her real wishes than going all the way to Nagayo and risking her life. I borrowed a cart that was found in the ruins and used by the neighborhood association, spread a quilt in it, laid Chiyoko on it with a blanket cover, and departed early in the morning to avoid the chance of an air raid.

From Shiroyama-machi to Komaba-machi, everything was reduced to ashes. The ground was still scattered with unclaimed bodies and the charred corpses of little children frozen in a running posture. Here and there among them were the massive black carcasses of horses and cows. The gutted ruins of Urakami Cathedral and Urakami Prison stood desolately in the wasteland. In Hamaguchi-machi I saw the Steel Works and the Ohashi Ordnance Factory. The bared metal frames of the buildings were twisted and crumpled, and even the ferroconcrete chimney of the medical college was contorted. There was simply nothing left standing, not even a telephone pole, and not a scrap of wood escaped the all-consuming conflagration. On the sites of private homes, as elsewhere, all that remained was soil, stone, and iron, and the amount of metal, in particular, was astonishing. At the Shrine in Sakamoto-machi, one of the two stone entrance arches had toppled over, and only one leg of the other arch was standing. The two huge camphor trees inside the grounds were reduced to obscure black stumps, and the main building and adjacent offices of the shrine had vanished. We had relatives in the area and Chiyoko and I conjectured as we went along that they had probably all been killed. On the way an air-raid alarm was sounded, but there was no place to take cover and we braced ourselves to die together. Chiyoko developed diarrhea again. The metal wheels of the cart made the ride extremely rough for her, and it seemed to be making her ill. I tried to pull the cart gently and reduce the vibration as much as possible.

Both Urakami Station and Nagasaki Station were demolished. After proceeding beyond Nagasaki Station we finally entered areas that had escaped total destruction. Even there, however, roofs, doors, and windows had been blown off and the houses were only shadows of their former selves.

At last we arrived at the entrance to the air-raid shelter beside the Food Supply Headquarters. I already knew that the information I'd received about the headquarters being converted into a relief station was mistaken, and that in fact it was the air-raid shelter that was being used. I brought Chiyoko into the shelter and she received treatment there, but the men in charge seemed reluctant to admit people

not connected with the army, and they offered to carry Chiyoko by stretcher to the relief station in nearby Kago-machi. In any case, we had to wait until the air-raid alarm was lifted. It was about noon.

Chiyoko said she wanted to drink tea, but fortunately she sipped the porridge made by a helper in the shelter. She expressed her gratitude politely to everyone who spoke to her and it pleased me very much. She asked again and again if the air-raid alarm had been lifted yet. We felt very little fear because Nagasaki was already in this kind of state, but the relentless wailing of the sirens was extremely annoying. We could do nothing but wait because no one was allowed to pass along the streets as long as the air-raid alarm was in effect. Time continued to go by in this way, and while we waited Chiyoko suffered two or three attacks of diarrhea. At about four o'clock in the afternoon, Chiyoko's father suddenly appeared. It was completely unexpected. He had been taking care of Michiko in Yanohira and then went to Shiroyama to look for us, but we had already departed. Unfortunately there was a power failure in the shelter when he came, and he had to talk to Chiyoko by candlelight. He had a backpack on over his shirt and he was a strong and reassuring figure.

The air-raid alarm was lifted at about five o'clock. I brought Chiyoko outside and, putting her on the cart once more, we began the trip to Yanohira. We stopped at the Takahashi Hospital on the way to obtain medicine for Chiyoko, and then moving along as carefully as possible finally arrived in Yanohira as darkness was setting in. I asked Chiyoko if she was alright and she replied, "I'm fine", but she spoke in a strangely coquettish manner with her lip turned up and her teeth exposed.

She was obviously overjoyed to meet her mother, who was shocked to hear the news about the children. Michiko was sleeping in another room and apparently doing well.

For the first time in what seemed like ages we were able to sleep on tatami mats in a house. During the night, however, Chiyoko began to talk deliriously. She spoke so clearly that at first I thought she was fully conscious. She sat up and tried to get out of the tent-like mosquito net. She seemed to be having hallucinations because her utterances were mostly about the cart she had ridden all day. "Just when I want to get some sleep," she said, "the neighbors come along and disturb me. They are sitting in the field now and calling to me to come over."

Suddenly her tone changed and she muttered as though actually speaking to the neighbors: "Hiroto is dead, Yukiko is dead, and Umito is dead too. Yes, yes. A stranger came and took the cart. He's an impostor so please go and get it back!"

1945. August 14th.

In the morning Chiyoko was normal again and she seemed in good spirits. She urged me to return the cart, so I left Yanohira and pulled it back to our neighborhood in Shiroyama. When I arrived I found Kino, Urakawa and the others still living in the shelter. I tried to clean up the remains of our house a little but it was a colossal task. A few bed quilts and a box containing documents could be retrieved without too much trouble. I was exhausted by this time, and I thought I might spend the night in Shiroyama and return to Yanohira at dawn the next morning.

In the early afternoon, Kazuo Nagao came to bid a final farewell to Umito. He had been Umito's closest mentor and friend, and very kind to both Umito and Hiroto. He had told his family before he came that he was going to collect the ashes of "my younger brothers". This was how he felt about Umito and Hiroto.

Now that he was here and willing to help, I decided to dig out some of our belongings and have him return with me to Yanohira. I had intended to stay in Shiroyama overnight but thoughts about Chiyoko were bothering me, and seeing Kazuo made me change my mind. This sudden burst of new energy was perhaps a premonition. The most important thing I had to carry was the iron vase containing the children's ashes. On the way we were fortunate enough to meet two soldiers who were friends of Kazuo. They offered to carry our things as far as the Municipal Girls High School on the cart they were pulling, and so we arrived in Yanohira much more easily and quickly than I had expected. It was about 7:30 p.m.



Nagasaki: top: left, Urakami Cathedral; middle, Medical School; right, University Hospital; left-center, Nagasaki Prison; bottom-center, Shiroyama Elementary School, and right Chinzei Middle School; North is to the left.

As soon as I entered the gate my sister-in-law exclaimed: "Where have you been? Chiyoko is dying!" I ran into the house without even saying thank you to Kazuo and rushed to Chiyoko's side. I was shocked to see how deranged she had become. It was dark and the lights in the house couldn't be switched on because an air-raid alarm had been sounded. Chiyoko was sitting up in the faint light and muttering vigorously, but I couldn't understand a word she was saying. As she spoke she reached out and tried to pull us towards her. She pulled me close to her side and I felt that she was trying to embrace Hiroto or Yukiko. She was pulling with all her strength.

During the morning she had been in good spirits and was her usual self, but her condition gradually deteriorated in the afternoon. She wanted to eat tomatoes, but they could only give her green tomatoes because there were no ripe ones on the vine. She took one of them and said "This is for Hiroto", but when she put it down it rolled a few centimeters and she frantically grabbed it and hid it at her side. She also said quietly: "I am going to be another war death."

Later, Michiko came to Chiyoko's bedside and I said to her, "Michiko is here now," but she didn't seem to understand and continued to mutter to herself. She was probably suffering from brain fever, and the pulling and tapping movements she made with her fingers were very similar to the ones Umiko had made. She spoke with her lower jaw protruding and her lip rolled up, but it wasn't clear what she was trying to say.

This deranged state did not subside and so we forced her to lie down. Soon she was facing downwards quietly and we could hear the heavy breathing of sleep. Her legs were cold and so we placed several quilts over the lower part of her body. It was very dark in the room as we sat there looking over her, and time and time again I lowered my ear to listen to her breathing. After a while the sound of breathing was no longer audible. It was nine o'clock at night. Chiyoko and I married when she was still only eighteen years old, and we spent eighteen years at each other's side. Waves of emotion welled up inside me and tears spilled down my face. I slept at her side that night for the last time.

1945. August 15th.

My wife and three of my children were dead now, and today Chiyoko's body had to be cremated. I didn't report the deaths of the children after cremating them in Shiroyama, and I wondered what the situation would be like here. I went to the makeshift city office set up near the Nagasaki Hall. A city official filled out a damage certificate for me, but at nine o'clock the police still hadn't arrived. When they finally came an air-raid alarm was sounded and we had to take cover. After an agonizing delay, I finally received the four death certificates and was instructed by the police to cremate Chiyoko's body in the grounds of Irabayashi School.



"The fire that burned my wife still blazes" written by Atsuyuki Matsuo

I returned to Yanohira and enlisted the help of Kazuo, Chiyoko's father, and Chiyoko's sisters in carrying my wife's body to the school by stretcher. In the school ground we found a hole where a previous cremation was carried out, and white ashes remaining in it. A large number of corpses had obviously been burned there. We chose a site near a Sumo wrestling ring and a potato patch. We used lumber that had been piled up for evacuation purposes, and built a stack for Chiyoko's funeral pyre. It was a miserable irony that the knowledge I gained from cremating my children's bodies a few days earlier came in handy now as I supervised over the construction of the pyre.

We could hear the sounds of a radio coming from a nearby house. A broadcaster was telling everyone to gather because a very important announcement was about to be made. Since the explosion of the bomb I had neither listened to a radio nor looked at a newspaper. I heard rumors about the Soviet Union's entrance into the war and the escalating attacks on Japan, but it all seemed to be happening far away. I had had no time to reflect on the fragile state of the Japanese forces, and now I imagined that this important announcement would be a declaration of war on the Soviet Union.

After erecting the initial stack of lumber, we lifted Chiyoko's body up onto it, piled up still more wood, and then set the stack on fire. Strains of "Kimi-ga-yo", the Japanese national anthem, could be heard coming from the radio, no doubt marking the beginning of the announcement. The broadcast was impaired by static, though, and we couldn't understand what was being said. A little later some people came into the school ground to cremate a body, and I asked them what the announcement had been. They told us that Japan had surrendered. I asked again in astonished disbelief, but the answer was the same: "Japan has announced its surrender. We broke into tears.

How can we surrender after all this!? What did my wife and children die for!? It was all for nothing! If we were going to surrender why didn't we do it sooner?

Thoughts like these were rushing through my mind when another group of people arrived. They said that there had been too much static on the radio to understand the announcement fully, and that it was probably a declaration of war on the Soviet Union. Though mistaken, this statement reassured me and I managed to settle down.

It was unbearably hot. Kazuo drew some water and brought it to us. Chiyoko's body was gradually burning but more firewood was going to be needed. We carried lumber and added it to the blaze.



A fourteen-year old school girl suffered burns all over her body.

Chiyoko had been a big woman and it took a long time for her body to burn. We drank water and sprawled out on the weed-covered ground. The time came for Kazuo to leave for his regiment, but as he was going I couldn't find words enough to thank him. Once, an enemy airplane flew overhead and we dove face down onto the ground. We continued our vigil over the pyre until evening when Chiyoko's body was finally completely reduced to ashes.

I chose a clean flowerpot and used it as a container for the ashes, which Chiyoko's sisters helped me to collect. The amount was equivalent to the ashes of all three children combined. We poured water over the ashes before trying to pick them up, but it was still extremely hot. By the time we finished the sun was beginning to set. I held the flowerpot in my arms as we walked home. I could feel the heat penetrating my chest and it made me nauseous. The grief I had been repressing so hard suddenly came to the surface, and I had to clench my teeth in order not to cry out hysterically. When we arrived home I wrapped the flowerpot in white cloth and placed it on the "tokonoma" alcove beside the iron vase containing the children's ashes.

The statement about Japan's surrender had, in fact, been true.

1945. August 23rd.

I am immersed in anguish from morning to night. If I could forget about everything it would be fine, but fretfulness, pessimism, and disgust drive me into thoughts of death.

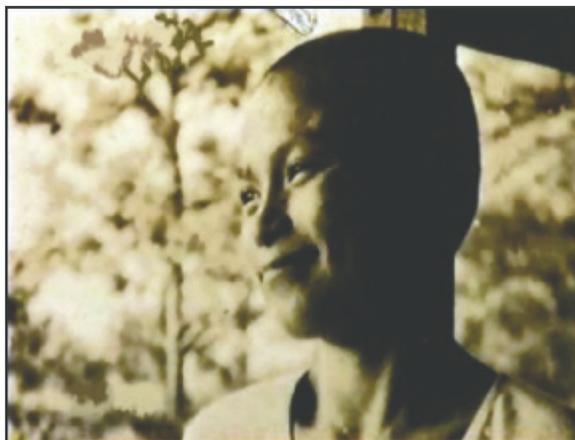
Michiko's sluggish recovery irritates me and I think to myself that it would have been easier if she too had died. On the other hand, though, I know how excruciating this must be for a child. What is she thinking as she lies awake staring upwards with wide open eyes? There is unfathomable sorrow in those eyes. She lies in agony, with her mother, brothers, and sister dead, not knowing if or when her own injuries will ever heal.

ETERNAL SCARS

By Mr. Sumiteru Taniguchi

When the atomic bomb exploded I was in a part of Nagasaki called Sumiyoshi, about two kilometers from the hypocenter. I was a sixteen year-old postman at the time, and on the morning the bomb fell I was out delivering mail as usual. I was riding my bicycle along the street when the heat rays of the explosion, which were hot enough to melt iron and stone, hit me from behind. At the same instant the fierce blast wind blew me off my bicycle and I lay dazed on the ground. It would perhaps be more accurate to say that I clung to the ground for dear life.

My first thought was that a bomb had fallen right beside me and that I was about to die as I lay there. On the other hand, though, I spurred myself on saying, "I can't die like this!" I don't know how much time passed—it may only have been a few seconds. I was able to raise my head. The bodies of children who had been playing at the roadside were scattered around me. They were burned, as I was, and lay smashed against the pavement like brutalized frogs. Right beside me there was a stone about thirty centimeters in diameter. There was no reason for a stone like that to be lying on such a good road. It had



Sumiteru Taniguchi, about 1943.
Photo permission from Sumiteru Taniguchi

obviously been hurled by the explosion and flew by me onto the ground. If it had hit me, my back would have been shattered to pieces.

After a few minutes I managed to stand up. It was then that I realized I was injured for the first time. The skin from the shoulder to the fingertips of my left arm had peeled off and was hanging down like a tattered old rag. I passed my hand around to my back and found that the clothes I had been wearing were gone. When I brought back the hand and looked at it, I saw that it was covered with something like black grease. I had suffered terrible burns all over my back and left arm. Strangely enough, there was no pain or bleeding whatsoever. I think it may have been a result of the radioactivity.

After standing up, my first instinct was to flee to a safe place. I walked as quickly as I could and finally arrived at an air-raid shelter I knew about from before. I stayed in that shelter for two days without eating or drinking. My memory of those two days is foggy because I was so debilitated at the time, but I recall having the skin of my burned arm, which was smeared black with dirt and debris, cut off, and also crawling to the well of a demolished house below the shelter and drinking water.



January 31, 1946: Taniguchi-san, now age 17, in Omura Naval Hospital. Photo by the photographic team of Lt. Daniel A. McGovern and his assistant Lt. Herbert Sussan. Sussan played a role in obtaining such photographs from the U.S. National Archives in the mid-1970s.



January 31, 1946: Taniguchi-san, now age 17, in Omura Naval Hospital. Three doctors are changing his bandages; here we can see that his left arm was also burned by the bomb. Photo by the photographic team of Lt. Daniel A. McGovern and his assistant Lt. Herbert Sussan. Sussan played a role in obtaining such film from the U.S. National Archives in the mid-1970s.

On the third day we were rescued from the shelter and brought to a hospital to receive treatment, but almost all the other people who had been in the shelter with me died. I clearly remember someone whispering to me in a broken voice: "My name is such-and-such and my address is such-and-such. I'm going to die. If you live please inform my family about me."

Finally, I was admitted to the Naval Hospital in Omura and for 21 months had to lie face down and motionless in bed. For a few days after the explosion there had been no pain or bleeding, but now high fever, blinding pain, and anemia pushed me to the brink of death. Lying prone and

unable to move, and caught in the grip of excruciating pain, I could only shout out: "Kill me!" Not one of the many doctors and nurses who treated and cared for me thought I would survive. When I felt even just a glimmer of health, though, my spirits were boosted and I struggled to live.

After nearly two years in this state I was finally able to stand up by myself. Constantly lying face down during that time had caused terrible bedsores to appear on my chest and they penetrated right down to the ribs. I convalesced for another two years before finally being able to leave the hospital, but I doubted that I would ever be able to work with such a body. How would people look at me? The more I thought about it, the more apprehensive I became. Fortunately, I was given a job by my original employer, although I could no longer do the work of a healthy person. The burns on my back and arm didn't heal for fifteen years, and I had to receive treatment for them continuously. After a skin transplant operation in 1960 the wounds finally covered over, but ulcers soon formed in the scars. The ulcers got worse and five years ago I entered the hospital and received another operation to remove them. Subsequently, I have been in and out of the hospital repeatedly and quite recently received still another surgical operation. According to my doctor, modern medical science still knows of no efficient method to treat these lesions.

No matter how often they are removed, the ulcers continue to appear. They can't be left untreated so in the future I will have to receive more operations. Scientific knowledge has progressed enough to develop highly sophisticated missiles, but there is no cure for my illness. And still every year, survivors of the atomic bomb are dying.



Thirty-eight years have passed since the atomic bomb exploded, but the misery inflicted on the survivors has not been remedied. They are still dying one after another. No one on earth really knows the horror of nuclear weapons except the people who suffer from the effects of the atomic bomb explosions in Hiroshima and Nagasaki. It is for this reason that we have appealed to the whole world unremittingly about the horror of nuclear weapons and the misery experienced by atomic bomb survivors. I believe that we must continue to appeal, and that it is our duty to do so. When I hear about how the movement for the abolition of nuclear weapons is becoming more and more intense in Europe, I feel very happy.

In conclusion I would like to add the following statement: With our own hands we must do our utmost to establish a world in which human beings can live as human beings.

Sumiteru Taniguchi in later years after many, many operations. Photographer unknown, permission from Taniguchi-san.

[Color video, changing bandages on injured Sumiteru Taniguchi is in the film coded, **342.USAF.11002** and can be found at,

<http://research.archives.gov/description/64449>

It is the film's last sequence.

A biography of Sumiteru Taniguchi is available: *The Postman of Nagasaki: The story of a survivor*, by Peter Townsend, published by Collins, London, 1984. ISBN 0-00-217067-1.]

BURNED BY THE ATOMIC BOMB AND STILL...

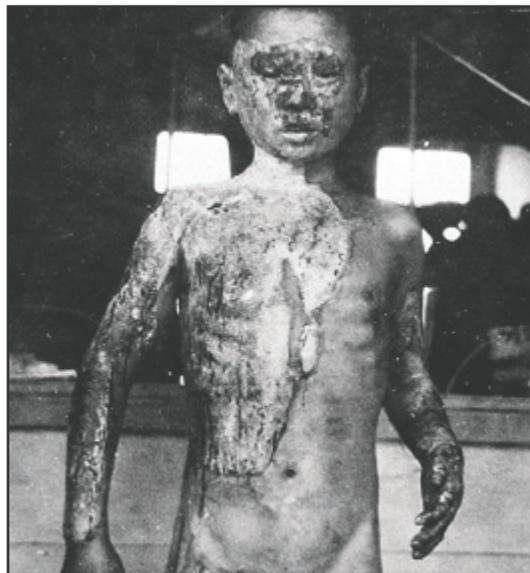
by Mr. Senji Yamaguchi (Senji Yamaguchi, age 14 at the time of the bombing, a survivor and a leading figure in Japan's anti-nuclear movement, died at a hospital in Nagasaki Prefecture on Saturday, July 6, 2013, his family said. He was 82.)

August 9th, 1945. A thin layer of white cloud stretched across the summer sky, and a caressing breeze was blowing from no particular direction. Departing from my usual job of making gauges, I was ordered by my supervisor Mr. Yamashita to help dig air-raid shelters. Shelters were being dug throughout the city in a great hurry. The whole field beside the factory in which we worked was going to be converted into a maze of dug-out shelters. Most of us were working in the scorching heat with our shirts off. Four or five workers were allotted to each shelter. The shelter which I was helping to dig was to be about four square meters in area and two meters deep, and it was nearing completion quickly.

Let's finish it before lunch. There's only a little left to go," said one of my companions. We sang a song and heaved our shovels in time with the rhythm.

Suddenly, a bluish-white light flashed in my eyes. I don't know how long I was unconscious, but when I came to my senses I was lying in the hole with the shovel still grasped in my hand. I stayed there in a daze for several minutes before I noticed something very strange. The companions with whom I had just been working were gone. I tossed away the shovel and stood up. The surroundings had completely changed. There were people scorched black and sprawled out on the ground glaring upward, and others face down on the ground as though sleeping. I glanced over at the factory and was shocked to see huge columns of fire shooting up from it. I climbed out of the hole, only to be astonished even more by what I saw. A kaleidoscopic vision of people running this way and that appeared before my eyes. There were people rambling down to the Urakami River and others running away in a frenzy with their clothes on fire.

Without thinking, I too began to run toward Urakami River, stepping over dozens of corpses as I went. I reached the river and jumped several meters from the embankment into the water, and then swam frantically. I don't know how I got to the other side or how I managed to climb the steep embankment. The village on the other side of the river was inhabited by Christians who made their living by farming. Their houses were shattered and blown to one side, and fire was already darting up from the debris. I was almost suffocated by the heat and smoke as I fled from the village, but I followed the other people running toward the hillside,



Senji Yamaguchi, U.S. Forces photo

dodging the flames that sometimes threatened to engulf me. I ran with all my might but still seemed to make very little progress because I stumbled again and again.

Passing a demolished house near the foot of the hill, I noticed a young woman trapped in the ruins and struggling desperately to free herself. She was flapping her arms and crying for help, and was on the verge of being consumed by the raging fires. None of the people running by, including myself, responded to her cries—fleeing from the conflagration was the only thought in our minds. I arrived at the foot of the mountain and began to climb. There was no path and I had to cut my way through the bushes. As if to rub salt into a wound, plants slapped my face, wrapped themselves around my legs, and obstructed my headway. Nevertheless, I scaled hills and crossed valleys and it wasn't until I had passed two or three of them that I arrived in an area where no fires were burning. There was a group of people with me: people sprawled on the ground with faces smeared in blood, people begging for water, and children crying hysterically. Utterly exhausted, I looked for a place to rest and sat down on the ground with my back to a big rock. I was barefoot and wearing only a pair of undershorts. The voices around me crying for water made me long for a drink too. Almost all the people had black burns on their faces, arms, and chests. Their faces were swollen up beyond recognition, with slit-like eyes and protruding white teeth. It was impossible to distinguish men from women. After seeing these people I finally took notice of my own body. My hands, chest, and abdomen were scorched and swollen like the other people, but for some reason it didn't surprise me. There were big blisters puffed up on the backs of both hands.

After this I was carried to the Naval Hospital in Omura to receive treatment. At the beginning of my long stay in the hospital I was in a virtually unconscious state, but I remember one morning in the ward after my father came from our home in the Goto Islands to look after me.

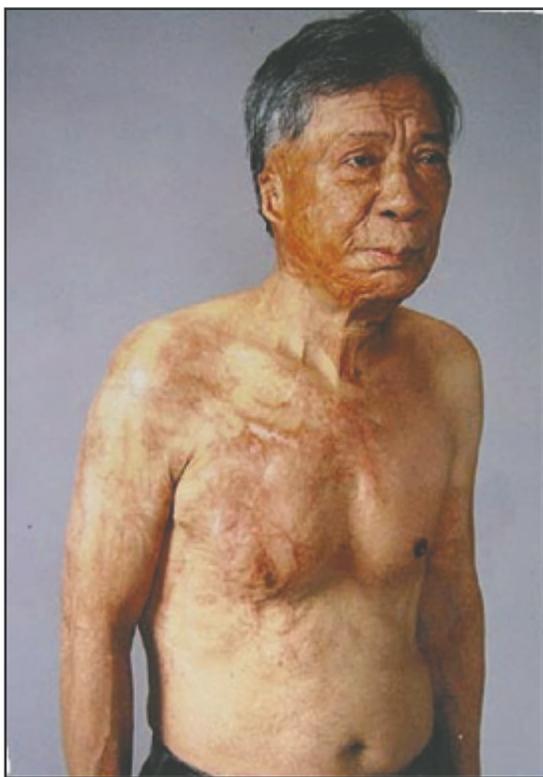
My father had already risen and was straightening out the blankets and pillow on my bed. "Drink up," he said as he pressed a medicine cup to my lips. I nodded and took two or three sips of something thick

like porridge from the cup. My throat felt as though it had become narrower. When I finished drinking I heard the sobbing voice of the patient in the bed beside mine. When I moved a little in response a stabbing pain darted through the back of my head. It was unbearable and I cried out. My father leaned over me and asked, "What's the matter?" several times in my ear. I lifted my bandaged arm slowly and tried to point to my head. He seemed to understand but caressed the bandages over my forehead. His hand felt as hard as rock. I wanted to shout, "Not there! It's the back of my head!", but I could only cry in vexation at being so fettered.

Suddenly, the clattering sound of the cart carrying medical instruments echoed in my ears. The sound of the cart elicited a unanimous shriek of pain from the injured patients. Soon the stench of rotting tumors wafted on a warm breeze and filled the room.

"It's over. It's all over," said one of the nurses, trying to reassure a patient. The agonized groans of the injured mingled with the metallic clatter of the medical instruments.

My turn for treatment arrived. Three doctors and five or six nurses peered over me, and my father stood back in



Senji Yamaguchi, d. July 6, 2013, age 82.
Photo permission via Sumiteru Taniguchi.

silence. "Kill me! Please kill me!" I cried out instinctively as one of the nurses held up a pair of tweezers to peel off the gauze patches.

The gauze was stained with pus that should have been absorbed by the oil-paper and bandages. Wielding the tweezers, the nurse lifted the edge of the first patch and then ripped it off in one swift movement. I gasped and a fierce pain jolted my body as though I had been cut with a knife. Two patches, three patches—I began to lose consciousness and the pain became a steady crescendo, so great that the pain caused by the removal of a single patch was no longer perceptible. The patches were lodged deeply in the charred and swollen flesh right down to my eyelids, and the nurses tore them off one by one. Skinless pale-colored flesh was visible where the patches were removed, and bright red blood trickled from my face, chest, and abdomen onto the rubber sheet spread out below me. By the time the patches on my back were being removed I had fallen into a stupefied state and my voice was gone. The doctor wiped around the wounds carefully with alcohol, and then spread another disinfectant over the exposed areas themselves.

I sighed in relief when the treatment was finished, but noticed that my father was whispering something to the nurses. One of the doctors overheard and came to look at the area of my body my father was pointing to. He cut something open with a pair of scissors but it didn't hurt very much. Something cold was pressed into the skin on my head.

"It is best to keep it in place with a bandage," said the doctor. "A bedsore formed there because he had a high fever for so long."

"Doctor," rejoined one of the nurses as she wound a bandage around my arm, "this patient has developed blotches too." Without understanding the significance of this, I looked at my arm and noticed I had several pea-sized purple spots on the unburned areas of both arms. The doctor nodded and then turned away to continue his rounds, and I fell asleep soon afterwards.

On the evening of that day I began to feel sharp needle-like pains. At first I thought they were due to the treatment I received that morning, but they became so intense that I complained to my father. "Dad, I feel a prickling all over my body," I said. He ran his hand over the bandages on my back asking, "Here? Here?" at different places. The frustration of not being able to explain made me want to strike him with my bandaged arm. I burst into tears instead, and he stood over me helplessly for a while before dashing off to the nurses' station for help. He reappeared with a nurse at his side.

"What are the tears all about?" the nurse inquired with a smile. Her smiling face enraged me and made me cry even harder.

"My whole body is prickling with pain!" I blurted, still in tears.

"Alright, we'll get rid of the pain for you," she said as she left my bedside and headed toward the nurses' station. She returned with another nurse and carried a large metal tray and a rubber sheet. Convinced that she was aware of the cause of the problem, I gazed at the equipment out of the corner of my eye.

The nurses unwrapped my bandages and exposed the oil-paper below them when suddenly scores of plump white maggots fell out onto the rubber sheet. I started in surprise and my tears let up instantly. The nurses jumped back in shocked surprise and my father was stunned. Hundreds of the maggots were squirming and crawling on the rubber sheet. The nurses poured creosol over my wounds and washed off the remaining maggots. My back was infested too, and I could feel them moving about on my buttocks. "Bastards!" I muttered to myself.

"It won't hurt anymore," said the nurse as she rewound my bandages. I laid back feeling relieved but it wasn't for long. "They're still here," I said to my father, but he brushed off my complaints saying that it was probably the places where I had been bitten before the treatment. I persisted, though, and finally he rose from his chair and went to call the nurses again.

"You're pretty spoiled, aren't you?" said the nurse, arriving at my bedside before my father did. She held my hand and smiled.

"Seriously, it still hurts," I said.

"Does it hurt that much?" she retorted, looking at me with a disdainful expression on her face. "The pain you had before is not going to go away that easily."

"O.K., forget it," I blurted out in anger, unable to keep the tears from welling up. Without speaking the nurse began to unravel the clean bandages that only minutes before had been applied. She obviously thought that what she was doing was a waste of time. She lifted up the oilpaper but no maggots fell out.

"There's nothing here," she said in a tone of voice that showed she had no intention to look under the gauze patches.

"There are still maggots in the wounds!" I cried out desperately.

"Mr. Yamaguchi," she said to my father as she turned to leave the room, "please keep him just as he is for a moment." She returned with a tray containing tweezers and other instruments, and proceeded to remove the gauze patches from my abdomen and back. However, there were no maggots to be found and I felt very embarrassed. She stood looking over me and her warm breath blowing downwards stung my wounds. I shouted, "Ouch!" just as she thrust the tip of the tweezers in front of my eyes.

"Look!" she exclaimed, showing me a tiny maggot as I was about to scream words of abuse. "There are a few small ones like this hiding in the flesh." My anger shifted quickly to the maggots. She picked out five or six of the insects and the tweezers took fragments of flesh with them, but I endured the pain in silence. When she finished I said, "Thank you" in a low voice.

By the next day, another thirty or forty maggots of various sizes had infested the burned skin around my right ear. Maggots caused great suffering for all the injured patients. In my diary I called the days battling with them a "Maggot Hell".

There was a young girl in the hospital who, like me, had burns over half of her face. On the night before her discharge she hung herself to death in the thicket behind the hospital. She would have been a beautiful woman if it were not for those terrible scars on her face. Her death was a crushing blow to the other patients, especially to the young girls who had similar wounds. However, I reminded myself how I had barely escaped death and how hard I had struggled to come this far, and I refused to let her death dishearten me. I vowed to myself that I would go back to school no matter how many people laughed at my scars. On March 9th, 1946, exactly seven months after the explosion of the atomic bomb, I waved goodbye to the doctors, nurses, and fellow patients who gathered to see me off, and left the hospital.

I graduated from the mechanics course at Nagasaki Industrial School in the spring of 1951. I was already 21 years of age. At that time a person graduating from the mechanics course at that school was eligible for qualification as a sub-engineer at the Mitsubishi Company. With this in mind I studied hard and my marks were high. I passed the written examination for employment at the Mitsubishi Shipyard, and then the day came for the physical examination. I was rejected on the basis of that examination, probably because of the scar on one side of my face and the hideous keloid stretching down from my neck to my elbow. This turn of events was enough to make my whole body convulse with rage and bitter despair.

I had no choice but to return to my home in the Goto Islands, where I helped in my father's confectionery shop and did chores on the farm. Soon, the number of fishing boats entering the harbors decreased because of Korea's establishment of the so-called "Lee Line" fishing boundary. My father sold our land, our house, and our cows, and we moved to Sakamoto-machi in Nagasaki, the site of the Nagasaki University Hospital, where my father opened another confectionery shop. I continued to help him at the shop, but in the autumn of that year, treatment funded by donations for the atomic bomb survivors was commenced in the department of surgery at the university hospital. I entered the hospital

and received four operations on my keloids.

On August 1st, 1953, an exhibition entitled *Paintings of the Atomic Bomb* by Toshiko Akamatsu and Isato Maruki was opened in Nagasaki. The exhibition was sponsored by 21 organizations including the Nagasaki Education Committee, the Women's Association, the Union of Labor, the Association for Preservation of Peace, the Religious League, and the Nagasaki Medical Association. It was supported by all the political parties from right to left, as well as all the newspaper and broadcasting companies. About 17,500 citizens viewed the exhibition, and certainly it was their donations that provided funds for our treatment.

In March of the following year, just when the world was reeling in horror from the news about fallout caused by the hydrogen bomb test in the Bikini Islands, I was discharged from the hospital. Around that time a friend of mine received a four foot-long sign which read, "Nagasaki Atomic Bomb Youth Association" from the Social Affairs Section at Nagasaki City Hall. I hung the sign up at the entrance to my house. Joining me in this new organization were Iwanaga, Ishihara, Ishii, Komine and others, all of whom I met in the hospital and all of whom were young people who suffered terrible injuries at the time of the atomic bomb explosion. The association made an official start on October 1st, 1955, and its membership was comprised of more than a dozen young atomic bomb survivors. The Bikini incident served as a catalyst, and suddenly the people of Japan and the world turned their attention to the reality of Hiroshima and Nagasaki. On August 6th, 1955, the *First World Congress Against Atomic and Hydrogen Bombs* was held in Hiroshima. Misako Yamaguchi and Sachie Tsuji of the Hiroshima Maidens, a group formed in 1954 by Teruko Sakaiya and others, attended the meeting and appealed in tears for a ban on nuclear weapons and relief for the atomic bomb survivors.

"As long as we are alive we must testify against nuclear weapons." With this slogan in our hearts, which Sumako Fukuda, Chie Setoguchi, and others espoused until their deaths, we will denounce today and in the future, all nuclear authority. We will cry out for unity, and we will press forward as witnesses to history, and reformers of the future. (Recorded by Sadao Kamata)

[The life experiences of Senji Yamaguchi have been published, *Burnt Yet Undaunted, Verbatim Account of Senji Yamaguchi*, compiled by Shinji Fujisaki, published by Japan Confederation of A- and H-Bomb Sufferers Organizations (Nihon Hidankyo), September 2002.]



Senji Yamaguchi, photographer unknown; permission via Sumiteru Taniguchi

THE PARENTS OF CHILDREN WITH MICROCEPHALY DUE TO ATOMIC BOMB RADIATION

By Mr. Masahito Hirose

There were ten names on the Atomic Bomb Microcephaly (atomic bomb induced *small head syndrome*) Register submitted by an investigating organization to the Nagasaki City Hall concerning children who were proximally exposed in-utero to the effects of the atomic bomb. The earliest after the August 9 explosion was born in November, 1945. The last was born in April, 1946. Of the others, four were born in February, two in March, and one each in January



Masahito Hirose, about age 15, photographer unknown; permission via Sumiteru Taniguchi.

and April. These figures bear out the fact that fetuses of about three months received the greatest radiation effects.

Out of these ten children, five were variously described as, 'suffering no harm in intellect and development', 'able to adapt well in daily life', and 'having normal IQ'.

Two of these are employed now as domestic help and three are employed outside the prefecture. However, the other four are described as having 'severe mental retardation.' As far as adaptability to daily life is concerned, they are described as 'poor' and 'moderately adaptable'. One of the five died in March, 1962.

Actually, there is no telling how many tens or hundreds of fetuses were destroyed with their mothers at the time of the blast. Among those that survived birth, ten were found to be microcephalic in Nagasaki City, and four of these are retarded and living with their parents. I visited their homes and spoke with them, and heard that they indeed continue to suffer daily hardships, even now.

When I noticed the name 'Jiro Yoshida', described as 'moderately adaptable', among the list of names, I recognized from the address that he was the son of an acquaintance, Jurokichi Yoshida.

Because I did not know Mr. Yoshida well and I had never heard him mention anything about his son, I was reluctant to visit him about this matter. I put off my visit for several days. Finally, I went to their home one evening at about nine o'clock. Mr. Yoshida is 72 years old and his wife is in her sixties. They gave me a warm welcome, but when they found that I had come to ask about their son, Mr. Yoshida's expression gradually became severe.

Mrs. Yoshida had been on the terrace of her house, which was 1,100 meters from the hypocenter, at the time of the atomic bomb explosion. The house collapsed and she was buried in debris but because there was no fire she survived. She was three and a half months pregnant at the time.

A splinter of wood was lodged in the head of their eldest daughter, and they could not remove it. When Mr. Yoshida returned home, he pulled with all his might and was finally able to extract it, but she died one month later from the infected wound. The neighbors died one after the other, with their hair falling out. The Yoshidas themselves thought that they would die soon and could not muster the will and energy to rebuild their house, though their belongings were soaked in rain.

One day, however, Mr. Yoshida saw a tree sprouting new leaves in the gutted neighborhood, even though it was said that plants would not grow for seventy-five years. If a tree could have new life, how much more would human life return to strength? They cleared away the rubble of the old house and built a small hut. It was then that Jiro was born.

So far they have been interviewed by the ABCC (Atomic Bomb Casualty Commission, now RERF-Radiation Effects Research Foundation) and various political organizations. They have also been asked to take part in the formation of the Nagasaki 'Kinoko Kai', which is a group of microcephalic children



Right: Microcephaly due to in-utero exposure to Nagasaki atomic bomb (seven week gestation estimate). Exposure distance of 1.2 km from Nagasaki hypocenter. Delayed growth in whole body and microcephaly observed; fifteen years and eight months old. Died March 1962.
Left: Twelve year old normal child.

and their parents. At first they went out to such affairs, but these activities did not lead to any support or concrete compensation. On the contrary, they had the effect of increasing discrimination against Jiro when he came of age and became a member of society.

Another survivor, Aya Yamada, was also exposed 1,100 meters from the hypocenter. At that time, the 18 year-old Aya was recently married and more than three months pregnant. After barely escaping from her burning house and running through the conflagration, she made it to Ohashi where she caught a train to her parents' home in Saga Prefecture, late on the ninth of August.

At first she and her family were just glad that she was spared. Little by little, however, she began to tire easily and her hair fell out in clumps, although she thought perhaps it was because of her pregnancy. Female relatives in the neighborhood said that Aya was young. Why shouldn't she work? Her mother felt pressured and so she spoke to her daughter. She didn't have to actually work in the rice paddy. She could just rest under the trees. And so Aya went to the field with her mother.

On the first of September, as on other days, she followed her mother to the field, but it was too hard for her. She felt ill, and so returned home and went to bed with a high fever. Her gums were receding and her teeth were loose. It was even to the point that the roots of her teeth could be seen. Intending to go to a dentist in nearby Ureshino, Aya got up, but suddenly a great effusion of blood came out of her nose and mouth.

Her chest was hot as if she was burning up, but her back and extremities were cold and numb. She retched blood once or twice a day from deep in her throat, and the pain was excruciating. A friend of Aya's who was a nurse came to visit her and skillfully cleared her throat. Suddenly a mass of blood poured out from her lungs.

"They say that survivors taken to the navy hospital in Ureshino were released by doctors who thought their condition was improved. Suddenly they died vomiting blood. Not one person brought here from Nagasaki was saved." She could hear these words with clear consciousness as the people who came to visit her spoke together in the garden. At that time Aya was on the verge of death, let alone the baby inside her. Her mother and elder sister tried frantically to save her life. At last the bleeding stopped and little by little Aya's strength returned. She could eat nothing hard so she received nutrition from rice gruel, fruit juices and mashed yams. She drank a broth made from dried persimmon leaves and cuttle fish which was rumored to be good for atomic bomb disease.



Masahito Hirose, photographer unknown; permission via Sumiteru Taniguchi

Her body recovered little by little in October and November but her abdomen did not expand. At that time a rumor was circulating that no trees or grass would grow for seventy years in Nagasaki and Hiroshima where the atomic bombs were dropped. It was also said that if a woman was pregnant she would have a deformed baby. Aya, who had never experienced childbirth, heard the rumor but didn't believe it. On a snowy day in 1946, Aya suddenly went into labor and gave birth. There was no water-break, and the baby's skin was parched and wrinkled like a wrung out cloth.

Because Aya could produce no milk, they gave the baby rationed milk and gruel and went to the homes of new mothers to beg for milk. Yoshimasa, born to a young mother greatly afflicted by atomic bomb disease, was slightly slower than other children in developing, but he could sit up when he was nine months old and he could walk when he was sixteen months old. The ABCC began its examinations in April, 1946, and Yoshimasa was called by them at the age of four. "It's because of the atomic bomb, isn't it?" said Aya, but she received no answer to this comment. Then she was told that the baby's head was smaller than average.

While I was visiting the Yamadas and talking with the parents of Yoshimasa, I heard no word of complaint or blame from either of them. But as I heard them talking plainly, I felt myself under scrutiny and cold sweat trickled under my arms.

When Yoshimasa was about four, he had a terrible nosebleed and they rushed him to a nearby doctor. When the doctor heard Aya describe the circumstances of the baby's birth, he said, "How could you have a baby in such a condition," in an accusing tone. Aya speaks quietly about it now. "Why did no one tell us we shouldn't have a baby? It was my first child and I knew nothing about the atomic bomb and radiation."

When he entered elementary school, it was clear even to Aya that his understanding was slower than other pupils. But...Aya describes it in her own writing as follows:

"In April, 1952, Yoshimasa entered T. Elementary School. When the name Yoshimasa Yamada was called, he responded, but unable to understand the teacher's order to rise, he remained seated blankly. I went to school together with him for about ten days and waited until the lessons were over. One day his home room teacher said, 'If his IQ is too low he won't be able to keep up with the other pupils, so shall we ask a specialist to give him an intelligence test?' The result of the test we requested was, after all, quite low. After filing a request to delay study for one year, we left the school gate just when the cherry blossoms were in full bloom. Hearing the sound of healthy children's voices singing behind us, I burst into tears. Yoshimasa, who was skipping ahead of me, looked back and smiled, but when he noticed my tears he gazed at me in amazement."

Aya tried to apply at a nearby nursery school for Yoshimasa so that he would not spend a whole year doing nothing, but he was refused. The following year he again entered the first grade of elementary school. Aya went to school with him every day and found that the other children did cruel things to Yoshimasa when she turned her eyes away only for an instant. Worms were put into Yoshimasa's book-bag or pencil case and his face grew pale and terrified because he didn't like it. When the children found that Yoshimasa would not fight back, they took turns in bullying him.

After summer vacation the school held its regular autumn athletic meet. When they were practicing a dance the whole class raised their right hand and Yoshimasa raised his left. When they turned around Yoshimasa also turned quickly. Aya watched Yoshimasa all the time and felt happy, because she knew that he was happy. However, the teacher asked her to refrain from letting him take part in the athletic event on the day itself. Since the day he entered, Yoshimasa and his mother had not missed a day of school. On the day of the athletic meet he was absent for the first time.

"Yoshimasa would have been normal if not for the atomic bomb," said the ABCC staff. "Because of his prenatal exposure, he was ignored by everyone."

Fortunately, however, Yoshimasa was employed by a brick factory and received an award for working ten straight years. On Mother's Day last year, he bought his mother a gift of paulownia wood *geta* (clogs). This year he is talking of buying a tie for his father on Father's Day. When he talks like this his parents' faces brighten, but he still has an illness involving inflammation of the gums and sudden nose bleeds when fatigued.

"As long as we are alive everything will be alright, but..." said the mother of Jiro Yoshida sorrowfully, and her voice still rings in my ear. Yoshimasa's mother would feel the same way. When support for atomic bomb survivors and the movement against atomic and hydrogen bombs are indeed able to include these people, the relief of survivors, which is a national responsibility, will be fulfilled in the truest sense of the word.

ABCC: The Atomic Bomb Casualty Commission. The Nagasaki branch was established in July, 1948. It is now named RERF, Radiation Effects Research Foundation.

A RECORD OF THE ATOMIC BOMBING

By Mr. Hideo Arakawa (Vice-principal of the **Shiroyama Elementary School** at the time of the bombing, and later principal)

1. The School at the Time of the War

By July, 1945, raids by American B-29s had become more frequent, and being unable to have the 1,500 school children safely seek shelter whenever there was an attack, we stopped having them come to school every day. Instead we started a local study program whereby the students of all six grades were divided according to their neighborhood associations and then asked to meet locally to study under the tutelage of their parents and older brothers and sisters. The teachers would make the rounds of the neighborhoods once a day to help instruct the children. The children were allowed to come to school once a week for a short time (30 minutes to one hour) to receive reports about the progress of the war, news, and other instructions and notifications. I think that it was about this time, the beginning of July, that the supply section of the Mitsubishi Ordnance Factory was moved into the school.

At the time, the teachers were busy practicing evacuation, fire, and air-raid drills, and in digging air-raid shelters and taking steps to safeguard the school. At night there were two night duty shifts for the teachers, both men and women alike. When there was an air-raid alarm, all the teachers came to school to help safeguard it. Under these conditions, the school's small night duty room and the dispensary (where there were only two beds) just weren't big enough, and we had to nap in the teachers' office on chairs or tables. All things considered, we had to have some other night duty rooms for the men and women teachers. So on the day the atomic bomb fell, August 9th, from 10 a.m. the teachers were making new night duty rooms. They did this by wiping clean fifty old tatami mats, drying them, and laying them on the floor of the classrooms. The tatami were all laid down by around 10:30; four of the men teachers then began a discussion of air-raid plans in one of the night duty rooms, while the women teachers cleaned up the schoolyard. In the principal's office, I and three other teachers were discussing the night duty assignments. In the office, the two office workers were starting their noontime preparations. It was at that moment that the bomb fell.

2. The Dropping of the Bomb 11:02 a.m., August 9th, 1945. History records that at this instant at an altitude of 500 meters in the skies above the city's Matsuyama-machi, an atomic bomb (a 5.1 ton (weight) plutonium bomb) exploded. The Shiroyama Elementary School, standing on a 20-meter high hill 500 meters from the hypocenter, directly received the full force of the explosion: heat rays of 5000 degrees Celsius, a blast wind of 250 meters per second [559 mph], and radiation that was of a lethal amount up to 1 km. from the hypocenter. In an instant the splendid, white-walled, three-story concrete school buildings were crushed and reduced to ashes, and the lovely thick woods around the school were mowed down. To our great sorrow, many of those connected with the school suffered a pitiful death in the explosion. Among these were approximately 1,400 pupils who were in their homes and in school at the time, 26 teachers, two office workers, 58 members of the staff from Mitsubishi, 10 volunteers from the Volunteer Corps, and 42 students from the Student Service Corps. Only a few survived: three teachers, nine from Mitsubishi, two volunteer corpsmen, four from the Student Service Corps, and about 50 pupils in their homes at the time.

I pray for the souls of all who died.

In the first floor of the building was a total of fifteen people: 12 teachers, one child, and two office workers. Of these, 11 were killed and four survived.

There were 18 people outdoors: 17 teachers and one child. All of them died.

On the second floor (consisting of four classrooms in the south building and two in the north building) there was a total of 36 people from Mitsubishi, the Volunteer Corps, and Service Corps. 32 of

them died. On the third floor (in the south building) there were 71 people from the three groups mentioned above. Every single one was killed.

On the western corner of the playground, 18 people from these three groups were in the midst of digging air-raid shelters. Seven of them died and eleven survived.

Because the Shiroyama Elementary School was located on a 20-meter high hill facing the hypocenter (500 meters away), its school buildings received a crushing blow from the atomic bomb. The three classrooms on the eastern side of south building (a three-story ferro-concrete structure built in 1924)—the side closest to the hypocenter—were destroyed, as well as the classrooms on the first and second floors. (This latter section was removed in December, 1945.) The stairs on the eastern and western side of the building were destroyed, and the whole third floor was particularly badly damaged. (In later reconstruction and restoration work the whole third floor was removed.)

Because the north building (a three-story ferro-concrete structure built in 1937) directly faced the explosion, it was cracked all the way from its foundation. Each floor suffered extensive damage. The roof and the upper part of the outer wall of the third floor were demolished. The ceiling and walls were cracked and the inner plaster had all fallen down. In the teachers' office a fire broke out and all the valuable records, including the school register, were burned up. (This was later to greatly hinder our operations.) The second and third floors, however, were spared from fire.

One other section of the school was at a right angle to the hypocenter, and one would think it would have been spared somewhat from the blast wind, heat rays, and radiation, but actually the window frames, window panes, partitions, and floorboards were all blown up and away.

The section nearest the hypocenter and directly facing it suffered the worst damage. The two northernmost classrooms on the third floor were demolished. Cracks and holes appeared in the walls, ceiling, and floor. Here fire broke out only on the second and third floors.

The one-story wooden structures—the night duty room, the office, and the three classrooms to the west of the west building—were blown apart at their foundations and scattered in an instant, leaving absolutely no trace. In front and in back of the school, and lining the slope to the main gate, stood many large trees, in summer forming a tunnel of greenery that gave our hearts relief from the war all around us. Also, to the north and west of the school buildings stood thick woods. From winter until spring one could hear the sounds of birds from it, and in summer came the incessant buzzing of cicadas. On the western side there were many large trees: oaks, camellias, and hollies. At the time, this area was used as an outdoor school for first and second graders. In the fall, the children gathered nuts and in the winter they'd enjoy picking up camellia flowers. Each tree was labeled for the children, making it a nice little botanical garden. But this wonderful forest with all its trees that held so many memories was, in an instant, completely leveled.

Some of the trees survived and later sent out new shoots; together with trees that have been transplanted, today—36 years after the bombing—there is again a forest. While not like the one before the bombing, it is beautiful and makes one forget the tragedy.

3. After the Bombing

After the bombing, those victims who could move sought refuge in the air-raid shelter, which soon became crowded with the wounded. Some of them had burns all over their bodies; their clothes were burned up and their skin was hanging in tatters. Others were covered with blood, and others had faces so badly burned one couldn't tell who they were. I will never forget the pathetic figures of these victims.

"It hurts! I can't stand it!!" "I'm hot." "I'm cold."

"Mother! I'm dying..." The sound of people retching, the sound of people begging for water; the shelter echoed ceaselessly with all these pitiful voices. The tragic scene in the air-raid shelter is really beyond description. The victims received no medical treatment that day, and by the next day most of them had died in agony.



Shiroyama Primary School, about 500 meters west of the hypocenter. Near the center is a U.S. military officer examining what he sees among the charred timbers about three meters in front of him. A closer look is in the Addendum on the Shiroyama school later in this chapter. U.S. Forces photo.

There were five of us teachers in the air-raid shelter. One teacher had been very badly injured in the abdomen, and gradually grew weaker because of loss of blood. Surrounded by the four of us, he died. The rest of us, too, were wounded and could not walk.

Every time anyone passed by we told them about the wounded in the school's air-raid shelter and asked them to bring relief personnel, but no one came. The next day, the tenth, those who could walk left the shelter and some were led home by families who had come seeking them. The 11th came, the second day after the bombing. The four of us teachers had neither drunk nor eaten a thing. Thinking that if we spent one more night in the shelter we would probably all die, I reproved the others who said they couldn't walk or move, and tried to get them moving. Finally we were able to make it to the rear gate of the school. Right beside the gate, in Shiroyama Park, there was a first-aid station. Seeing how close it was, I could only wish that we had come earlier.

The wounded were lying all over the ground. Some had blackened swollen bodies, others were suffering from burns all over their bodies, and the skin of some had all peeled off and hung in strips. The faces of some were burned and swollen so badly they could not see. Their clothes had burned so they all lay naked under the hot summer sun. No one tried to move. They couldn't move. One couldn't tell if they were living or dead. Some people who must have been relatives of the victims were picking their way through the crowd. It was truly a hell on earth.

At the aid station there were three or four medical corpsmen (from Kurume) and several first-aid personnel. They gave the four of us tea and rice balls. Even now I can still taste that delicious tea. The rice balls had been out in the sun and were hard on the outside. Feeling heaviness in my chest, I could only eat half. The other teachers didn't eat a thing. They thought they wouldn't be able to keep it down. Telling us that they were draftees, just backup corpsmen, really, who didn't know anything, the medical corpsmen just dabbed on mercurochrome and didn't try to remove the shards of glass. Then they bandaged up my head and hands, using strips of cloth taken from summer kimono. The three other teachers were also treated. We were told that since trucks were coming to Ohashi to move the wounded to hospitals in Omura and Isahaya, they would come here as well, but when they would come no one could say. So we waited.

The summer sun was scorching; it alone seemed enough to do us in. There was no shade anywhere. American planes came. Someone shouted that they would strafe and ordered us to disperse, but no one moved. No one was able to.

I thought I should try to make it to Ohashi, even if it meant I might collapse along the way. "All of you please get to a hospital and get well as soon as possible. I might not make it, but I'm going to try to get to Ohashi," I told the other teachers. None of them asked to go along; they just wished me well and we parted. The three of them later got to the Nagasaki temporary aid-station and received treatment, but all later died. That parting was to be our final one.

Sometimes walking, sometimes crawling, I headed toward Ohashi. On the way I saw the sad figures of many people who had died in the riverbed of the Urakami River. With their last ounce of strength they had made it to the river, drunk some water, and then lay down and died.

I was able to make it to Ohashi and later to my hometown.

Because the Shiroyama school district was within 1.5 kilometers of the hypocenter, all the residents suffered the combined effects of the explosion: the blast wind, the heat (most of the people who were burned died, and the houses were all burned down), and a lethal dose of radiation. Almost all the houses and buildings in the district were destroyed or burned down. The residents were either crushed to death under their homes or died from wounds or burns, or in fires. Those few who managed to survive mostly died in a few days from radiation poisoning. The whole district was transformed by the atomic bomb into a wilderness of death. The few residents who survived were at work far from the hypocenter, traveling or away on a visit, or in the air-raid shelters. 1,400 of our school children were killed, with only 50 survivors.

As I wrote earlier, after being wounded, I spent three days in the school's air-raid shelter but then was able to return to my hometown and receive treatment for my wounds. I began to feel anxious about the school, and on August 20th I returned to Nagasaki. Together with another teacher, a Miss Yoshino, we set up a temporary office in another school (our own school being too damaged to use). We rushed to prepare a report and survey of the bomb damage, but in a short while, beginning on the 25th of August, my hair began falling out. I suffered other characteristic symptoms of radiation sickness and the symptoms worsened. On August 30th, I again returned to my hometown, and from September 1st I had to have complete bed rest.

4. Beginning Classes

At the request of Mr. Yukawa, the head of the Educational Bureau, Mr. Sakamoto (formerly principal of the Shiroyama School but at this time principal of another school) and Miss Yoshino had the surviving pupils assemble at a local shrine. Of the six grades a total of only 35 or 36 children showed up. They assembled the children many times afterwards. But since young Miss Yoshino was the only teacher there, it was impossible to continue the instruction for long. I was still in my hometown, two

other teachers were both under medical care, and the whereabouts of another teacher named Hayashida were unknown.

I slowly got better, and returned to Nagasaki in the beginning of November.

As soon as I returned I went to see Mr. Yukawa. "I thought you were dead." he told me, and said how happy he was to see me back. "We have to do something about the Shiroyama School, but we've been unable to do a thing. There's no rush, but I'd like you to get the children together and begin classes." He told me we could meet at the Inasa Elementary School and that he'd get in touch with them about it. I told him that I had been worried, too, about the school, and that I'd get in touch with surviving teachers and get classes started up again.

On November 14th as before, we had the children assemble at the local shrine, this time with Miss Yoshino and me in attendance. Five or six children came, only ones from the upper grades. Their clothes were dirty and their faces pale, and they were thin and weak looking. They looked worried. "Starting tomorrow," I told them, "We'll begin classes at the Inasa School. Those of you who don't have any textbooks or notebooks needn't worry. You don't need to bring anything. And please tell those who couldn't come today." It seemed to me that looks of happiness and relief lit up the faces of the children.

The next day a total of 15 or 16 children from grades one to six assembled at the Inasa School. There were five teachers: I, who had survived the bombing, Miss Yoshino (who had had a cold that day and had been spared by being at home), Mrs. Egashira, Mr. Hayashida, who had been in Shimabara, and Mr. Sekiguchi, who had come back from the army. The six grades were divided into four groups: Mr. Hayashida took grades 1 and 2; Miss Yoshino grades 3 and 4; grade five was taught by Mr. Sekiguchi, and grade six by Mrs. Egashira. In one classroom each group began studying with its teacher. Before long, the number of pupils increased. On November 30th there were: 6 in the first grade, 8 in the second, 7 in the third, 4 in the fourth, 8 in fifth grade, and 10 in the sixth, making a total of 43 pupils. (This is from an entry in a report on elementary school pupils sent to the mayor of Nagasaki.)

The surviving children had lost everything in the bombing, and were living either in air-raid shelters in the middle of this wasteland or in crude shacks. The latter had no windows and were dark even during the day; rain and wind swept through these hovels.

With winter approaching, the only clothes they had were the ones they wore; they had nothing extra to wear on snowy days, and neither rainwear nor umbrellas for days when it rained. Since the war ended a rationing system was in effect so they couldn't freely buy anything, nor did they have the money to do so. The rice rations were meager and rice substitutes were more common. Not a single child was able to have rice three times a day. Some of them made do with only two meals a day. Some of the children had lost relatives and both parents to the bomb. Their hair having fallen out because of the radioactivity poisoning, their burns and wounds only just healed, they were all pale and weak.

In the Inasa School the window frames had been twisted by the blast and had rusted. The window panes had all been blown out, and so had the panes on the windows of the hallway. In some spots the floorboards were sticking up and were cracked. The walls were falling down; the blackboard was riddled with shards of glass. The blackboard was covered with these scars and its frame was broken. Many of the desks were twisted and damaged.

The children had no school supplies—no books, no notebooks, no pencils. We got some supplies from the Inasa School and other city schools, and with the help of the teachers we were able to make do somehow.

The north wind blew in the open windows mercilessly. With the rain and snow blowing in, winter in the classrooms was bitterly cold. Our hands got so cold we couldn't write. We'd blow on them and rub them, but to no avail. When we couldn't stand it anymore, we'd stop class and take the children outside to do exercises. Sometimes we'd play a Japanese pushing game children play to keep warm, but could

only keep it up for five minutes or so. The first and second graders suffered especially. We'd asked the city authorities to put in new window panes as soon as possible, but they weren't able to until the end of March.

In class we mainly practiced reading and arithmetic; because of lack of equipment it was difficult to teach science. In music class we had all six grades sing together. We had no drawing or calligraphy because we lacked the materials.

In the confusion after the bombing and with the difficulties in adjusting to the new educational system, even if the educational doctrines and policies had been settled, it was impossible at the time to conduct regular classes. In particular for the children, hurt by the bomb, studying was out of the question.

Thereupon, not letting the children catch a cold became our educational doctrine and policy. As educators this was all we were able to do, all the education we could provide. All we could think about was how we should have them pass each day. More than anything else, this is what we were concerned about.

"On rainy days, very cold days, or when it snows, we'll have no classes. Please study at home," we told them emphatically. For these children, hurt by the bomb and in a weakened condition, a cold could prove dangerous. There were no doctors nearby and bedding and food were scarce. A cold or other illness itself could be fatal. At school or at home, catching cold was the one thing feared most. On rainy days, or cold or snowy ones, we teachers would stare out the broken windows at the road leading to school, praying the children wouldn't come.

But the children felt different from us and always came to school. Much more than their homes were, the school for them was a genial place where they could enjoy themselves and feel at ease, studying with the teachers or talking with friends.

Because the children were careful about their health, by the end of March none had gotten a cold or fallen ill.

5. Closing the Shiroyama Elementary School.

In the fall of 1945, we put an announcement in the newspaper that there would be a memorial service for the victims of Shiroyama School. Invitations were sent out to the city hall, other schools, and to the families of the victims and to others whose addresses were known. Since the whereabouts of most of them were unknown and we couldn't investigate, on November 21st and 25th we placed notices in the Nagasaki Shimbun (the local paper) concerning the memorial service.

On the morning of the day of the service, with the children helping, we brought out what desks and chairs that remained and lined them up on the playground, facing away from the south building. From the fields the teachers had been weeding up until the day before the bomb fell, rice was taken and used as an offering.

The chief priest of a local temple and his son chanted the Buddhist sutras, and while they did we lit incense and prayed for the souls of all who had died: the children, the teachers, the office workers, the men from Mitsubishi, the Volunteer Corpsmen, and the Student Service Corps members.

In my memorial address I said the following: "We feel the deepest sorrow for the suffering these martyrs to the bomb endured. Those of us left living pledge to rebuild the Shiroyama Elementary School. We will carry on the traditions of the school handed down to us. May your souls rest in peace, and may God keep and protect our school." There were 70 people in attendance in addition to the 40 relatives of the dead.

In the beginning of February of the following year, 1946, an announcement appeared in the newspaper to the effect that the Shiroyama Elementary School would be closed as of the end of March,

and the pupils in the fifth grade and below would be transferred to either one of two other schools, depending on their address. Together with Mr. Sugimoto of the parents' association, I went to visit the city's Education Bureau. Mr. Yukawa told us, "The Shiroyama school district has been contaminated by radio-activity, so much so that an expulsion order was once given. For some time to come, it is felt that the rate of growth in the number of residents will be low. At present there are less than 50 pupils."

Mr. Sugimoto and I replied that the school was one of the leading schools not only in the city but in the prefecture, and urged him strongly not to close the school but just temporarily suspend operations. He gave his word that he'd close it just temporarily and that if the number of children in the school district increased, we could reopen.

Every year our school would graduate over 300 pupils; the graduates of 1946 numbered only 14. [The school year ends in April. –R.W.] Guests in attendance included a representative of the mayor, the chairman of the parents' association, and some of the parents. In addition, there were five staff members and about 30 pupils from the third grade and up acting as class representatives.

"Unlike last year," I told them, "this year's graduation is a lonely one, taking place in one room of the Inasa Elementary School. There are 14 graduating pupils (five boys and nine girls). Those of you graduating have worked hard to overcome the difficulties and sadness brought about by the atomic bomb. My sincerest congratulations to you all. Let us pray for the souls of our friends, teachers, and relatives lost to the bomb." The pupils burst into tears, and so did everyone: the teachers, the parents, the guests, and myself as well. During the valedictory everyone was in tears, and when we tried to sing "*Auld Lang Syne*" and the traditional graduation song, we were too choked with tears to do so. The next day in the newspaper was the headlines "*A Tearful Auld Lang Syne.*"

On the 23rd we had the ceremony for the closing of the school, with around 40 pupils, survivors of the bombing, in attendance. "Every day," I said to them, "you have endured the troubles and sadness brought on by the atomic bomb. In windowless classrooms, where the cold is biting, you have studied hard. You have been strong, not catching cold or falling ill, the one thing we teachers worried about most. My sincerest congratulations to all of you on being promoted to the next grade. A warm spring is coming. Take care of yourselves and study hard."

Immediately following this we held the farewell ceremony. This time I told them the following: "The atomic bomb destroyed and burned all the homes in our school district. Almost all the residents of the district died. Only you have survived. Until many of the homes are rebuilt and new friends move here, the Shiroyama Elementary School will be temporarily closed. Starting in April you will be in new schools. But the day will surely come when our school will be rebuilt and we can study together again happily. Until then, study hard at your new schools."

Tears welled up in the eyes of the pupils and teachers. Sweets were handed out and then everyone went their separate ways. I could only pray for the future happiness of the children.

(The following is not from the Nagasaki Testimonies book. It is from *Speaking of Peace* published by Nagasaki Foundation for the promotion of Peace. It is used with permission from the family of the late Katsuji Yoshida.)

TODAY THE SKY IS CLEAR

By Katsuji Yoshida (13 years old at the time of the bombing.) [Mr. Katsuji Yoshida passed away from lung cancer on April 2, 2010 in Nagasaki.]

(Katsuji Yoshida had just left a shelter after morning air-raid alerts. He and 6 classmates were on the way back to school when the bomb went off. He was one of the few survivors alive [in early 2010] who were within one kilometer of the hypocenter. All 6 of his school mates died before he was released from the hospital; he never saw them again. Mr. Yoshida was a second year student in the shipbuilding course at Nagasaki Prefecture School of Industrial Science. He received three major skin transplant operations at the Omura Naval Hospital after the bombing and underwent numerous transplants since then.)

August 9, 1945. No matter how hard I try, I have never been able to forget the events of that morning.

An air-raid alarm was sounded but soon lifted. Seven students including myself left the shelter and began to walk back toward school. Along the way we stopped at a roadside house to draw drinking water from the well. For no particular reason, I looked up at the sky to my right when about to drop the bucket into the water, and I noticed two parachutes falling between a crack in the clouds. My friends also looked up, shading their eyes with their hands.

Suddenly, there was a violent explosion and I was thrown across the road into a rice paddy. Other survivors have described the experience of the atomic bombing by the expression pika-don [an onomatopoeic term equivalent to "flash-boom"], but for me it all happened in a fleeting dream-like instant.

It is said that there is no pain when injuries exceed a certain degree of severity. I was aware during the brief space of time between the explosion and my impact against the ground. It seemed like a fish was being fried and I could feel my body curl up with the intense heat. People usually associate blisters with burns, but when I regained consciousness in the rice paddy I found myself covered in blood. The skin on my arms had peeled off and was hanging down like a torn shirt from my fingertips. The open flesh was bright red with blood, but strangely enough there was no pain. On the contrary, I felt as healthy and energetic as ever. Along with my friends, I told myself that it was only a minor burn and that a little ammonia tincture would cure everything. The relief at having survived perhaps blocked out other perceptions temporarily.

However, I was shocked to see the men and women who had been working in the fields. Hideously burned, they came down from the hillsides, screaming and crying, and formed a group nearby.

Overhead I could hear the ominous sounds of airplane engines and felt terror for the first time. Trying to conceal ourselves from the enemy planes, my friends and I lay on the ground and pulled charred weeds over our bodies. It was then that I began to feel a prickling pain.

The friend lying beside me was carrying a broken piece of mirror. We had been remarking to each other about how our faces had changed, but we were filled with astonishment and horror to



Age 14, "After a year and a half, I left the hospital. They drove me to the train station, and it was crowded with people. Suddenly they noticed my face, which was burnt black. They stared at me in horror, but I didn't have the courage to stare back. I just looked down and cried, and hid in a corner till the train arrived." --Katsuji Yoshida, Nagasaki survivor. Permission from son, Naoji Yoshida, and Sumiteru Taniguchi

look at ourselves in the mirror. Meanwhile, people continued to stagger down from the hillside; people groaning and crying, children searching for their parents, and people who were so badly burned that it was impossible to distinguish men from women.

My companions and I were full of energy at first and talked about making the trip homeward over the hills in Nishiyama. But when we tried to make a start, no one could move. My face was swelling so quickly that I could feel it growing larger.

A steady procession of uninjured people filed past us over the hills toward Mie and Shikimi. I can never forget the pathetic cries of the many people on the verge of death. They begged for water, but the passers-by could think of nothing else but finding refuge. My friends and I joined in the chorus of screams for water but nobody stopped to listen.

I could see through my swollen eyelids but remained helplessly unable to move. A small creek nearby was filled with people trying to take a drink. Many of them died with their faces in the water, and others stepped over the growing pile of corpses without the slightest hesitation.

Two students about my age arrived at the spot where we were lying. One had broken both his legs and was being carried by the other, whose eyeballs were hanging down onto his cheeks. I could see the blood vessels pulsating in the exposed muscles. Realizing we were nearby, the latter student said "I feel so relieved" and then collapsed dead on the ground. More than forty years have passed, but the sight of those two students is branded vividly in my memory.

The waters of the Urakami River, which the lyrics of our school song extolled as "pure, and sparkling," were stained red with blood and flowed over the ravaged corpses of people and animals. It all seems like a terrible nightmare now.

Before long I became completely unable to see. My face was so swollen that I could not even open my eyes by force. Darkness began to set in. Whenever someone passed I spoke out in the direction of the footsteps: "Is the neighborhood near Suwa Shrine damaged?" The answer was always the same: "The whole city is destroyed."

Soon the area was steeped in darkness. The fire spurting out of the windows of a nearby school provided a faint light. My companions and I encouraged each other as the minutes and hours passed. It was the middle of summer but I felt incredibly cold. And yet at the same time I felt a ravishing thirst. It is impossible to describe, or even imagine, how desperately I longed for a drink of water.

I asked a friend who has now passed away to bring a message to my family. The cold and the thirst made it impossible to sleep. During the night I heard the sound of passing airplanes several times. When dawn finally arrived, I felt as though I had endured a year of bitter hardships.

Early in the morning a woman who had come from Isahaya as a member of a relief team helped me onto a wooden stretcher for treatment. I told myself that I had to stay alive until I reached home. While receiving first aid, airplanes passed overhead and everyone fled to the air-raid shelter, leaving me to wait alone under the hot sun. It was like a slow execution. Unable to move and lying impaled on the stretcher in excruciating pain, I wondered if I would have to suffer endlessly without death ever coming to relieve me.

After receiving first aid, I was carried to the gutted ruins of the nearby commercial school. With unseeing eyes I could feel the residual heat in the building. I heard later from my mother that there were hundreds of other people in the same condition lying in the school groaning and crying out names of relatives.

My mother went into the building, calling my name over and over again as she walked amid the injured. I answered, but she could not believe it was me when she saw my disfigured body. When she took me out of the building she still had doubts as to whether it was really her son.

On the way home I begged for water and spoke deliriously as my mother trudged through the scorched ruins strewn with the dead and mortally injured. Perhaps because of the joy and relief at being rejoined with my parents, I fell into a state of unconsciousness after finally arriving at our house. For more than a year thereafter I received treatment at the temporary hospital in Shinkozen Primary School and later at the Naval Hospital in Omura.

After discharge from hospital I returned once more to my home in Nagasaki. Although a large portion of the population had suffered the effects of the atomic bombing, it was a great tribulation for people like myself with burns to go outdoors. The reason is that our hideous scars attracted stares from everyone. I could feel people's eyes on me when I walked on the streets, and felt terrible shame and hatred for war. I think that survivors with burns on their faces suffered more mental torment than anyone else. Although true even for men, this was a terrible stigma especially for women.

For a long time I felt utterly hopeless. Even going out to get a haircut at the neighborhood barbershop was too great a hardship for me to bear, and I asked the barber to come to my house on his holiday. Eventually, though, I realized that thinking this way would only make me more and more miserable. After graduating from school I was fortunate enough to obtain employment at a food wholesale company, and I made up my mind to strive with all my energy.

At the beginning I worked inside the company offices accumulating knowledge about the various types of merchandise and therefore did not have to go outside. I was able to work with a relaxed and cheerful attitude. Soon, however, I was told that I would be dealing directly with customers starting the following month. I tried to drum up courage in my heart, but the new duties as a salesman made each day a painful experience. I cursed the war and the atomic bomb and asked God how he could be so cruel to the atomic bomb survivors.

I remember one day when a young mother came into the store holding a little child in her arms. One look at my face and the child burst into tears. It is easy to understand why such a disfigured face shocked the child, but still I can never forget the indescribable feeling of misery that welled up inside me. Why did my face have to be burned? Why hadn't I been allowed a chance to hide? I could only turn my grief and bitterness toward heaven.

This mental suffering is one of the lasting effects of exposure to the atomic bombing. But again I told myself that no amount of crying and complaining would bring my body back to normal I resolved to make the best of the situation. I began to receive massages ever since. In the wintertime, the skin becomes pale and cracked because of the damaged epidermal tissues, and so the massages are indispensable during the season.

I look back now with joy that the atomic bomb survivors have persevered over the years and that we have been able to appeal for genuine world peace and to inform



A more recent photo of Mr. Yoshida of Nagasaki.
Photo copyright by Peter Blakely*, used with permission.

people about the horror of war and the atomic bombing. It is our fervent hope that the term "atomic bomb survivor" never has to be applied to anyone else again.

I believe that the thousands of victims who are no longer here are watching over us with approval and encouragement.

I pray that the clear, peaceful sky we see today will remain for all eternity.

(Quoted from *Speaking of Peace* published by Nagasaki Foundation for the promotion of Peace)

That last photograph by Peter Blakely, is from his ongoing project to document Japan's Atomic Bomb Survivors. His work can be viewed at **www.peterblakely.com**

Addendum about the Shiroyama Elementary School.



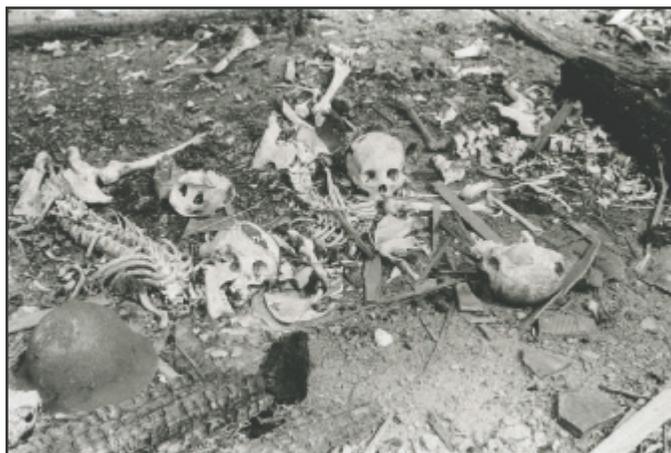
A model of the Shiroyama Elementary School on display in the school memorial museum. Parts of the buildings were painted black in an effort to confuse and mislead bombing aircraft. Photo-R. Wilson

Often in my classes at Illinois Wesleyan University, after learning about Nagasaki, I would make the casual suggestion that if any of them were visiting Nagasaki they might wish to walk up to the Shiroyama School on a hot August day and explore. The school is near Nagasaki Peace Park. It has, of course, been rebuilt.

In 1945 the school had an enrollment of about 2000 students, however 500 of them were away, not attending, possibly working or evacuated out of the city; 1500 was the current number attending. But *that day*, as Principal Arakawa explained, students were not at school but studying at home. As in Mr. Arakawa's account some 1400 of these elementary school students were killed at their homes. Fifty more went missing and 50 survived.

Shiroyama Elementary School was a three-story building, and notice the unusual slanted wall with circular windows; this was a wide stairwell connecting all floors; one can see this in the model of the destroyed school. The stairwell's outer wall had been painted with black stripes and the entire third floor also painted black; this was meant to deceive bombing aircraft. This paint camouflage can be seen in the earlier photos of the school after the bombing, but perhaps you didn't notice.

Because the school was so close to the



Cremation site at the Shiroyama School. L6-12-00-00-0075, Permission from the Nagasaki Atomic Bomb Museum



Cremation site at the Shiroyama School.

L6-12-00-00-0074, Permission from the Nagasaki Atomic Bomb Museum

The stairwell part of the original building still stands. It has become a museum for the history of the school and mainly its destruction. Inside one will find photographs, pictures, and artifacts, and a map of a trail around the school pointing out surviving records of the bombing. Mr. Matsuyoshi Ikeda will be pleased if you visit and he will be happy to explain everything to you, *in Japanese*. Mr. Ikeda is one of the 50 students who survived.

The school ground is 20 meters above street level;

explosion the heat rays set the interior of the school on fire. Stairways in parts of the building were crushed beyond use; with fire in the building many had to escape by jumping from the second and third floors.

It is likely the photos of these cremation sites were taken by Shigeo Hayashi.

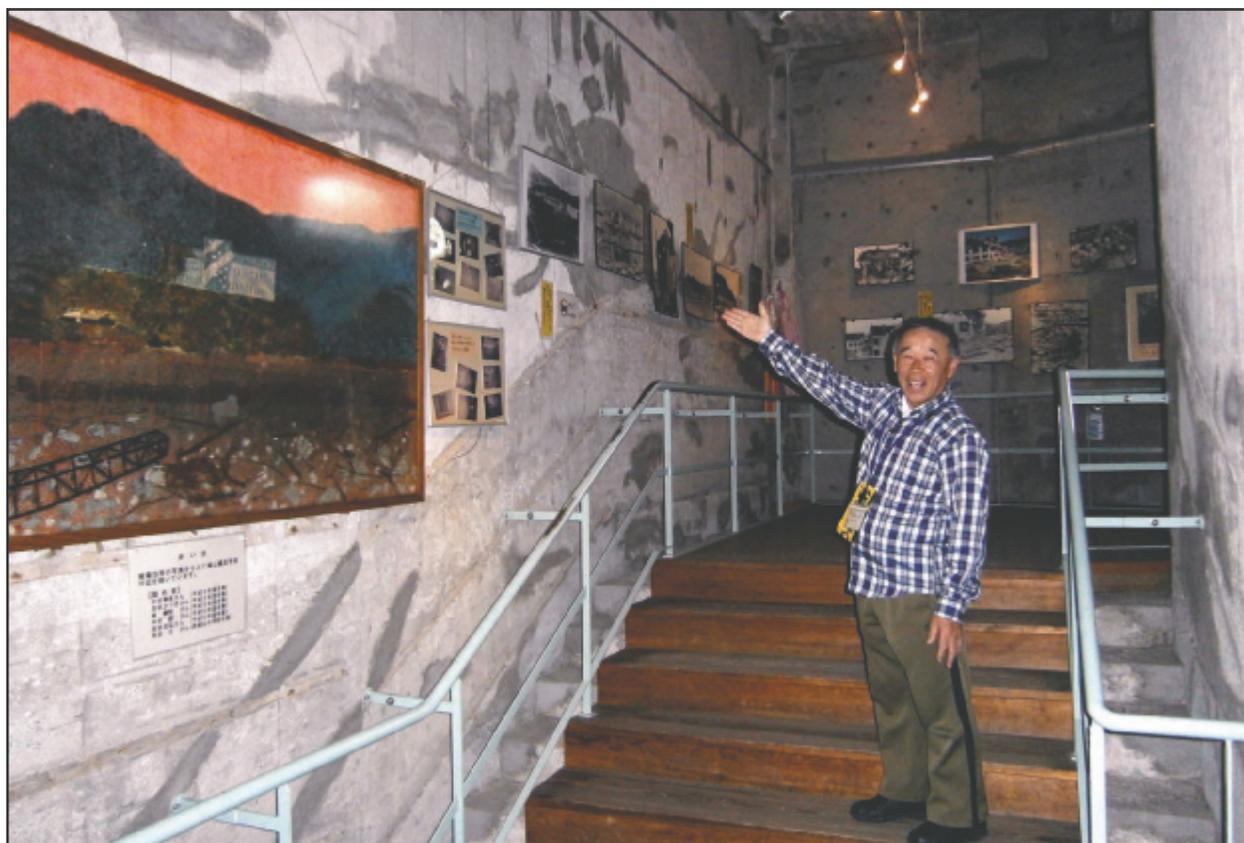
In the earlier color photograph of the crushed corner of the school there is an American soldier examining the grounds outside. One can just make out some scorched logs near him and at his feet some small roundish white objects. These photos show what he was studying on the ground. Allied Forces did not arrive in the two cities until about one month after the bombings. The soldier was standing in the midst of a cremation site, with the many scorched logs and the many skeletons.



Above street level in Nagasaki the stairwell of the Shiroyama School still stands.

Photo - R. Wilson

there are stairs. At the Nagasaki train station you can get a map of the route to the school starting from the streetcar street. Before you get to the stairs, maybe 100 feet or so, there should be a marker directing you to the Nagai slope. This slope is a more gradual climb, a more casual incline *without steps*, which at cherry blossom time is a pleasure to walk. On several of the maps and aerial photographs in this chapter one can see that the Shiroyama School is not a long walk from the Hypocenter Park or from the Peace Fountain (the former prison grounds). In 2013, at age 81, I could do it and climb the stairs too. Don't rush.



The stairwell part of the original building still stands. It has become a museum for the history of the school and mainly its destruction. Inside, one will find photographs, pictures, and artifacts, and a map of a trail around the school pointing out surviving records of the bombing. Mr. Matsuyoshi Ikeda will be pleased if you visit and he will be happy to explain everything to you, in Japanese. Mr. Ikeda is one of the 50 students who survived. Photo, R. Wilson



The Shiroyama Elementary School as it appeared in earlier days, before black paint was added to the third floor and to the 45 degree staircase. Worker's and children's homes and gardens surround the school
L6-05-01-03-001, Permission from the Nagasaki Atomic Bomb Museum, Torahiko Ogawa photo

Addendum: Exploring Nagasaki

If you come to explore Nagasaki you will find it a fascinating place rich in history. For many years it was the only Japanese port through which knowledge from the outside world could flow into Japan, material goods also. The port area was called Dejima (jutting island), a man-made island with a single sea-gate for access to boats in the harbor, and a single land-gate with Japanese inspectors to make sure nothing unacceptable came into Nagasaki proper. Dejima is still there, no longer an island but it is an historic site telling the story of the early days; it is well worth a starting visit.

Like Hiroshima, Nagasaki has a convenient streetcar system. A map and all-day passes can be had at the Nagasaki train station office at the platform turnstiles. From the station there is a pedestrian overpass that gets you to the streetcar platforms (Remember, that like cars, streetcars also travel on the left lane (track). From the train station there is also an elevator up to the pedestrian overpass.

In several recent visits to Nagasaki we have used only two hotels, one, the Saint Paul Hotel on Saint Paul Street, is immediately across the street from the *Nagasaki National Peace Memorial Hall for the Atomic Bomb Victims* and the *Nagasaki Atomic Bomb Museum*. The other is the Washington Hotel in the downtown area. From the aerial photos one can see that the Peace Museum and St. Paul Hotel are higher than the streetcar street level (Urakami Hwy); if you are walking, there is a slope to climb; I've done it many times. But from the aerial photo one can also see that there is a valley between the *Peace Museum* and the *Peace Statue and Fountain*. So you would need to go down from one, cross the small



You would probably enjoy visiting Nagasaki, its museums, and its Peace Park, as are these young people.

Photo - R. Wilson

Shimonokawa River, to go up to the other. However, we were pleased to find in 2013 the steps up to the *Statue and Fountain*, at the streetcar street, now also have an escalator. Arrange your visit so that you can use it.

Between the *Fountain* and the *Statue* one of the contributed statues is, “*Earth Constellation*,” from St. Paul, Minnesota. The *Hypocenter Park* is at streetcar street level. Houses go up rather quickly and rather steeply from the streetcar street; the Urakami River is on the other side of the street, the bottom of the Urakami valley. The St. Paul Hotel is not elegant but quite serviceable. There is a restaurant and an adjacent convenience store. Nagasaki is a Sister City with St. Paul, Minnesota.

The Washington Hotel downtown is adjacent to Nagasaki’s “Shinchi China Town” which must contain at least a dozen restaurants. It is Japan’s oldest “China town” dating back to the 17th century. In addition to Dejima there *was* also at the waterfront an island called The Chinese Factory. Shinchi China Town appears to be at that same location but of course everything is now much nicer than back in the old days and it is no longer “a factory;” Japan’s economic advancement applied also to the Chinese in Nagasaki. Again, the Washington Hotel is not elegant but clean, serviceable and with a nice restaurant or two. This hotel is within walking distance of the *Hamano-Machi* and *Kanko-Dori* Shopping Arcades, the “Spectacles Bridge,” the Nagasaki Museum of History and Culture, the City offices, and quite close to a streetcar stop. On the very excellent *Welcome to Nagasaki* English map, obtainable at the train station, Washington Hotel to the History and Culture Museum may appear to be a long walk but it is only about 1.5 kilometers [0.9 miles] of interesting sights.



Inside the Nagasaki Museum of History and Culture. Photo - R. Wilson

Near the beginning of this long chapter there is a photograph of Nagasaki Harbor from the late 1800s. Just left of center there is a small bridge. To the right, the bridge appears to enter Dejima, a compact set of warehouses. To the left, the bridge ends at another set of larger factory buildings, the “Chinese Factory.” A URL page for the photo is here; click on the Nagasaki Harbor photo to enlarge it:

http://sirismm.si.edu/siris/top_images/sack.top.10_2012.htm

As at the end of Chapter 2, Wikitravel is a useful page for planning to explore Nagasaki.
[http://wikitravel.org/en/Nagasaki_\(city\)](http://wikitravel.org/en/Nagasaki_(city))



Viewed from the north: the prison, and the hypocenter; in the distance, Mitsubishi steel and arms works along the left side of the river, University hospital on the left. "...the Committee concluded that the bomb should be used as soon as possible against a war plant surrounded by worker's homes, and that no warning or demonstration should be given." U.S. Forces photo by H.J. Peterson



The factories were indeed surrounded by workers' homes. U.S. Forces photo, NARA RG 77-MDH

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CHAPTER 4

The Era of Nuclear Madness

"We can't solve problems by using the same kind of thinking we used when we created them." —Albert Einstein

There is probably no issue in the history of humankind about which more words have been written and argued, over all the years since 1945, than nuclear war/nuclear peace, and with such unsatisfactory results. We recognize that nuclear dismantling has occurred; world arsenals of some 65,000 warheads reduced by 2014 down to about 17,000. But regarding the resolution of the problem of nuclear weapons—the only true weapons of mass destruction—so little new thinking has been accomplished it is intellectually infuriating, especially after the unheeded warnings by highly respected individuals such as Einstein and Eisenhower. In their time, when world forces were in opposition, there was little opportunity for anyone to really lead, to point the way to a world in which peace would be truly possible. They warned of the direction we were heading. Others tried to show how that old habitual way could be altered. J. Robert Oppenheimer was one such person, and he, “the father of the atomic bomb”. It seems that behind every world problem is the specter of nuclear terror and catastrophe: Will China or Russia use theirs? Will Israel set the Middle East afire? Will terrorists get hold of a bomb from North Korea or get the makings of one from Iran? Oppenheimer is gone. Where now are the leaders who have the wisdom, the new thinking, to show the way?

1 Why a Solution to the War Problem Is Necessary, and Possible

Do the world's people have any conception of the enormity of the effects of *nuclear war*? Perhaps not. Why? It was some *22 to 30 years after* 1945 before the United States *would allow* people to see the truth of the nuclear devastation of Hiroshima and Nagasaki. This was a human slaughter; and the photographs of the victims, the deadly evidence of the slaughter, was confiscated by the American occupation forces, and not revealed until at earliest, 1967, not by the US Government but mainly through the efforts of Tsutomu Iwakura and citizens of Japan, of Hiroshima and Nagasaki, by Columbia University Professor Erik Barnouw and Japanese filmmaker, Akira Iwasaki. (1)(2) Some of this film was made in 1945-1946 by Lt. Daniel A. McGovern, Lt. Herbert Sussan and Akira (Harry) Mimura. Almost nothing of this human catastrophe appears in standard supposedly scholarly textbooks in American education, even though the atomic bomb was selected by journalists as *the* “story of the past century.” Here is one example: In the book, *The Medical Implications of Nuclear War*, by the National Academy of Sciences, Institute of Medicine, 1986, there is not a single photograph of a victim of Hiroshima or Nagasaki. Of the 40 contributors to the book, not one is Japanese. You will not be able to satisfactorily solve nuclear war problems if you don't have access to the true facts, if the effects and outcomes of nuclear war are politicized and withheld. [An account of the returned photographs is here in this book's appendix.]

As a teacher this writer greatly resents the fact that the U.S. Government and its WWII Allies *have never taken the responsibility to truthfully portray the results of the nuclear war they initiated* against a defeated, smaller and militarily exhausted nation, while knowing that Emperor Hirohito was

seeking to end the war. It is our intention that this book in a small way is remediating this deficiency of American education.

Since “the world’s people” have not learned, it is more than deeply regrettable that they may only have the chance to learn if and when nuclear weapons are used again. Most of the world has not yet understood the possible obliteration of many millions of people within twenty-four hours. Our brains are too meager for such immensity.

Consider the following: It must be true that in a peaceful world without the conventional weapons of war, without tanks, missiles, bombers, warships, *there would be no need for weapons of mass destruction*. Regrettably, the obverse is not true: In a world without weapons of mass destruction, unless the world changes, there would still be conventional weapons and wars and arms races, eventually leading again to the development of more efficient techniques for killing hundreds of thousands of people, so-called, “mass destruction,” “treating people like matter”.



The physical aspect of the Hiroshima aftermath. This is what a city of 350,000 looks like after experiencing a small and primitive nuclear bomb. This was an area of homes, shops, and businesses along main streets. The target area was "surrounded by worker's homes," and worker's families, kids and grandparents. U.S. Navy photo in the public domain.

If it is not a fallacy that our goal truly is nuclear disarmament, ridding the world of the “terror bomb” and the main new tool of a WWII, then the logical imperative would be: to put full effort into the simpler but crucially essential problem of eliminating the need for conventional weapons of war; to put full effort into solving and preventing regional disputes, the Balkans, the Middle East, Africa, South & Southeast Asia, the Korean peninsula, South and Central America, the Far East, and elsewhere; to put full effort into solving the principal conflict, the one between the *haves*, who want even more, and the *have-nots*, those who are being ripped off, exploited, robbed, and oppressed. Eliminate the “justifiable” causes of national and international conflict. Stop feeding these victim nations more weapons and munitions.

There is evidence that world resources necessary to solve these problems are actually available

but since 1945 have been diverted into larger military budgets and the continuous creation of new offensive weapons and offensive weapon systems rather than toward the creation of a world at peace.

The people of the world plead for peace, plead for an end to the killing, destruction, and suffering, and their leaders cannot achieve it, don't even seriously try. And national governments' *recent* insincere offers to reduce nuclear arsenals, slowly, is not the way, though nuclear dismantlement which *has* taken place has been helpful, even if unnoticeable to the general population.

In Chapter 5 it shall be revealed how world resources could be used in a workable morally strategic approach: to achieve world peace with justice, fairness, and great benefits for everyone and threats to no one, and to remedy the regional tensions and devastation that permeate much of the developing world. This can be done at no additional cost to nations. Only once before was a similar task attempted, the Marshall Plan, bringing some relief from the devastation of WWII to selected friends of the western Allied world, while creating an economic boom in America.

Rather than the myopic focus mainly on nuclear abolition with its nettlesome concerns of nuclear breakouts and nuclear terrorism, we should develop the courage to aggressively follow a path which circumvents and defuses terrorists' and renegade nations' continuous regional threats, terrors, and wars. The world initiatives for action need to be taken away from the war mongers and their dictatorial authoritarian rule and their mythological belief in their superiority and destiny to rule the world. Initiatives need to be directed toward peace for all those developing nations which are ready for peace, ready for the promised advances of the 21st century. One country tests a bomb, sends a missile over a neighbor, or develops nuclear technology and the world's developed nations: have fits for the next several months and years, move to employ sanctions and crank up the psychological war machine, increase military spending and create a missile defense system which would likely be imperfect, and seriously consider or initiate a pre-emptive attack. Effective *proactive* amelioration on the world scene seems an activity unknown in the developed world; the tendency is always to be militarily destructively *reactive*. The world needs to be provided with a future of promise that can be looked forward to with joyful great expectations rather than with great fear, mistrust, foreboding, and hopelessness.

The futurist, Jacque Fresco, has noted: "At the beginning of World War II the U.S. had a mere 600 or so first-class fighting aircraft. We rapidly overcame this short supply by turning out more than 90,000 planes a year. The question at the start of World War II was: Do we have enough funds to produce the required implements of war? The answer was 'No,' we did not have enough money, nor did we have enough gold, but we did have more than enough resources. It was the available resources that enabled the US to achieve the high production and efficiency required to win the war. Unfortunately this is only considered in times of war."

The efforts of the American people were a major part of those "resources."

There need be no technical problems to achieve a world without threats. It is only socio-political-ideological-avarice problems, in people's minds, which prevent world peace; not technology. We are still in the "predatory phase" of human development.

But, believe it or not, "...we also possess the seeds of goodness and justice that humankind was given by nature and has fostered over the ages. We have the ability to cultivate self-control and consideration for others and to strive to live together in a humane and harmonious manner with others. The revival of such true humanity—not only between individuals, but also between nations—is an absolute necessity today, for the age has come when one nation's self-centered behavior could lead all humanity to annihilation." —Naomi Shohnno, 1986

Is it true that for some 200 years there has not been a war between truly democratic nations? Is it true that such nations don't even prepare for war with one another?

Hence, is it not understandable, the worrisome situation of nuclear capability in nations without an educated democracy? Is the creation of constitutional democracies the long sought expedient to world peace? Would war be *unlikely* if there existed true educated democratic Iraq, Iran, North Korea,

Pakistan, Palestine, North and South Sudan, Syria, and Rwanda, and indeed, would living conditions in those nations be improved? As mentioned earlier, Herman Goering thought that even true democracies could be covertly coerced into initiating wars. Should we doubt his words *if the people have their choice* rather than their elected representatives making the *war* choice for the people? Can you imagine a majority of the people of the United States *voting* to invade Syria? Iraq? Afghanistan? Iran? North Korea? Vietnam? Surely they are smarter than that! However, Goering said...

2 Background

In the Cold War year of 1981 the U.S. defense budget in total increased to considerably more than US\$300 billion per year. We were led to believe, in 1960, that the U.S. would win such a confrontation even if the world detonated all 23,000 MILLION TONS (3) of “nuclear TNT,” in a WWII thermal and radioactive holocaust. It would have been comparable to the destruction wrought by several thousand WWIIs. What folly! But some people had no fear; the expected “rapture” to heaven would save them. (“We should not mistake for laws of God or nature the cultural values of the world’s most unstable systems.” –Sir Geoffrey Vickers)

No nation’s leader, and probably very few U.S. military officers, have ever witnessed a nuclear explosion above ground. Still, it is easy for many to consider a nuclear bomb to be a useable weapon of war; after all, in 1945 the Allies had actually used two, which many believe ended that war. (See Chapter 6) Sure, they’re usable! Even during the nuclear tests in the South Pacific, congressmen, invited to witness the tests, were located so far away (for their safety) that many came away naively unimpressed. “Like a giant firecracker,” one said. Another, “In the next war I hope we don’t have to throw atomic baseballs...” In Nevada, American G.I.s advanced under the fallout of mushroom clouds to immediately test themselves near radioactive ground zero.

Radiant energy of about 7 calories per square centimeter on the skin will cause 3rd degree burns, total skin scorching and skin death. At the Hiroshima hypocenter it was 100 cal/sq. cm; at Nagasaki it was 229 cal/sq. cm. Hence one can understand the photographs; “thermic bombs” the Japanese called them.

A semi-lethal dose of nuclear radiation (neutrons and gamma rays which can penetrate concrete) is often taken as 450 rads (4.5 Grays). At hypocenters it was about 24,000 rads in Hiroshima and about 29,000 rads in Nagasaki. Thus one should not be surprised that regardless of concrete buildings for shelter, the death rate around the hypocenters for both cities was about 95%. Today’s average nuclear weapon yield is ten times the Hiroshima bomb; one Soviet test warhead, Tsar Bomba, had a yield some 3,000 times greater.

Do American legislators ever confront the question, “Why does the United States have ‘enemies’ in the world?” Why is there hatred of the U.S.? George W. Bush knew, “They hate our freedoms: our freedom of religion, our freedom of speech, our freedom to vote and assemble and disagree with each other.”(4) Thus we get suicide bombers. Such is some naiveté in the U.S. capitol.

Since 9/11/2001 a few United States legislators were asking what went wrong; what was the problem? Regardless, the solution chosen was to increase the annual military spending by well more than US\$100 billion, ostensibly to prepare for war, but no increases to pave a way to peace. It would be fascinating to survey all congressmen: Reasons why you think people hate the United States. Is anything being done to change that attitude? Do legislators understand? Are they capable of learning? Do they have the time? Will they ever try? Why would some Islamic people hate the United States? The U.S. has only been here about 250 years, the world of Islam for about 1400 years.

By 2014, tens of millions have been killed by nonnuclear wars since 1945; and as dysfunctional as the U.S. Congress, the United Nations seems incapable of, or is always too late at, preventing or

ending wars, sometimes even encouraging civil wars of liberation. By 2014 something was terribly wrong with the world! (As I write, the death toll in Syria is near 160,000.) The world *average* production rate of nuclear weapons for 50 years the equivalent of 60 Hiroshima bombs per day every day of the 50 years after 1945. A crazy world. Have any members of Congress read the U.N. Charter? Is time running out?

It became clear to many that nuclear weapons were only a symptom of an all-pervasive malignancy of the spirit of the world and of humankind. Some Japanese have an expression for this period of human history in which we find ourselves; they call it “*the era of nuclear madness.*” It’s still with us in the 21st century.

More than 400,000 war deaths per year since 1945: Shall the chaos of the world continue to its end?



Hiroshima, wounds from glass splinters, Dr. Nobuo Kusano, from his book, *Atomic Bomb Injuries*, Tsukiji Shokan Co., Ltd., Tokyo, 1995

3 New understandings

A discomforting note: 28

February 1998, *New Scientist* magazine,

“Living dangerously -- Standard radiation safety limits used around the world may have to be revised to protect the young and old; by Rob Edwards

“YOUNG children and old people around the world could be exposed to damaging doses of radiation from nuclear plants and other sources because the database that is used to set safe limits is flawed. A new analysis by a leading British epidemiologist suggests that the young and old are more sensitive to radiation damage than was previously thought.

“The international system of radiation safety limits is mostly based on epidemiological studies of 76,000 people from Hiroshima and Nagasaki who were still alive five years after their cities were obliterated by American atom bombs in 1945. The rates at which they have contracted cancers compared with people from other Japanese cities are used by regulatory agencies to estimate the risks of exposing people to radiation from nuclear plants, bomb tests and fallout from accidents such as that at Chernobyl in 1986 [and Fukushima in 2011 —R.W.].

“But Alice Stewart, famous for her work in the 1950s revealing the dangers of X-raying pregnant women, argues that the atom bomb survivors are not a normal, homogeneous population. She says her analysis shows that children and old people are more vulnerable to radiation, and that a *high proportion* of them died between 1945 and 1950 before studies of the Hiroshima and Nagasaki residents began. The young and old are therefore under-represented among the survivors. “The atom bomb data are no good as a basis for radiation safety regulations,” she says.”

[Aged 96, Alice Stewart (b.1906 - d. 2002) was an honorary professor at the University of Birmingham School of Medicine. *The Woman Who Knew Too Much: Alice Stewart and the Secrets of Radiation*, by Gayle Greene, “...have your children, especially your daughters, read this book.”] (5)

Although our eyes are open and some adults worry about nuclear attacks, a blind side blow may be in our future. There is clear evidence, the rules of biological growth mandate it, that young people are more susceptible to the harmful effects of radiation. And now we know that there is no completely safe exposure to low-levels of radiation. In the recent National Academy of Science, National Research

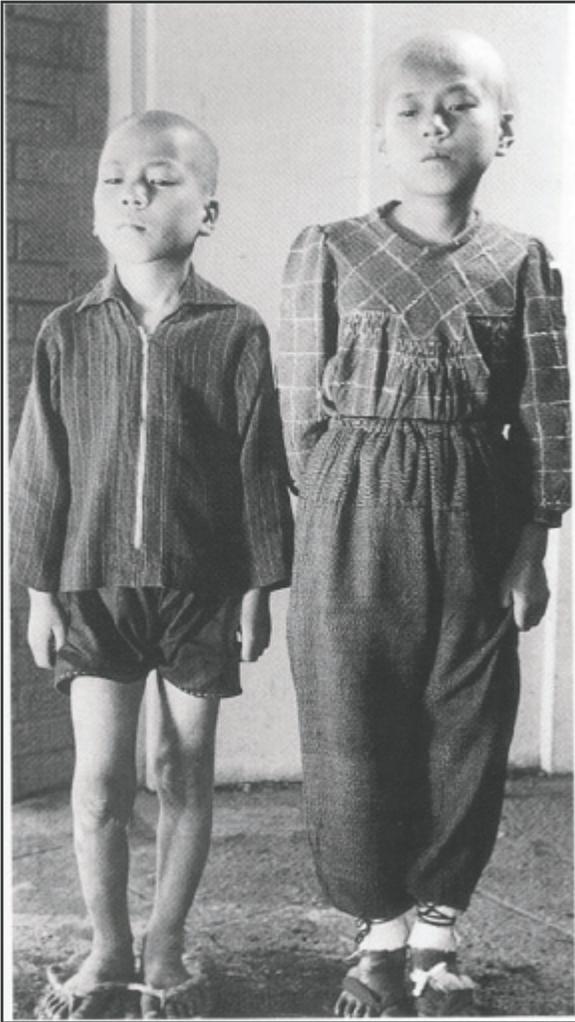
Council report, “The committee concludes that current scientific evidence is consistent with the hypothesis that there is a linear, *no-threshold dose-response* relationship between exposure to ionizing radiation and the development of cancer in humans.”(6) This is also an era when nuclear power reactors, such as at Fukushima need be kept in mind.



The streets around the hypocenter in Hiroshima and Nagasaki must have looked like this after the bombing, but this is neither city. Any such photographs taken there were regrettably and perhaps foolishly destroyed. This is the Asakusa area of Tokyo after the incendiary air raid of March 10, 1945. Do you think identification of any of the 90,000 was possible? Photographer deceased and unknown. Courtesy Kusanone Publishing Co., Tokyo (7)

Regardless of elected politician’s mistaken beliefs, nuclear radiation, except natural background radiation, is not something to be exposed to or to mess around with. It is extremely subtle; you would never know you had too much until it was too late. Just ask a member of the National Association of Atomic Veterans. Why do dentists shield themselves and parts of you when you get x-rays?

In any size real nuclear conflagration how many of your children, grandchildren, and their children, how many will end up with shortened lives, perhaps the beginning of the end looking something like these young people (next page) whose lives were or will be cut short, as have others. If leukemia doesn’t do it, it is likely that other cancers will. The fate of many children was sealed while still in their mother’s womb, and many died at a very early age. I, along with Dr. Alice Stewart, am concerned that with the increased levels of radioactivity in the environment, especially since the beginning of the nuclear age with all its careless nuclear tests, intentional reactor releases and reactor accidents, that the gene pool of current and subsequent generations will become hopelessly contaminated. We will not know until it is too late. Then will every set of breeders be required to pass DNA egg and sperm screening for mutated genes?



Toru and Aiko Ikemoto of Hiroshima, ages 7 and 9 when bombed, students of Kanzaki Elementary School. Hair loss and shortened lives from A-bomb radiation. He died at age 11, she at age 29.

Photo, Oct. 6, 1945, by Shunkichi Kikuchi, used with permission. *Barefoot Gen* author Keiji Nakazawa also attended Kanzaki School.



Renata Izmailva, at age 16, a high school student, and victim of USSR nuclear bomb testing, Semipalatinsk, Kazakhstan. Bright and smart, she is trying to work as a psychologist. Photo by Yuri Kuidin. Permission from Alyona Kuidina.



Berik Syzdykov, from Znamenka, victim of USSR nuclear bomb testing, Semipalatinsk, Kazakhstan. Photo by Yuri Kuidin. Permission from Alyona Kuidina.



The lumps on the head of this young boy with leukemia indicate that the disease has gone to his brain. His parents can do nothing but despair.



After the last Gulf War, this seventeen-year-old boy developed an odd disorder that caused his eye to swell with blood seeping abnormally from his head. "I want to shout, 'Save me,' to the world," he said.

Two young people from the Middle East wars, one with leukemia, the other with unspecified tumors, something you usually don't see after conventional warfare. Is this caused by depleted uranium weapons? Permission granted by Haruko Moritaki. From the publication, *Hiroshima Appeal for Banning DU Weapons*, available from, NO DU Hiroshima Project,

http://en.icbuw-hiroshima.org/?page_id=2



This child of Rongelap, near Bikini, has no control of its body, its head or eyes. Fallout from a Bikini test is the likely cause. Not before nuclear testing had they seen such disabilities.

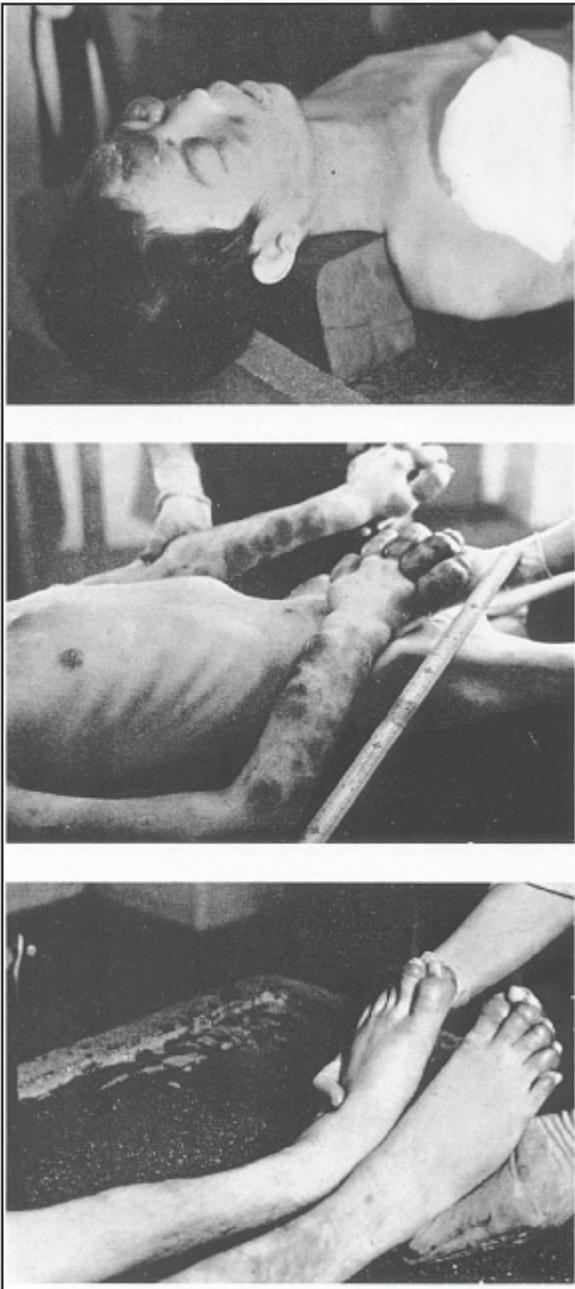
Photo-permission, Dennis O'Rourke, from his remarkable film, "Half Life."



Schoolgirl with burns, Red Cross Hospital, Hiroshima, Aug. 9, 1945. She stopped breathing shortly after the photo.
By permission of Asahi Shimbun Photo Archives. Photo by Hajime Miyatake

I am struck by the analogy between our early mistakes and failures in radiological health physics and our mistakes and failures in attempting to bring freedom and true democracy to other nations.

—Over the past single century many errors and mistakes were made in the new nuclear military-industrial complexes, some of them quite unethical. Part of that history is told by Karl Morgan in his book, *The Angry Genie*, (8) and by Dr. Alice Stewart in her biography by Gayle Greene, *The Woman Who Knew Too Much: Alice Stewart and the Secrets of Radiation*. Morgan was director of health physics at the Oak Ridge National Laboratory from the late 1940s until his retirement in 1972. Stewart established the connection between x-rays of pregnant women and childhood cancers in her Oxford Childhood Cancer Survey. Nuclear nations did not reveal the data and truth about radiation effects on the victims of Hiroshima and Nagasaki and upon downwinders in the U.S., U.S.S.R., and other areas where the nuclear/weapons industry was testing us.



This soldier was not present at the bomb's explosion but worked in the rescue effort afterwards. He died five years later of leukemia.- Prof. Watanabe, Hiroshima University, from Dr. Nobuo Kusano's book, *Atomic Bomb Injuries*, Tsukiji Shokan Co., Ltd., 1995

possibility and it would be a disastrous affair even for those who thought they were to be raised to the heavens to meet their maker, their God. My cynicism suggests that maybe *there* with guidance the conflicts will be resolved; too late for everyone else.

—Over the past twenty centuries and more, errors and mistakes were made, many quite unethical, in attempts to force people to change their thinking and to force and/or subtly coerce nations to change their way of life, change their social systems, to suit others. Many died from politicians', industrialists', ideologues', and militarists', gross failures to comprehend the manner by which peaceful change can be achieved, if indeed it was peaceful change that was sought. You can eliminate many opponents to your will by killing them. We've had centuries of such methods, and other methods wrought upon unsuspecting victims of exploitation. One would have thought that centuries of bad examples and lessons would have been sufficient. **What was the operational cause of these millions of deaths—the cause that continues today?**

"The West won the world not by the superiority of its ideas or values or religion, but rather by its superiority in applying organized violence. Westerners often forget this fact, non-Westerners never do." —Samuel P. Huntington

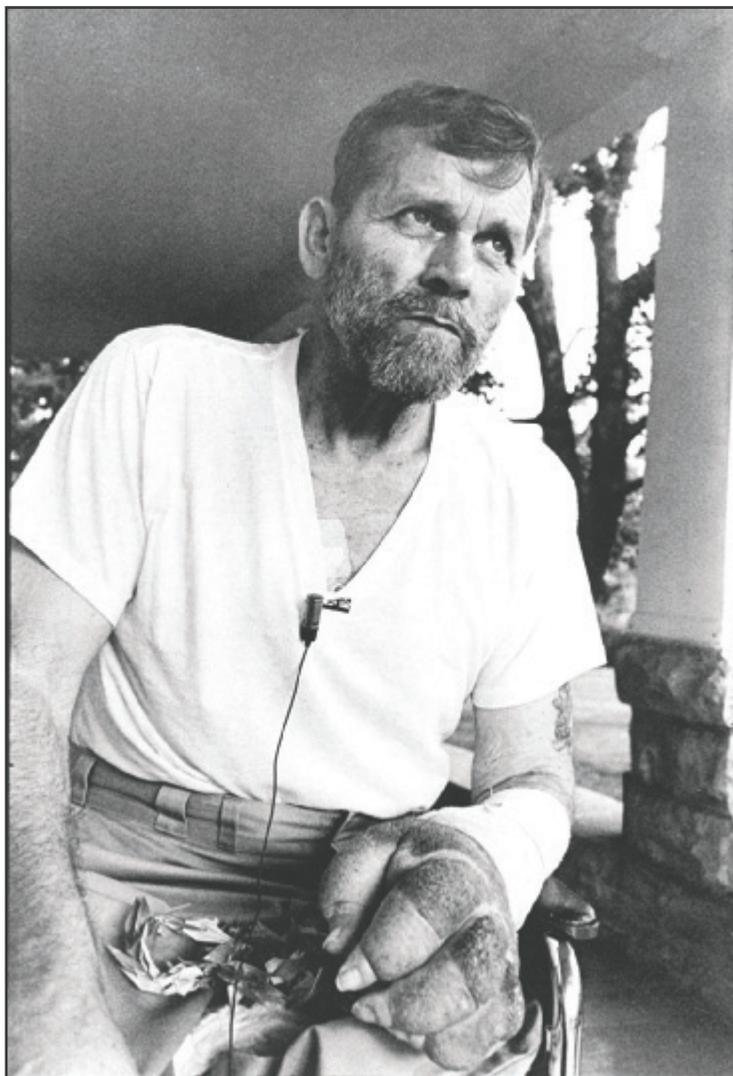
"...most of the major states of history owed their existence to conquest. The conquering peoples established themselves, legally and economically, as the privileged class of the conquered country. They seized for themselves a monopoly of the land ownership and appointed a priesthood from among their own ranks. The priests, in control of education, made the class division of society into a permanent institution and created a system of values by which the people were thenceforth, to a large extent unconsciously, guided in their social behavior."

—Albert Einstein, "Why Socialism?", *Monthly Review* (May 1949)

It is hoped that everyone can see the dangers inherent in the present policies of many nations and terror groups. Nuclear annihilation of the planet is a

But there are other ways to resolve the conflicts presently confronting us. Do national leaders truly want peace in the world? Or are there other agendas? Believe it or not, J. Robert Oppenheimer, the “father” of the atomic bomb, thought he knew how wars could be avoided! His government security clearance was taken away; he was, apparently, too much of a bottleneck for the nuclear weapons industry.

There is presented in the following Chapter 5 an alternative to war, an alternative for achieving a world at peace. It is not simplistic, but workable and moral. It does not rely on a change of heart among citizens and rulers, nor does it rely on federations or leagues of nations, nor on an international system for balanced power.



John Smitherman was exposed to nuclear bomb radiation during the Bikini “Able” and “Baker” tests in 1946. Decades later “radiation sickness” has taken both his legs. On September 11, 1983, he died of cancer of the colon, liver, stomach, lung and spleen. Thousands of others present near U.S., Soviet, and other nuclear tests, were also affected.

Photo by Robert Del Tredici, from his excellent book, “At Work In the Fields of the Bomb,” with permission.

“Throughout the 1950s the military detonated A-bombs above-ground at the Nevada Test Site, showering downwind civilian populations with radioactivity. (9,10) At the Hanford Reservation in Washington state, technicians intentionally released huge clouds of radioactivity to see what would happen to the human populations thus exposed. In one Hanford experiment 500,000 Curies of radioactive iodine were released; iodine collects in the human thyroid gland. The victims of this experiment, mostly Native Americans, were not told about it for 45 years (Ref. 8, pg.96). American sailors on ships and soldiers on the ground were exposed to large doses of radioactivity just to see what

would happen to them. The military brass insisted that being showered with radiation is harmless. In his autobiography, Karl Z. Morgan, who served as radiation safety director at the Oak Ridge National Laboratory (Clinton, Tennessee) from 1944 to 1971, recalls that, "The Veterans Administration seems always on the defensive to make sure the victims are not compensated." (Ref. 8, pg.101) Morgan recounts the story of John D. Smitherman, a Navy man who received large doses of radiation during A-bomb experiments on Bikini Atoll in 1946. Morgan writes, "The Veterans Administration denied any connection to radiation exposure until 1988, when it had awarded his widow benefits. By the time of his death, Smitherman's body was almost consumed by cancers of the lung, bronchial lymph nodes, diaphragm, spleen, pancreas, intestines, stomach, liver, and adrenal glands. In 1989, a year after it had awarded the benefits, the VA revoked them from Smitherman's widow." (Ref. 8, pg.101)"

See, <http://www.rense.com/politics6/cancer.htm>

For more about John Smitherman consult, <http://www.dd-692.com/atomic.htm>

After 1977 a team of congressional investigators concluded, "The greatest irony of our atmospheric nuclear testing program is that the only victims of United States nuclear arms since World War II have been our own people." (Ref. 8, pg. 102)

And it continued.

May 5, 2003 – PENTAGON – U.S. Army Colonel – Depleted Uranium

Journalist: "What about the health risks that are associated with D.U.? Or do you deny there are any?"

U.S. Army Colonel: "You are determined to get me to make a statement about the health risks aren't you?"

Journalist: "If you will, I want to see what the behind the scenes view of D.U. is in the Pentagon."

U.S. Army Colonel: "Well.....(long pause, followed by **heavy profanity**).... Okay, I'll give you some dirt if that's what you're looking for. **The Pentagon knows there are huge health risks associated with D.U.** They know from years of monitoring our own test ranges and manufacturing facilities. There were parts of Iraq designated as high contamination areas before we ever placed any troops on the ground. The areas around Basra, Jalibah, Talil, most of the southern desert, and various other hot spots were all identified as contaminated before the war. Some of the areas in the southern desert region along the Kuwaiti border are especially radioactive on scans and tests. One of our test ranges in Saudi Arabia shows over 1000 times the normal background level for radiation. We have test ranges in the U.S. that are extremely contaminated, hell they have been since the 80's and nothing is ever said publicly. **Don't ask don't tell is not only applied to gays, it is applied to this matter heavily. I know that at one time the theory was developed that any soldier exposed to D.U. shells should have to wear full MOP gear (the chemical protective suit). But they realized that it just wouldn't be practical and it was never openly discussed again.**"

Journalist: "So the stories that they know D.U. is harmful are true?"

U.S. Army Colonel: "Yes, there is no doubt that most high level commanders who were around during the 80's know about it."

Interview by Jay Shaft, Editor *Coalition for Free Thought in Media*, "U.S. Colonel Admits That 500 Tons of D.U. Were Just Used in Iraq". http://www.grassrootspeace.org/moret_25nov03.pdf

In this era of nuclear madness nuclear nations have polluted parts of the world, if not *all parts* of the world. Responsibilities lie with the nine (2014) nuclear weapons nations: the US, UK, France, undoubtedly, Israel, Pakistan, India, China, North Korea, and Russia. We quote from Wikipedia the worst example (as if Russia did not have enough problems on their hands):

In the south Ural Mountains of Russia, created for their nuclear weapons industry, “Lake Karachay [sometimes spelled Karachai] **is the most polluted spot on Earth**. The lake accumulated some 4.44 exabecquerels (EBq) [4.44×10^{18} Bq] of radioactivity over less than 1 square mile of water, including 3.6 EBq of caesium-137 and 0.74 EBq of strontium-90. For comparison, the Chernobyl disaster released from 5 to 12 EBq of radioactivity over thousands of square miles. The sediment of the lake bed is estimated to be composed almost entirely of high level radioactive waste deposits to a depth of roughly 11 feet.

The radiation level in the region near where radioactive effluent is discharged into the lake was 600 röntgens per hour (approximately 6 Sv/h) in 1990, according to the Washington, D.C.-based Natural Resources Defense Council, sufficient to give a lethal dose to a human within an hour....

...Starting in the 1960s, the lake began to dry out; its area dropped from 0.5 km² in 1951 to 0.15 km² by the end of 1993. In 1968, following a drought in the region, the wind carried 185 PBq [185×10^{15} Bq] (5 MCi) [5×10^6 Ci] of radioactive dust away from the dried area of the lake, irradiating half a million people....

Between 1978 and 1986 the lake was filled with almost 10,000 hollow concrete blocks to prevent sediments from shifting.” —From Wikipedia, “Lake Karachay”

“The national security state that the United States has evolved toward since 1945 is significantly a denial of the American democratic vision: suspicious of diversity, secret, martial, exclusive, monolithic, paranoid.... Other nations have moderated their belligerence and tempered their ambitions without losing their souls. Sweden was once the scourge of Europe. It gave way.... Now it abides honorably and peaceful among the nations.”

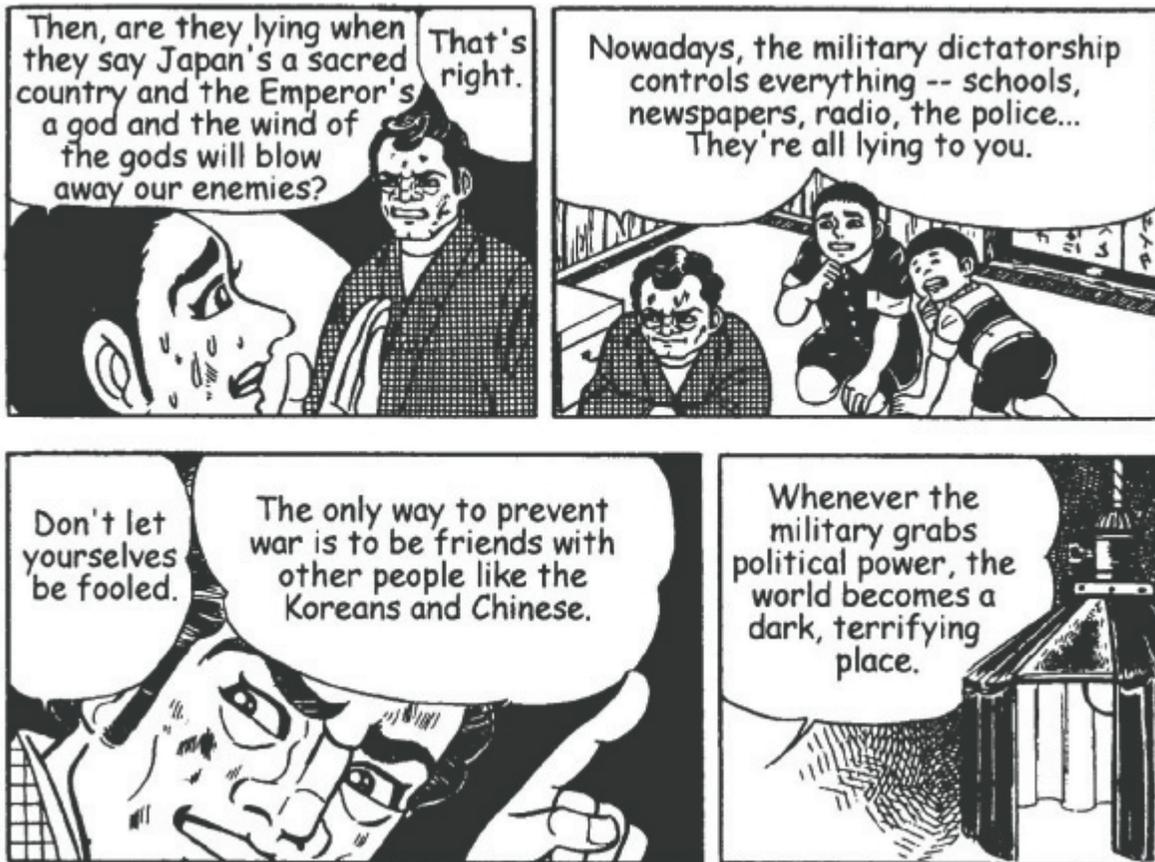
—Richard Rhodes, as quoted by Howard Zinn in Zinn's *The Bomb*, p. 63.

“In view of these evident facts there is, in my opinion, only one way out. It is necessary that conditions be established that guarantee the individual state the right to solve its conflicts with other states on a legal basis and under international jurisdiction. It is necessary that the individual state be prevented from making war by a supranational organization supported by a military power that is exclusively under its control. Only when these two conditions have been fully met can we have some assurance that we shall not vanish into the atmosphere, dissolved into atoms, one of these days.”

—Albert Einstein, *The Way Out*

“I hate war as only a soldier who has lived it can, only as one who has seen its brutality, its futility, its stupidity.” —Dwight D. Eisenhower, January 10, 1946. Address before the Canadian Club, Ottawa, Canada. Published in *Eisenhower Speaks: Dwight D. Eisenhower in His Messages and Speeches* (1948) edited by Rudolph L. Treuenfels.

http://www.eisenhower.archives.gov/all_about_ike/quotes.html



“Barefoot Gen” and his brother, Shinji, learning from their father, in Hiroshima, mid-1945. Permission from Keiji Nakazawa, author of the *Barefoot Gen* books and movie. See in this book, Chapters 7 & 8.

Regarding the photographs, please keep in mind that to a greater or lesser degree well more than 210,000 people fell victim to the two small and primitive nuclear bombs of Hiroshima and Nagasaki. Almost all were civilians, many women and children. Shall the world allow this to happen again, on a scale more grand with megaton weapons?

Notes

1. <http://japanfocus.org/-Greg-Mitchell/3581>

2. http://www.democracynow.org/2005/8/5/film_suppressed_the_us_government_hides

Earlier parts of the video are also informative.

3. Ruth Leger Sivard, *WORLD MILITARY AND SOCIAL EXPENDITURES*, 1996, 16th Edition, p.20, World Priorities, Washington, D.C., 1996. ISBN 0-918281-09-1. (Actually the world's maximum nuclear arsenal - in terms of total megatonnage - was reached in 1960 when it peaked at about 23,000 megatons or so. The DOE report RDD-6, "RESTRICTED DATA DECLASSIFICATION DECISIONS 1946 TO THE PRESENT" lists the 1960 U.S. arsenal at 20,491.17 Megatons. Add to that an estimate of Soviet and other nation's megatonnage to get to about 23,000.)

4. http://www.washingtonpost.com/wp-srv/nation/specials/attacked/transcripts/bushaddress_092001.html

5. Gayle Greene, *THE WOMAN WHO KNEW TOO MUCH: Alice Stewart and the Secrets of Radiation*, Univ. of Michigan Press, 1999. "Fueled by the wrath of radiologists, her work has been viciously derided among the medical establishment for more than two decades." "...have your children, especially your daughters, read this book."

6. Committee to Assess Health Risks from Exposure to Low Levels of Ionizing Radiation, National Research Council of the National Academy of Science, *Health Risks from Exposure to Low Levels of Ionizing Radiation, BEIR VII PHASE 2*, The National Academies Press, Washington, D.C. 2006, p.15. ISBN 0-309-09156-X.

http://www.dep.state.pa.us/brp/radon_division/BEIR%20VII%20Preliminary%20Report.pdf

7. Tokyo-Asakusa, in *Haha to Ko de Miru Tokyo Daikuushuu*, publ. by Kusanone Publishing Co., Tokyo, (1983 & 1986) ISBN 4-7945-0043-2.

8. Karl Z. Morgan and Ken M. Peterson, *THE ANGRY GENIE: One Man's Walk through the Nuclear Age*, Univ. of Oklahoma Press, Norman, OK, 1999. ISBN 0-8061-3122-5

9. <http://www.rense.com/politics6/cancer.htm>

10. Michael D'Antonio, *ATOMIC HARVEST*, Crown Publishers, New York, 1993. ISBN 0-517-58981-8. And: Chip Ward, *Canaries on the Rim: Living Downwind in the West* (New York: Verso, 1999). ISBN 1859847501.

Chapter 5

A Workable Moral Strategy for Achieving and Preserving World Peace: A Strategy That Can Create Over 500,000 American Jobs

Bright Ideas and Ideals

A Workable Moral Strategy for World Peace:
A Pro-Active Plan Creating Over 500,000 American Jobs

Action Examples

Boulders in the Road

Boulder 1: The nations of Palestine and Israel

Boulder 2: National Tendencies toward Imperialism

Boulder 3. Extraterritorial Claims

Boulder 4: International Financial Corruption

Additional Requirements for the Workable Moral Strategy

An Objection

Summary

How Do Enemies Become Friends?

Changes in Our “Developed” World

A World of Opportunities

Justification: A Moral World View
The Purposes of the United Nations are:

World Peace is Possible Now

References

"I call upon the scientific community in our country, those who gave us nuclear weapons, to turn their great talents now to the cause of mankind and world peace, to give us the means of rendering these nuclear weapons impotent and obsolete."

—President Ronald Reagan, March 23, 1983,
Address to the Nation on Defense and National Security

He was thinking “Star Wars.” The following response
is not what he was expecting.

Is it advisable for a physicist who is not an expert on politics and foreign policy issues to express views on the subject of world peace in this era of nuclear madness? I believe for a number of reasons that it is, especially for this American physicist who has for more than 53 years researched all aspects of nuclear war and its implications for humanity, who has learned more about the world’s first nuclear war than any congressman or parliamentarian, and who has explored and found ways to avoid further wars.

Why am *I* writing this chapter rather than an American statesman? It seems rather odd that this statement originates in the town of Normal, Illinois rather than Washington, D.C. or Moscow or Beijing.

What is sorely needed is a workable strategy for achieving a world at peace. The U.S., the most militarily powerful nation, involves itself in most wars in the world, with military budgets of hundreds of billions of dollars, and yet world peace eludes us. With a United States military or covert presence in over 140 world nations it is easy to export war. But it is contrary to all peoples of all nations’ desires to import peace.

Mark Twain noted, “Sometimes I wonder whether the world is being run by smart people who are putting us on or by imbeciles who really mean it.” That’s what Mark said.

Bright Ideas and Ideals

We will propose here a *workable moral strategy* that would solve many problems the world faces, including the war problem. It is a comprehensive *alternative* approach to the most pressing domestic and foreign priorities of the world's nations. It is an *alternative* that creates advantages for the working people of the world and at the same time provides advantages to the social, industrial, financial, and defense complexes of world nations, and it does so without “damaging” such complexes. This workable strategy *provides a remedy to unemployment throughout the world*; as will be shown, it will put back to work the original creators of the world’s wealth, initially well more than a million of them, half in the United States, for starters. It will reestablish worldwide markets for peacetime products of

American manufacture. *It will provide for creativity and peaceful advantageous productivity in all nations.*

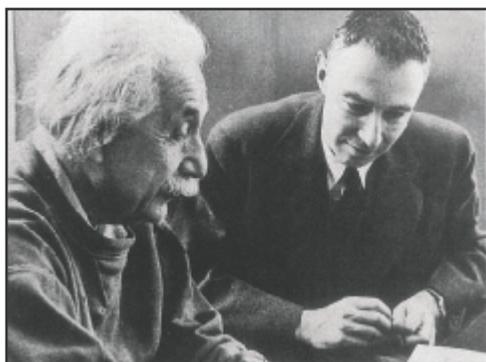
As far as I can see, this moral strategy is probably the only approach, for decades or centuries to come, by which people of the Less Developed world, in peace, without war, can become their own masters, can create the sensible path to their own destinies, as so many other nations have, and live to enjoy some of it. This workable moral strategy exports no United State's or other nation's money; it fosters the expressed desires of all people and nations seeking peace, opportunity, and a better life. Some might think of this moral strategy as coercive, but it has been referred to as "brilliant." Well, certainly; the ideas to be presented were advocated by J. Robert Oppenheimer (1), Philip Morrison & Kostas Tsipis (2), Albert Einstein (3), and James C. Warf (4), some very bright fellows. What will be described and recommended is a *workable moral strategy* that Barack Obama might refer to as the "incentivization" of world peace. Some might call it idealistic.

The "father" of the USSR's hydrogen bombs, Andrei Sakharov (5), commented on idealism, "There is a need to create ideals even when you can't see any route by which to achieve them, because if there are no ideals then there can be no hope and then one would be completely in the dark, in a hopeless blind alley." This document will provide a "route" out of our blind alley.



Andrei Sakharov

J. Robert Oppenheimer, "father" of the United State's atomic bombs, in 1946 went a bit further perhaps taking us to the beginning of the route, "... wars might be avoided by: universal disarmament; limited national sovereignties; provision for all



**Albert Einstein and
J. Robert Oppenheimer**

people of the world: of a rising standard of living, better education, more contact with and better understanding of others; and equal access to the technical and raw materials which are needed for improving life..."(1)

How might this be brought about? In 1946 we were distracted by Josef Stalin's impositions outside the USSR; and we were busy with our own impositions outside the U.S. I doubt that even Oppenheimer could have come to terms with Stalin. And, of course, there were other influential western-world interests that did not agree with Oppie and eventually led to his social/political assassination; disarmament would have implied an end to much of the military-industrial-nuclear complex. Limited sovereignties would have hindered desired

hegemonies sought by the multi-national corporations of industrial nations.

Even so, some pretty smart people had been considering directions to lead us out of our "blind alley." But where were the agencies that should have protected us from the effective silencing of both Oppenheimer and Sakharov? If you think about it long enough, keep your eyes open to what goes on *throughout* the world, pay attention to much that has failed and why; you also may find routes by which ideals can be achieved.

The above quotation from Oppenheimer implies that in 1946 he thought that the United States wanted to avoid wars. The New World Economic Order, espoused by U.S. administrations for the past several decades suggests that different goals are sought. Consider the following even older note from Norman Dobbs: "We are now at the year 1908, which was the year that the Carnegie Foundation began operations. And, in that year, the trustees meeting, for the first time, raised a specific question, which

they discussed throughout the balance of the year, in a very *learned* fashion. And the question is this: Is there any means known more effective than war, assuming you wish to alter the life of an entire people? And *they conclude* that, no more effective means to that end is known to humanity, than war. So then, in 1909, they raise the second question, and discuss it, namely, how do we involve the United States in a war?" —Norman Dobbs, U.S. Congressional Special Committee for the Investigation of Tax-Exempt Foundations (1982).

But was their "learned conclusion" correct in the first place? It seems not clear whose life is intended to be altered, those waging the war or those suffering it. Sounds like a stupid question to me. I thought that in 1908 the United States was basically a Christian nation. Were the Carnegie Foundation trustees motivated by Christian principles? Bright ideas and ideals?

Some readers may think I will come down hard on corporatocracy and in the year 2014 certain corrections seem imperative. But what shall be proposed: will put "everyone" back to work; bring peace and stability; end war-sacrificed lives; and ensure corporate profits, growth, and cooperation. I will challenge the concept that, "*The business of America is business.*" When you hear such phrases often enough you begin to think they are true.

A Workable Moral Strategy for World Peace: A Pro-Active Plan Creating Over 500,000 American Jobs

Hiroshima physicist Naomi Shohno was of the opinion that it is the responsibility of the United States *to lead the world in the direction of peace*. It seemed to him that no other nation will; it seemed to him that no other nation could. Who would even try? Russia? United Kingdom? China? Japan? Does the United States want to lead the world in the direction of peace? Shohno did not mean for the US to militarily react against every nation that gives us the "evil eye".

All agents and institutions that promote wars—wars such as those in Iraq, Vietnam, Korea, Afghanistan—promote wars as viable solutions to problems. Those agents and institutions provide the hindrances to achieving the ideals which could lead us out of the darkness, out of the "blind alley." There are alternatives to war-killing.

The world initiatives for action are at present controlled and activated: by fear, by war mongers, and by real threats from those angry with United State's and other nations' world policies and people. *Via the workable moral strategy now to be described* such control will be taken away from them and replaced by initiatives directed toward peace for all those developing nations which are ready for peace, ready for the promised advances of the 21st century. The forces *in favor of war* have caused the United States to spend over a trillion dollars in one year, paying for military forces, the CIA, contracted mercenary forces, Homeland Security, Department of (nuclear) Energy, and undoubtedly much more. Those of the military-industrial-congressional-complex advocate the application of military force as solutions to world problems; they also keep us worried enough so that we will dispose of our wealth by putting more money into arms, superdrones, spy-satellites, nuclear weapon revisions, and boots on the ground, *rather* than using our wealth to eliminate the real threats *without* preemptive murderous wars and destructive attacks.

Bear with me now; for understanding the following requires thoughtful consideration.

Consider what could happen if the United States attempted to lead the world in the direction of peace:

The United States announces a strategy, that starting one year from now the United States will revise the manner by which it provides aid to all other nations and particularly those of the Less Developed world; provides aid using American taxpayers' wealth. It will no longer be *direct aid*. All other Developed nations are encouraged to similarly participate so that they can also obtain the benefits which will accrue to them just as benefits will accrue to the United States.

Henceforth, rather than direct aid, the United States will provide the United Nations with "credit chits" (promissory notes) for Less Developed nations in amount \$165 billion per year. The other Developed nations of the world are invited to contribute *in total* an additional \$165 billion or more in "credit chits" to the United Nations; more if they wish. No actual money will leave any nation. As will be shown, *the credit chits originating in the U.S. will only be redeemable for cash at the United States Treasury by American businesses and industries*. This strategy is proposed regardless of cooperation from other Developed nations, but with cooperation it means \$330 billion or more per year to the Less Developed world, very roughly 10 times what is now provided by the U.S. alone, a great deal of which we know is wasted, corrupted, or spent on tools of war.

Affordable? On April 10, 2009 the small nation of Japan, not at war with anyone, announced a \$150 billion government stimulus package. I hope they spent it wisely. In 2009 Japan thought it could afford to do this. I can hear a conservative United States Congress shouting that we cannot afford to do something like that. *But money, or resources, are always found for wars*. We can be smart enough to find them for a peace which eliminates war and the costs of war. This strategy being proposed, as will be explained, will have a stimulus unlike others with which the United States has experimented.

We will show that this workable strategy will lead to more than 500,000 U.S. peacetime manufacturing jobs in the first year, and more than 500,000 other jobs throughout the world.

The United Nations makes the "credit chits" available to *peaceful democratic* nations of the Less Developed world and to those nations which are verifiably peacefully evolving toward *equitable nondiscriminatory constitutional democracy*, to help them along the way. Democratization is essential; can you imagine *the people* of any truly democratic nation voting in favor of initiating a war, when it is obvious that there are alternative peaceful approaches to solving critical international problems?

The chits are made available to Less Developed nations on the basis of solicited application of: development proposals from them, verifiable need, and guarantees against misuse or corruption.

These chits to be issued by the United Nations may be utilized *only* for social and economic development, six specific self-sufficiency goals: 1) food and fresh water production, 2) satisfactory housing and its basic amenities, 3) health care, 4) wealth creation from natural and human resources, 5) civilian security, and 6) education and training at all levels to support items 1-5. *All chits must be used for peacetime goods and services*. None of these credit chits can be used to pay off loans or obligations these nations may have from other nations or institutions such as the International Monetary Fund or the World Bank. Nor may these chits be used by the United Nations to service this program.

The United Nations will not grant chits to nations where war exists or is likely or where *violations of rights*: gender, religious, human, or ethnic, are active or not being remediated. Repressive and military governments and martial law governments will not qualify for participation in this program, nor will any nation, chit donor or receiver, regardless of its power and influence, which is not fully and actively transparently participating and cooperating in the worldwide elimination of: armaments of war, nuclear weapons, terrorism, and the illicit drug trade. Chits will only go to democracies or nations verifiably evolving toward constitutional democracy. It is likely that true democracies do not even prepare for war *with one another*. Hence, the UN will be closely examining the

relationships between democratic neighboring nations that wish to receive credit chits via this program.

The above is the essential specification to this workable moral strategy for achieving and preserving world peace.

The solicited development proposals submitted to the United Nations by Less Developed nations will be carefully evaluated, in terms of the proposed societal, cultural, economic, and environmental impact, and protection against abuse and corruption. Is the nation verifiably moving toward true but self-defined and *equitable nondiscriminatory constitutional democracy*? Will minority rights, ethnic, religious, etc., and gender rights be protected? If not, remedies and accommodations will need to be sought. In democracies seeking peace and advancement what will the people choose? Unacceptable proposals shall be returned for revision until they are in line with this UN sanctioned strategy. The UN will aid revisions.

When a proposal is accepted and to be funded, the United Nations awards the fund amount in “Developed World credit chits” for peacetime goods and services. *The chits must make their way back to their origin nation within two years of issue, and may pass through or transfer among several nations; all must be on the approved list of democratic nations which abide by the United Nations Charter and all Covenants and are participants in this program.*

Less Developed nations *receiving* credit chits can expect constant on-site verification and audit by United Nations inspectors, comptrollers, and visitors. The Less Developed nations can also expect international news reporting the progress of their projects, and their failures or lack of progress.

Preference in the allocation of development credit chits will be given to those nations: 1) which are able to demonstrate a continuing reduction or lack of “war armament”, 2) which are part of a multination cooperative regional development with other participants in this strategic program; and preference will be given to 3) nations which have instituted United Nations recommended and appropriate educational programs designed to lead their nations *peacefully* through the 21st Century. United Nations educational programs will teach ways to peace, not to conflict and war.

The chits are exchanged for the approved peacetime goods and services from the Developed nations’ suppliers, the chits eventually making their way back into the Developed nation of origin; *this must happen within two years.* When the chits arrive back in the origin Developed nation they do not go to the national treasury. They go to the origin nation’s makers and suppliers of the peacetime goods and services. Upon verified delivery of those goods and services and verification of their proper installation and successful operation, the chits may then be cashed in by the goods and services creators and suppliers at the origin nation’s treasury, thus **enhancing wealth, productivity, and employment in the nation of chit origin.** In a year’s time \$165 billion or more will flow from the U.S. Treasury into the U.S. economy as wages and salaries and production costs. The U.S. creators and suppliers pay their workers and they replenish their supplies, from U.S. sources whenever possible. In the U.S. workers pay their income tax and Medicare and Social Security tax, and make payments on their home mortgages. Everyone works, everyone benefits as was meant to be in the US. It can be seen also that it would be more than foolish for a creator and supplier nation to supply goods created outside their nation. **Thus, chits can be converted to money only in the chit origin nation, the money going to the workers and their industries.** It would make sense that wherever possible the chits should be put to work in donor nation geographic regions where there is greatest unemployment, e.g., Puerto Rico, Rhode Island, Nevada, Michigan, Illinois, D.C., California, , etc..

Thus, each participating Developed nation annually deposits “credit chits” with the United Nations; the money actually remains in the Developed nation’s treasury, until payout is due to the Developed nation’s own industries and workers. **There will be great advantages to all nations who make chit deposits into this program, and considerable disadvantages to those who can, but do**

not. The more chits deposited, the greater economic value accrues to the depositor nation. It should be obvious.

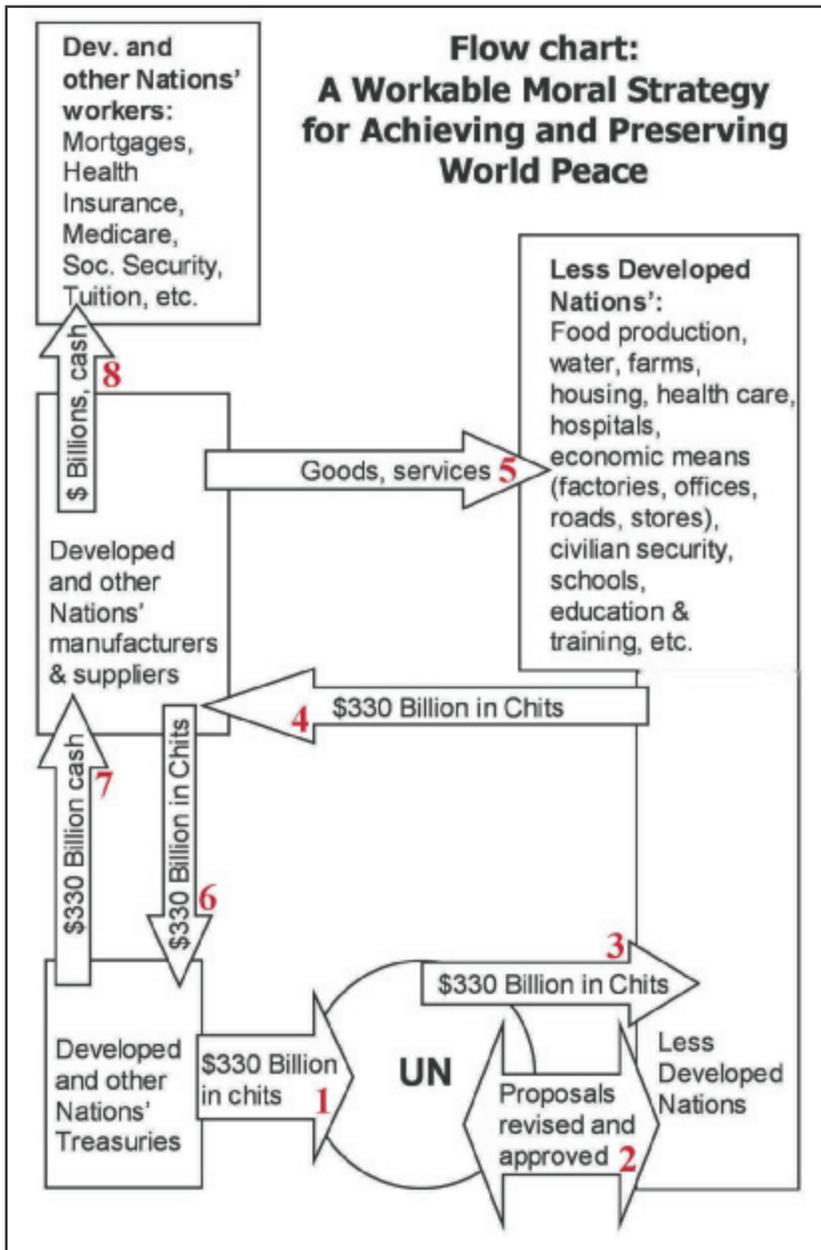
Also, since each Less Developed nation will be creating new productive businesses and industries, they too can become suppliers of goods outside their nation. However, their main goal is satisfying the needs of their own people, and that may well include establishing external trade relationships.

Each Less Developed nation, recipients in this program, will keep an appropriate size national militia trained for natural and other disaster service and for maintaining civil order in times of need, but not for the burden of war. With the war burden gone in the Less Developed world, their former expensive and burdensome military costs will now provide peacetime labor costs within these Less Developed nations. Factories, offices, homes, schools, hospitals, roads, farms, shopping centers, etc.,

must be built and staffed. Great changes could be obtainable in two years rather than twenty, and in twenty years rather than 200.

With this moral strategy there will likely be deposited with the United Nations some US\$330 billion or more in credit chits. If Less Developed Nation A does not take advantage of the chits, Less Developed Nation B will, and Nation A will watch, from the sidelines.

The only way life can improve in the Less Developed world is for those nations to increase their own productivity of their lives' necessities; they need to create their own wealth, their own future as India, Sierra Leone, and China are doing in this century – the old fashioned way. Each Less Developed nation should insist on themselves creating “added value” to their natural resources (with due consideration to the societal and environmental impact) by processing such resources at home, rather than simply shipping only raw and crude materials abroad: phosphates, copper, chromium, aluminum, rare earths, diamonds, uranium, oil, minerals, etc. By this means greater wealth is created in each Less Developed nation, and will allow them much greater freedom and economic



power, e.g., for additional imports from Developed nations, like the U.S., Japan, China, India, Germany, Russia, etc. And the Less Developed nations must plan ahead for when their natural resources are depleting.

Can leaders of democratic nations of the Less Developed world work together to make the 21st century *their* century? Would they pass up an opportunity like this? They should consider the especially appropriate example of Japan in the period 1945 to about 1970, a mountainous nation, poor in natural resources, socially and physically destroyed by war but in many ways recovering well in 25 years. Their greatest resource was their people, something that their former military government did not appreciate or protect.

Each year *this strategic and moral program* will see returned to the nonmilitary economies of the Developed nations, in total, some US\$330 billion or more, to be used solely for peacetime goods and services! Hence, this proposed program should greatly reduce unemployment in any nation participating, supplier or receiver. *This program will put workers, the original creators of wealth, back on the job. I would estimate that the first year could create in the U.S. alone some 500,000 or more jobs.* The flow chart above illustrates this process. **Where do we get such an estimate of the number of jobs to be created or restored?**

David Swanson reported on the Internet, in RootsAction, September 9, 2011, a 2009 study by the Political Economy Research Institute at the University of Massachusetts (Amherst) that estimated that \$60 billion could create 193,000 jobs in the United States. Estimates were made for different kinds of jobs, clean energy, healthcare, education. If they were all in education the \$60 billion would make possible some 1,050,000 jobs. I'm taking a conservative path here: If \$60 billion would create 193,000 jobs then the U.S. \$165 billion could create over 500,000 manufacturing jobs in the United States. I am assuming that the other \$165 billion from all other participating Developed nations could create more than 500,000 manufacturing jobs in those Developed nations. Using the same reasoning, the Japanese 2009 stimulus of \$150 billion could have created about 500,000 Japanese manufacturing jobs, had it been used in this manner. *That is well over one million jobs in the nations that are supplying chits.*

How many peacetime jobs will also be created in the Less Developed chit-receiving nations, where labor costs are lower? What would you guess that their former military expenditures could support for peacetime labor? *Initially more than two million?* There will no longer be money for marauding bands of revolutionaries.

An exchange can be made: —With self-sufficiency and self-defined but true democracy *growing* in the Less Developed world and the virtual elimination there of poverty, illiteracy, malnutrition, disease, neocolonialism, rights deprivation, indebtedness, exploitation, and slavery; —The entire world could have full economic recovery, elimination of the possibility for international nuclear catastrophe, and the practical elimination of war. In a world at peace the refugee problem is solved. The killing stops and solutions to *worldwide* problems can be worked upon and found. The basic tool is cooperation and proper incentives, not sanctions, boycotts, and deadly threats; justified benefits, not penalties; advantages for all. Consider, compare, what the 3,500,000,000 people of the Less Developed world *do not have*, and who is capable of supplying it! There are abundant opportunities for all! **One might refer to this workable moral strategy as, “The Incentivization of World Peace.”**

As promised, no money would leave any nation, and all the credit chits never pass through the World Bank, or any bank, or the International Monetary Fund. This moral strategy considerably modifies military spending by all nations. If all nations are working for peace what need is there for *offensive* armament, nuclear bombs and missiles? *What need would there be for military defenses.*

Action Examples

Here are some fictitious examples of the mechanics of this workable moral strategy:

Example: Tanzania, satisfying the requirement of an adequate and improving democracy, wishes to further expand its agriculture and tourism by: improved water supplies, farm machinery, improved communications, construction of tourist villages on the Mwambani Bay coast and near Ruvu Bay, and small medical clinics in some remote areas. It has found that all the materials and consultants for this development can be obtained at a good price from India, Taiwan, and Finland. These three Developed Nations have also met the conditions for participation in this moral strategy for peace.

Tanzania exchanges its United Nations granted credit chits for those goods and services from those nations. For the aid from Finland it uses chits originally from Finland, but India and Taiwan are also involved and they have requested to receive chits which originated in the U.S. and Canada. So far no money has gone anywhere. The Finnish *industries* that supplied the goods and services and verified their proper use and operation, take the chits they received and exchange them in the Finnish Government Treasury for cash, to pay their workers and replenish their supply of raw materials. No money left Finland.

The chits of U.S. and Canadian origin granted to Tanzania were given to India and Taiwan for their products, services, and verified functional operation. India and Taiwan in turn use those same chits for goods, services, and complete operational functionality from U.S. and Canadian *industries* who in turn exchange the chits at their government treasuries to pay their workers and continue their industry's growth. The workers pay income, social security, and medical care taxes and pay their mortgages. India, among other items, exchanged chits for 10 super-speed computers. Taiwan used their chits for very sophisticated medical equipment from the U.S.

Other projects: India and Bangladesh will cooperatively work on flood control projects to control the Ganges, Brahmaputra, and Megha rivers, controlling adequate water for the fertile delta but also channeling excess water into the largest arid regions of India, and into regions in need of clean water for human consumption. And in another upcoming Indian project: Some chits will make possible the solution of the 48 year-cycle rat infestation problem in Mizoram in Northeast India, between Bangladesh and Burma. Pakistan is considering bringing fresh water from the northern mountains, in a controlled manner, to its arid regions while simultaneously creating a canal system to prevent future flooding in its plains. Heavy machinery will be required for these projects. Pakistan also wishes to establish a rural electrification project.

Many previously out-of-work people are now profitably employed. No money has left any nation. Many people in India, Taiwan, the United States, Canada, Bangladesh, Finland, and Tanzania will have productive improved lives.

(I have no idea if any of the above would be sought by Tanzania, India, Taiwan, Bangladesh; it is simply an example of how the chits could be used to create peace and to improve people's lives.)

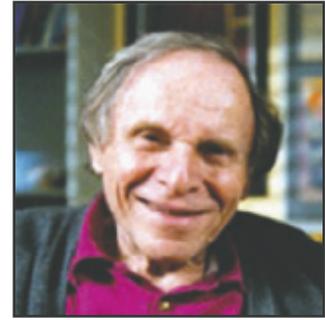
Obviously, *IF the Peoples Republic of China is participating* in this program they will receive chits from all over the Less Developed world; China makes "everything" and makes it available at a good price. However, there are things that China needs and which it cannot yet manufacture, but things that the Developed world does manufacture. What I have in mind is sophisticated medical equipment, electronics, heavy machinery (Caterpillar), energy machinery, high technology agricultural equipment, etc. So now, *if possible*, we would have China ordering products manufactured in the U.S., establishing trade relationships that would continue beyond the duration of the project, into the era without nuclear weapons, the era of peaceful collaborative relationships. China is changing; consider *all* that has evolved



Kosta Tsipis

in China since 1949.

Morrison and Tsipis, in their book, *Reason Enough To Hope* (2), explore some of the problems facing the world should the impoverished billions of people be brought online to also benefit from “the good life” as we in the Developed world have. Food and energy needs, and overpopulation are likely to present many difficulties. Food requirements and overpopulation are of course linked. In the Japan of 100 years ago large families were common, families with four to eight and more children. In today’s highly Developed Japan the “ideal” family, to maintain



Philip Morrison

population, will have two children, one girl and one boy. In actuality, now in a Japanese woman’s lifetime, on average, she will bear less than two children. If food and water, education, health care, peace, and economic opportunity are available, parents in a democratic society of a Less Developed nation should rather quickly learn that a family totaling four will likely do better all around in contrast to a family of ten.

What would policy makers prefer: —\$80 billion spent to support U.S.-Japan military bases in Japan, Okinawa, and elsewhere in Asia, in anticipation of conflict which could likely never occur, —or \$80+ billions to *eliminate the threats of wars* in Asia and stabilizing foreign governmental relationships, while simultaneously enhancing the lives of destitute, distressed, and sometimes oppressed people, bringing them much better life opportunities and international understanding, and steering \$80+ billions into peacetime production and services from the Developed world, and fruitful cooperation and understanding of the people and wisdom of Asia?

Squabbles over tiny uninhabited islands in Asian waters can be resolved peacefully; there need be no repeat of Asian wars. Japan supports industry in China and Taiwan. China and Taiwan purchase Japan made products. Japan will be a major participant in oil extraction from Russian waters. The mix is much like joint ventures regardless of who “owns” the land where the ventures are ongoing. I elaborate upon this in Boulder 3, a few pages ahead. What should be the highest priority, the moral needs, the human needs, or the political “needs”? Wars’ threats seem stimulated by national political “clout” and “guts” but more likely by national greed.

Boulders in the Road

Regrettably, at present, not all nations wish to live in peace with their neighbors. For a temporary period, there must be assembled, trained and *integrated*, a United Nations multinational force, armed if necessary, the principle function of which shall be to *immediately* aid any nation which abides by the United Nations Charter and all Covenants *when it is nationally or physically abused or attacked by another*. The attacking nation must face opposition from all other 193 (at present) united nations. That should give pause about even considering international aggression. United Nations Charter Articles 41 and 42 speak to this.

This does not mean that war begins. Support for the unjustly attacked nation can come in many forms. For instance, if a nation considering such an attack realized that should its attack commence: that all of its assets held outside its borders would be frozen; that its borders would be closed; that its harbors and airports would be blocked, nothing would come in or go out; that its communications systems would be closed down; etc.; would that nation still carry out an attack? If it did, then that aggressor, clearly

violating its signed obligations under the United Nations Charter, will be penalized, shall pay the UN Multinational Force costs and reparations; and likely experience an enforced remedial governance change toward democracy. Their weapons lost in warfare will not be allowed to be replaced, a step which should cause great hesitation about even considering armed aggression.

Boulder 1: The Nations of Palestine and Israel

Peace in the Holy Land? What an absurd idea! To many Americans the thought that Israelis and Palestinians could walk the same streets and not be constantly at each other’s throats is absurd. It makes about as much sense to think that, after those years of slavery in the United States, whites and blacks in America could live peacefully together. It makes about as much sense to think, after the brutality of the Pacific War, that after the nuclear inferno taking well more than 210,000 lives in Hiroshima and Nagasaki, Americans and Japanese could ever engage in peaceful social and economic intercourse. Israelis and Palestinians working together makes about as much sense as Japanese and Chinese joint-venturing after the murderous Asian War.

In the land of Abraham and his son, Ishmael, forefathers of both the Jews and Arabs, there is *only one real, just, and fair solution* to the problems faced by the Palestinians and Israelis. In 1947 the United Nations General Assembly Resolution 181 established boundaries for Jewish and Arab states in the Palestine Mandate. The Jews accepted; the Arabs did not. Take a look at the accompanying map* of the evolved partition. The Palestinians were assigned to the West Bank and Gaza.

Absurd, is it not? If that kind of reasoning were to be applied in the United States we would have some southern states petitioning to be restricted only for whites; everyone else out.

A new concept of sovereignty is required. Both sides need to decide what is more important, people or dirt. The extremists and the old ones argue incessantly, getting nowhere, while blood spills daily from the young.

The solution we propose is to give Palestinians their nation—in the following manner—while taking nothing away from Israel. It is a solution so absurd that it tops the list of the Ten Most Absurd Ideas.



In this absurd and moral solution Israelis would be able to build homes and settlements throughout the land; *so would Palestinians*; from Lebanon to Egypt, from the Mediterranean to Jordan and Syria. *Parallel Nations without separation!* Nations superimposed. Elsewhere in the world multiethnic, multi-religious societies intimately aware of each other live in peace. Unlike “parallel universes,” parallel nations would be intimately aware of each other. The only possible, fair, and just solution is to unify the Holy Land. Let the Israelis call it Israel. Let the Palestinians call it Palestine. *A new concept of sovereignty!* It works in the U.S., an advanced nation, which contains the Navaho nation, the Cherokee nation, and others. A true essence of a nation is made of people and their society, not dirt. Other mixed societies live together in peace. Are we to assume that Palestinians and Israelis, who have much in common, are incapable of such human behavior, are not sufficiently advanced? Again, what are the priorities: humanity, morality, or politics?

Imagine how successful the unified nations could be. Wealth now wasted on military needs of the nations would be redirected into internal developments: industry, agriculture, health needs, new housing, transportation, clean water, and roads. Outside resources could be poured into new Palestinian developments without fear that they would be bulldozed next year. Millions of people throughout the world want to visit a peaceful Holy Land. With the Mediterranean coast, the nations at peace could become a vacation paradise for tourists worldwide. With such Palestinian and Israeli human resources available the region could quickly become a modern progressive showplace on the sea, much like Japan became after 1945. But here the change could take place even faster because in contrast to 1945-Japan there has not been the great social and physical destruction and leftover cities of deadly radioactive ashes.

What do the Palestinians and Israelis lack that keeps them from peaceful relationships? Other nations with histories of mortal combat are now friendly with each another. Some would quite justly claim that what is lacking is a democratic Palestine, because true democracies typically don't go to war with one another. But of course, how could Palestine be a democracy if a Palestinian nation doesn't exist? And would Palestine be democratic? Maybe that's the problem; Arab nations are noted more for theocracy rather than for democracy; it seems that is only one step away from dictatorship. Although, if Palestinians democratically chose theocracy they could live with that provided that they also have the power to change it.

As parallel nations, suppose the terror continued. Is there a penalty so threatening that the terror would be seen as defeating its own purpose? Are the nations of Israel and Palestine types of theocracies? Are they nations that value dirt and monument preservation over fellow humans?

A suicide-death for your nation, however miss-guided, is useless; you must live for your nation, work for its success. That can't be done from the grave. Just think of everything that the Japanese *kamikaze* and *kaiten* pilots missed out on. Just think what all the war-dead of Palestine, Israel, Iraq, Iran, Afghanistan, Pakistan, United States, United Kingdom, have lost forever.

For the present situation of conflict in the Holy Land blame can be distributed throughout the world, including Islam. As a Pakistani scientist wrote, “For Muslims, it is time to stop wallowing in self-pity; Muslims are not helpless victims of conspiracies hatched by an all-powerful, malicious West. The fact is that the decline of Islamic greatness took place long before the age of mercantile imperialism. The causes were essentially internal. Therefore, Muslims must introspect and ask what went wrong.” (Pervez Amir Ali Hoodbhoy, Washington Post, Sunday, December 30, 2001; Page B04)

There is only one fair, just, and moral solution. We hope the reader will consider: Would Israelis and Palestinians be able to live peacefully with this solution? Acceptance and acting upon it could establish Palestine and Israel as perhaps the most praiseworthy nations of the new 21st century. I

wonder which nation may be too theocratically and mythologically tradition-trapped to be able to recognize this truth, this opportunity, to turn the deadly chaos into a new era of peace for all. Both?

You may think, “Here are reasons it would not work.” I will think, “Here are ways it can be made to work.” Do Israelis and Palestinians have the wisdom needed for creating ways to make it work? One might wish to consider the problems that will arise and exist for a separate Palestinian nation, problems that will continue to prevent peace throughout the Middle East.

This strategy being proposed would mean that another nation wishing to push Israel into the Mediterranean would also be pushing Palestine into the sea. The proposed strategy could bring peace to the area and thriving economic miracles.

This absurd concept of sovereignty seems to be the only one capable of making the 21st Century in the Holy Land as radiant as God might have intended. Albert Einstein observed, “If at first the idea is not absurd, then there is no hope for it.”

Has not the world seen enough of artificially divided nations in the past century to realize that such paths are disastrous? Vietnam, Korea, Pakistan, Yugoslavia, Kashmir, Ethiopia...

Neither Palestine nor Israel could participate in this greater workable moral strategy in 2014, Palestine because it is not a (Less developed) nation. Israel because it is not at peace with its neighbors; conflict or war is very likely there.

I believe there are many Israelis and Palestinians, living there and throughout the world, who see unification as the proper moral solution to this problem. If all Israelis and Palestinians were to vote on the above described solution, I wonder what the result would be.

Boulder 2: National Tendencies toward Imperialism

Michael Parenti (6): “...empires are not innocent, absent-minded, accidental accretions. They are given purposive direction by rulers who consciously mobilize vast amounts of personnel and materials in order to plunder other lands and peoples.”

The Germans did not occupy France just for the wine, women, and art. The Japanese did not just happen to find themselves in Manchuria. The U.S. has some 730 to 1000 military bases *throughout the world*.

Parenti, again: “The Americans did not just mistakenly stumble into Iraq...Imperialism is what empires do.... The intervention [of imperialism] is intended to enrich the investors and keep the world safe for them. ... In addition to the pillage of their lands,...[Empires] impoverish whole populations and slaughter huge numbers of innocent people. ...Do those who preside over the U.S. empire believe in their own virtue?...But even more so, more than anything else in the world, with the utmost dedication and ferocity, they believe in protecting and advancing their own material interests...they do whatever it takes to do so.”

If it looks like an empire, acts like an empire, and maliciously plunders like an empire, then it probably is an empire.

In contrast to the multitude of opaque secrets, corruptions, overt and covert illegal actions *this proposed workable moral strategy* would renew the faith of many Americans and the world that the United States was not imperialistic.

However, “The powers of financial capitalism had a far-reaching [plan], nothing less than to create a world system of financial control *in private hands* able to dominate the political system of each country and the economy of the world as a whole.” —Carroll Quigley, author of *Tragedy and Hope: A History of the World in Our Time*, **1359 pages**, (7) An abbreviated account of those 1359 pages can be

read in, W. Cleon Skousen's *THE NAKED CAPITALIST* (7). It is a review, considered a right-wing review by some, with commentary. You may also wish to check what Wikipedia has to say about W. Cleon Skousen, and also the single-star Reviews of Skousen's book on Amazon.com.

Einstein wrote, "The result of these developments is an oligarchy of *private* capital the enormous power of which cannot be effectively checked even by a democratically organized political society. This is true since the members of legislative bodies are selected by political parties, largely financed or otherwise influenced by *private* capitalists who, for all practical purposes, separate the electorate from the legislature. The consequence is that the representatives of the people do not in fact sufficiently protect the interests of the underprivileged sections of the population. Moreover, under existing conditions, *private* capitalists inevitably control, directly or indirectly, the main sources of information (press, radio, education). It is thus extremely difficult, and indeed in most cases quite impossible, for the individual citizen to come to objective conclusions and to make intelligent use of his political rights..."

"...This *crippling of individuals* I consider the worst evil of capitalism. Our whole educational system suffers from this evil. An exaggerated competitive attitude is inculcated into the student, who is trained to worship acquisitive success as a preparation for his future career."

"...how is it possible, in view of the far-reaching centralization of political and economic power, to prevent bureaucracy from becoming all-powerful and overweening? ***How can the rights of the individual be protected and therewith a democratic counterweight to the power of bureaucracy be assured?***" [italics by R.W.] —Albert Einstein, "Why Socialism?," first issue of Monthly Review (May 1949) The reader is strongly encouraged to consider Einstein's entire somewhat brief commentary which he concluded with that question. The article is available online at,

<http://monthlyreview.org/2009/05/01/why-socialism>

Boulder 3. Extraterritorial Claims

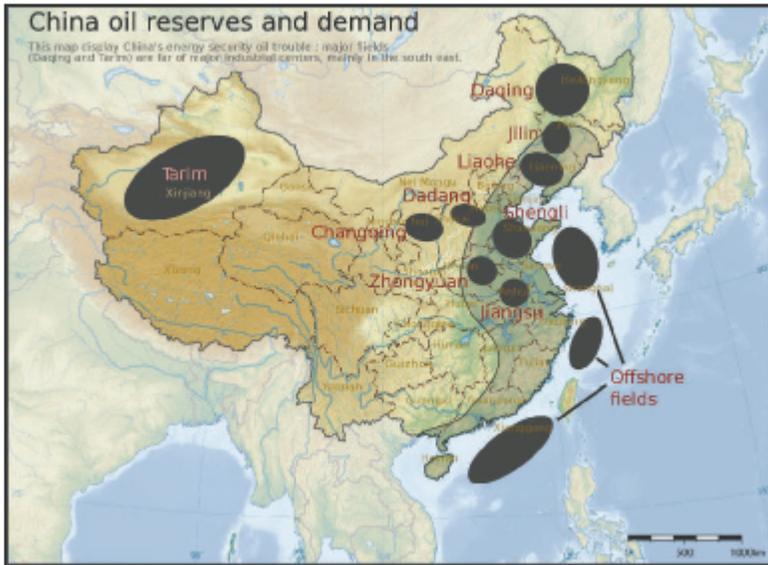
These three nations share common borders with each other. It has been determined that in this region there is a very rich underground deposit of natural gas and oil, the field extending beneath all three nations and probably into the waters outside their borders. This is a natural resource that all three nations have in common. A more important natural resource are the people of these nations. So far no nation has tapped this resource and there is some fear that when one nation begins extraction the entire wealth will accrue to that nation alone. Shall the wealth go to first come, first served? Will a wealthy outside nation step in and offer to quickly set up high capacity pumping wells and ship this crude product abroad for processing? Can this situation become a conflict leading to war among the three nations, sacrificing the human resource because of the material one? Would two nations cooperate to repel the third nation's efforts to hog it all? What would be fair? As an outsider, what would you recommend?



become a conflict leading to war among the three nations, sacrificing the human resource because of the material one? Would two nations cooperate to repel the third nation's efforts to hog it all? What would be fair? As an outsider, what would you recommend?

In 2014 it is easy to understand the extraterritorial claims of nations in Asia. There are proven oil resources in the offshore waters and exploration continues for more oil as the energy needs of Asian nations expand. Taiwan and Japan have very limited natural reserves of oil. China, at one time, was an oil exporter; it is now a net importer of oil while strongly relying on its coal resources to fuel its energy

industry, a very polluting approach, but one which all industrial nations have experienced in the last 100-200 years.



Oil map of China. Author, East_Asia_topographic_map.png: Ksiom (derivative work: Yug)

The waters off the coast of China where oil is found have become regions of dispute. Claims have been made over off-mainland island territories that have been administered by one nation or another for more than 100 years; administration usually beginning after a military conflict, e.g., the almost 70 year Russian administration of the Kuril Islands north of Hokkaido.

In May, 1969 a UN report suggested that there may be oil deposits in the region of the Senkaku Islands, known in China as the Diaoyu Islands, and known in Taiwan as the Diaoyutai Islands; hence as one might expect, a dispute arises about which nation holds true sovereignty. It is a very messy

problem as this Wikipedia page illustrates. http://en.wikipedia.org/wiki/Senkaku_Islands_dispute Further elucidation is here,

<http://www.tofugu.com/2013/08/06/the-cias-1971-secret-report-on-the-senkaku-islands-dispute/>

It is not likely that the sovereignty question will be solved based upon historical precedents. What should then be expected? Will the wisdom of the orient use new ways of thinking in order to resolve this problem without sacrificing human resources?

Do these three nations realize how strongly they are dependent upon one another?

This is how capitalistic competition brings nations to conflict and sometimes to war. As Gerahty mentioned in Chapter 2, this competition-to-conflict is what Asian nations have learned from the West. We now have a chance to see whether the wisdom of the Orient will achieve something better than militarized industrial complexes of western "Christian, developed nations" could manage. Here is a possibility toward an actual tri-prosperity venture, a venture wherein everyone benefits and no one is war-sacrificed. Should we, can we expect something better from these three nations?



Author: Jackopoid

Taiwan, Japan, and China, all at the present time make use of one another's resources, both natural and human. All have entered into joint ventures with one another. Why not consider here a *joint venture* in exploration and utilization of the possible resources to be found in this area of the East China Sea. Eventually, *depletion* is going to force attempts to capture and utilize such natural resources. Why not do it peacefully for everyone's benefit without resorting to, as Eisenhower put it, "stupid war". What shall be put into practice, wisdom or stupidity?

In this current problem it would be the responsibility of Japan to lead toward a solution; administration of that area has been theirs for some 119 years. Are there any Japanese government officials who can be guided by the highest social morals and ethics to have the foresight and courage to see a brilliant, intelligent, and peaceful resolution, or shall we all by hindsight witness more destruction and death brought about by a "stupid war" of greed for oil.

How would the world's people view a cooperative peaceful solution?

Boulder 4: International Financial Corruption (Too large a topic to be covered here)

Boulders 5, 6,... (To be provided by the reader)

Additional Requirements for the Workable Moral Strategy

We believe the following additional and essential requirements based upon Oppenheimer's conjecture must also be employed to facilitate the workable moral strategy to a peaceful world.

Requirement 1. To further assure and advance self-determination, development, and confidence for the people of all nations it is necessary to establish government and private *international exchange programs* involving 10,000 to 50,000 people per year, students, teachers, workers, farmers, artists, government officials, scientists, athletes and upper-bracket bureaucrats; for the purpose of finding friendships, and creative new approaches to cooperation and development for mutual and world benefit.

Requirement 2. The "Sister Cities Program" should be greatly expanded to include the poorer nations of the world. Does Timbuktu (in Mali) have a sister city in the Developed World? Does your town have a sister city in the Developing World? *Important question: Why not?* Shall we soon be able to have sister cities in North Korea? How about P'ngsan in the DPRK (North Korea)?

Requirement 3. The United Nations needs to decide when and how it can intervene in the internal affairs of a "nation." The United Nations' inability to act over past years has sanctioned the deaths of millions. Consider Cambodia, Rwanda, Sudan, Somalia, and now in 2014, Syria and possibly in the Crimea. The United Nations needs to come to grips with the fact that United Nations actions—which were possible in 1946 at the creation of the UN—are woefully inadequate and much too late for events of the modern electronic and high speed world. The Cold War has ended; greater United Nations activity without vetoes should be possible. What shall be done about civil wars and "ethnic cleansings"? How many need to be killed, imprisoned, or tortured, before the United Nations shall act? 10,000? 100,000? 1,000,000? What was the 2006 year-end death toll in the Sudan? Syria's is now 160,000+ (2014). What shall be the limit before a nation is dismissed from the United Nations until its leadership is replaced, perhaps by the United Nations, and the oppressed people are empowered? Clearly, under the world conditions being proposed by this workable moral strategy which would lead to modern-day democratic

nations, such repression and civil wars would be highly unlikely. As this is being written I wonder what will happen in Syria and the Crimea.

Where is the voice of the United Nations General Assembly in all this? What is “world opinion” about the possibility of world peace and prosperity? The killing goes on and most of the world’s people behave like zombies, plodding along, their vision constrained to their own personal needs, worries, and desires.

“Yet we are infirm of purpose and lack foresight, pressed by our daily needs and caught up in finding solutions to our own problems. We lack the time or energy to think full time about the larger perspective. Moreover, we have evil and unfair thoughts as well. Even if we know the right choice, it is often very difficult to make it. ... We have the ability to cultivate self-control and consideration for others and to strive to live together in a humane and harmonious manner with others. The revival of such true humanity—not only between individuals, but also between nations—is an absolute necessity today, for the age has come when one nation's self-centered behavior could lead all humanity to annihilation.”
—Naomi Shohno, 1986

Lastly, the United Nations needs to specify the penalty for any nation that employs a nuclear weapon in offense or defense. It is absolutely clear from our earlier chapters that such use would be a crime against humanity. There will be people to be found guilty.

Developing nations, yielding their military burden in favor of democracy and peaceful progress, must have assurances that they will be *quickly and adequately protected*, not necessarily with military force, by the UN and the strongest powers of the world. North Korea, Iran, Israel, the U.S, and other nations need to understand what changes they need to make to receive assurances and protection against attack by any other nation. “Minds more wise,” not pre-programmed bureaucrats nor dysfunctional politicians, must speak to United Nations Charter revisions. Because all nations are not equal there should be special rules to apply to emerging, developing nations for the protection of their people from corrupt governance and from powerful outside political and exploitive influences.

We ask the reader to actually consider what would result should this workable moral strategy be offered to the United Nations, and further what would result if the membership of the United Nations agreed to its implementation.

An Objection

Many in the U.S. are likely to object to this moral strategy and question the “gift” of US\$165 billion in peacetime goods and services to Less Developed nations to put the world on the road to peace, prosperity, justice and cooperation with their neighboring states. “Why not give that money to us in the United States; we have worked hard for it, paid our taxes; it should be given to us!” \$165 billion divided by 313 million people in the United States is about \$527 per person. It would be kin to an economic “stimulus” for us in the U.S. and we all know how much help those are. What would U.S. citizens do with such a gift? Buy a new TV, made in South Korea? Buy a new Volkswagen, made in Mexico? Buy a new computer, made in China? Put it in the bank for those rainy jobless days ahead, or into a college tuition? How does that stimulate the *U.S.* economy? Produce wealth in the nation? How does that keep Predator, Reaper, and X-47B drones from harvesting their victims, how does it stop the nuclear weapons business, and how does it bring the troops back from the 750+ U.S. military bases in foreign countries? How does \$527 provide jobs for U.S. workers? It’s not even enough to pay for one month’s health insurance or one month’s house mortgage payment. What would you prefer, a \$527 per year gift or a good job for the next 25 years? Give a man \$527 and he can feed his family for a month. Give a man a job...

What a waste it would be as a \$527 per person stimulus package. You can see that such stimuli are useless, if they don't let workers create more wealth through jobs, useless if they don't stop the killing of other workers in battles over who can have access to "vital resources." Such individualized cash economic stimuli in all nations would be an immediate joy but very quickly be seen as a true waste. This workable moral strategy for peace would result in wealth-creating jobs and put an end to the worldwide killing.

Summary

Greater security for all nations can be obtained by *worldwide reduction* of the weapons of all nations rather than increasing and improving arsenals everywhere, as we are doing, and as has been done for past centuries. You see the results. The next world nuclear war will kill more people than all the wars preceding it.

Nations which truly abide by the intentions of the United Nations Charter pose no malicious economic, territorial, or military threats to their neighbors. *Is that not what signatures on the UN Charter imply?* Implementing this workable moral strategy will have more than US\$330 billion each year eliminating military and economic threats, while peace and justice advance throughout the world, *the mother of all great bargains.*

This proposal is probably the only approach, for decades or centuries to come, by which people of the Less developed world, in peace, can become their own masters, can create the sensible path to their own destinies as so many other nations have. This is *not a threat* to the Developed world. Peace with fairness, justice, and international cooperation, is preferable to war, anytime.

When nations and regions are at peace, helping one another, they advance! It is obvious! It is not by mere coincidence that the nation of Japan, after its near total war-time destruction, has since 1945 made astonishing advances in all aspects of human activity without killing anyone in a war. India and Pakistan, Iraq and Iran, could do the same. But how will they manage if a world economic downturn prevents and stops financial aid?

Perhaps India, Pakistan, and Bangladesh should never have been separated. Was there no other way? Had they been able to live peacefully together imagine the advances that would have been possible. Bangladesh and Pakistan might have become part of the advances now moving through India; there would likely be no battles along the border with Afghanistan—everyone would have been too busy on the job, building better homes, improving their lives. But now there is the prospect of a nuclear confrontation; they could stupidly destroy themselves. Before the separation would life in India have been different if every child of India had been well-fed and well-educated? Before the separation—every child!

Should there be any doubts in the minds of people of the earth as to the desires of the United States for world peace with justice and fairness for all nations, presentation of this workable moral strategy by the United States government to the world's nations would put such doubts to rest. For the foreseeable future, it is the responsibility of the United States to guide the world in the direction of world peace; no other nation will; no other nation can. This superpower, capable of destroying the world, is apparently the only one with the capability to move the world to peace.

For the naysayers who would claim it cannot be done, such massive programs have in the past been carried out somewhat successfully. The Marshall Plan is an example, the Manhattan Project is another. *This proposed moral strategy has even greater possibilities, can involve 193 nations and it has safeguards against abuse and corruption.*

In 2014 industrialized nations are racing to courtship with African nations that have natural

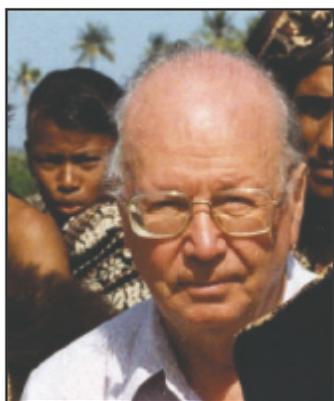
resources of fossil fuels, rare metals, and people. This is all to the good and one can be thankful that African nations will not be as naïve as they were in past decades or centuries; advantage of them will likely not be taken. However, in this modern age of *private* investments in Less Developed nations there is always the likelihood of corruption. Some of the projects will greatly help the advancement of some African people, but there are signs of potential conflict. Small farmers of Mozambique fear that their agricultural lands will be taken over by large multinational corporations in the name of economic growth. Egypt fears for its water supply as Ethiopia builds a giant dam on the Nile River that will create a reservoir of 74 million cubic meters of water. Kenyan legislators recently voted to keep their lavish salaries; the Kenyan President’s salary is more than 200 times the minimum Kenyan wage of about \$1500 per year, and some earn less. Where does the money come from? Possibly investment from outside interests? Our *workable moral strategy* would safeguard workers in Less Developed nations from such exploitation.

Among the nations pursuing new goals in Africa are: Japan, China, India, South Korea, and undoubtedly all other large industrialized nations. Japan’s 2014 Prime Minister Abe has said Japan will pledge up to 3.2 trillion Yen (US\$32 billion) in *government* and *private* aid for five years; will spend 650 billion Yen (US\$6.5) on African infrastructure; will educate and train 31,000 African youth to help them get jobs; will promote “universal” basic health services in Africa; and will seek to transition Africa’s agricultural systems to one in which farmers can earn money as well as feed themselves. Two major Japanese goals will be rural electrification and the development of “international corridors” that will link the African interior with the African coast. These two items would facilitate extraction of natural resources from the interior and enable shipment to friends abroad. Prime Minister Abe has said to the African nations, use the aid as you see fit. (The Japan Times, June 2, 2013) These seem to be admirable goals but are there any guarantees against abuse and corruption? After all, the money comes from Japanese labor. In the same edition of The Japan Times, Jeff Kingston wrote, “Crony capitalism is the scourge of contemporary Asia, lining pockets and diverting resources in ways that systematically undermine the public interest, accentuate disparities, sap innovative and entrepreneurial impulses—while also subverting governance.” Kingston added that in Transparency International’s 2012 Corruption Index of 174 nations, China and India rank 80th and 94th respectively, which means both are considered highly corrupt. (Japan ranked 17, the U.S., 19. The 2013 list is here: <http://cpi.transparency.org/cpi2013/>)

Is there anything really surprising here? For centuries now, rich nations have found ways to exploit poor nations, and often try to make it appear that they have the highest human and moral goals in doing so. But, examined more closely, among humanity, morality, and politics, the rich nations will

usually place politics first, with the hope that humanity will somehow, if possible, be aided in a moral manner. Southeast Asia, China, Central and South America, Africa.

Albert Einstein wrote, “...unless by common struggle we are capable of *new ways of thinking*, mankind is doomed.” At present we are bound by political thinking, much of which seems dictated by private financial interests, not human or necessarily moral interests. The late James C. Warf, former Manhattan Project plutonium scientist and USC distinguished professor of chemistry, realized that the ideas expressed in this workable moral strategy represented a useful *new way of thinking* about achieving and preserving peace. Warf incorporated an early form of this workable moral strategy into his 2005 book, *All Things Nuclear*. (4) It is a splendid work that reads at times like a novel.



James C. Warf,
1993, Indonesia

Barack Obama pro-claimed, “For unlike the great powers of old, we have not sought world domination. Our union was founded in resistance to oppression. We do not seek to occupy other nations. We will not claim another nation's resources or target other peoples because their faith or ethnicity is different from ours.” (His speech at West Point, Dec. 1, 2009)

President Obama did not exclude “protecting our vital interests” in other nations, claiming access to resources and targeting *for other reasons*. If given half a chance, other nations can protect their own vital interests. That sounds like Russia “protecting its vital interests” in the Crimea; Russia certainly has vital interests there, a potential revolution, Russian people (lots of them), its Black Sea fleet, history,... It is another mess. I’m writing on April 7, 2014. Will the Crimea stay Russian, this time?

How Do Enemies Become Friends?

I have come to the firm belief that in contrast to past policies, if a nation wishes to be at peace, **the most effective use of any nation’s “defense” budget**, consists of not resorting to murderous war, but by some safe and equitable means, engaging in the *proactive conversion* of existent or potential enemies into friends, all working for a peaceful world with justice and fairness for all. Too difficult? It is not as difficult as managing an Army, Navy, Marine Corp, Air Force, CIA, NSA, etc., and military industrial complex; taxing all workers to keep such government operations supplied with an abundance of killing tools; and managing all the political and corruption fallout from such systems. *This workable moral strategy* would make the world a safer superior place for everyone.

Consider today, 2014, the relationship conversions that have occurred between Russia and the United States, Egypt and Israel (though somewhat wobbly in 2014), China and the United States, Japan and South Korea. How much better off could all have been if the arms-racing military spending had been cut in half at the 1991 end of the cold war, if the goals had been peace and cooperation instead of competition and conflict? We ask, could such conversions be done again, and repeatedly, between Israel and Palestinians, the United States and Iraq and Iran, between Pakistan and India, between the United Nations and the Democratic Peoples’ Republic of (North) Korea. In 1945 the United States was engaged in brutal and deadly warfare with Japan. What happened over the intervening years to all but eliminate the bitter hatreds of those earlier years? Are there any world leaders who will pursue world peace with fairness and justice for all? Are there any world leaders who will give peace a higher priority than war preparations? Think how that would alter the budgets of the United States and all nations.

Historical evidence confirms that the aforementioned “conversions” between former enemies are possible, thus it is implied *that if not threatened by war or terrorism*, the United States and other nations of the Developed World could make available, something approaching half their military budgets annually, totaling well more than US\$330 billion per year, to eliminate war and threats of war throughout the World. **This workable moral strategy can accomplish its goals: If the Developed World is not threatened AND if no nations are intent upon any form of empire building, if no nations seek full-spectrum strategic dominance of the world.** The some 193 members of the United Nations General Assembly need to consider what they wish for their nations in the 21st century, continued strife, uncertainty, and corruption, or astounding improvements in living conditions, in societal satisfaction within their nations, without war. Not all nations would be compelled to participate in creating a peaceful world. Nations which do not wish to be at peace can be isolated in such a way that they would not be a hindrance to the peace and prosperity being achieved by all others.

Probably, new democracies should initially have one-year terms of office for their newly elected

leaders and representatives. What new ingenious forms of governance might evolve in newly established societies? Elected-Governing councils? Dual-Presidencies? A Beloved Leader? *The people need to be able to choose, and to make changes when clearly needed.*

This workable moral strategy derived from Oppenheimer's 1946 conjecture and Einstein's writing is sometimes criticized as being too futuristic and difficult to implement. But there are no *technical* implementation difficulties, only those difficulties of critical thinking in people's minds. The necessary wiser minds must be found. Many hoped that Barack Obama was sufficiently wise to do it. Many did not foresee the obstructions to a peaceful world that he would face.

Yes, wars are much easier to implement. Simpletons can get them going. The United States is all set up for them now. We are not, however, set up to implement world peace. In 1917 and again in 1941 the U.S. did not have enough money or gold; but resources, men and material, we did have. Those resources made it possible for us to achieve the high production and efficiency required to end those wars. Unfortunately we only do this when going to war. Our sin of active complacency and poor congressional leadership prevents us from engaging in the much more rewarding struggle of going to peace.

Changes in Our “Developed” World

Each year this workable moral strategy would see returned to the nonmilitary economies of the Developed nations, in total, more than US\$ 330 billion, creating well more than 1,000,000 jobs worldwide, mostly manufacturing! It is money most of which ordinarily would have been spent for non-wealth-creating new military weapons and systems. It has been remarked that, “...non-military spending can create more jobs than money going to defense programs.”

(<http://thinkprogress.org/security/2011/12/05/382071/military-spending-job-creation-domestic-mit/?mobile=nc>). The same dollars that would create 11,200 defense jobs could create 26,700 jobs in education. Worldwatch Institute provides estimates as examples; similar estimates can be found among 1981 data from the New York Council on Economic Priorities. **The proposed strategy should greatly reduce unemployment in any nation adopting it.**

With nations in full peacetime production and without threats of war, national debts should be payable. Workers with money in their pockets would stimulate other domestic industries which would be not dependent upon the chit payouts. New ventures in energy production, medical instrumentation, nano-electronics, transportation, communications, etc., could proceed without chit payout funds. What effect would a thriving well-managed economy have on social problems? Would it make them solvable? If the economies and opportunities in Central American nations were thriving, would Latinos still wish to migrate to America for menial jobs?

This workable moral strategy implies that an exchange could be made:

☉ With self-sufficiency and self-defined but true democracy in the developing world and the virtual elimination there of poverty, illiteracy, malnutrition, disease, neocolonialism, rights deprivation, indebtedness, exploitation, and slavery;

☉ The entire world could have full economic recovery, elimination of the possibility for international nuclear catastrophe, and the practical elimination of war. In a world at peace the refugee problem is solved. The killing stops and solutions to *worldwide* problems can be sought and found.

The basic tool is incentives, not sanctions; benefits, not penalties; advantages for all as the wise men knew it could be.

A World of Opportunities

Most impoverished nations, at present, do not have the capability to fully utilize all their arable land and create more. Implementation of this moral strategy would change that. With help from the United Nations and organizations like the semi-governmental JICA (Japan International Cooperation Agency) appropriate agriculture can squeeze the maximum benefits annually out of lands considered not fruitful. Ichiro Kawasaki in his 1955 book, *The Japanese Are Like That*, (8) remarked that, the entire nation of Japan, population, 128 million, has always had less good farm land than all of the mountainous state of Kentucky. And yes, we do recognize that unlike Kentucky Japan does have the Pacific Ocean also as an additional food source. The oceans and seas are free, and accessible to many Less Developed nations.

Some less advantaged nations find themselves in dry climates, hindering agriculture. Potential agricultural areas of India are dry and dusty. Annually, neighboring Bangladesh is flooded with fresh water from monsoons and mountain run-off. That could be changed; deserts can bloom. It was once seriously proposed that the dry plains of the middle United States and Canada could be fed by *fresh* water desalinated from Hudson Bay. What would Canada charge the U.S. for that fresh water? International foresight and cooperation could make such projects feasible and beneficial. More water desalinization and purification projects in the Middle East, Africa, and Australia could greatly improve living, health, and economic conditions in those areas. It could open up new territories for presently huddled masses. How many people would desalinization projects employ?

Appropriate energy technology can serve the needs of developing nations. Fortunately many such nations are in areas where winter heating needs may be small. Until recently Japanese homes had minimal heating: a kotatsu table or space heater. On the African continent hydroelectric power and solar electricity seem to be rather likely energy sources. The indigenous people supply the labor at a good salary building and maintaining the system, the developed world supplies the knowledge, teaching, generators, and technology. Rural electrification can do wonders for country people.

The energy produced by nuclear reactions can be one hundred thousand to one million times greater than the energy produced by the most energetic chemical reactions (burning). Consider the extremes to which the world goes in order to extract fossil fuels from the earth, “fracking,” deep ocean drilling, horizontal drilling beneath national borders, bituminous sands, war for control of “vital interests,” etc.; eventually there will be no more nature-created fossil fuels. In this energy-gobbling century #21, when we know there are dwindling reservoirs of nature-stored energy, would it not be foolish to ignore the safe use of nuclear-generated energy? How could a Less Developed nation compete with ExxonMobil, Total S.A., British Petroleum, Chevron, ConocoPhillips, and Royal Dutch Shell, if it wants to become part of the developed world?

Access to energy is a key to economic development in impoverished parts of the world, according to a 2012 report, which says sustainable energy fosters enterprise activities that break the cycle of poverty. The United Nations, which estimates that 1.4 billion people do not have access to electricity, declared the year 2012 to be the International Year of Sustainable Energy for All. (<http://practicalaction.org/ppeo2012>)

Nuclear power should not be overlooked; there are safe power reactors that could be placed over safe geology. The “hub-spoke” arrangement (9), sometimes called “nuclear batteries,” (“*Batteries Included*,” Bulletin of the Atomic Scientists, Nov/Dec, 2006, p. 19) holds promise and would seem to be a very sensible way for developing nations to quickly meet energy needs, *if there are no other possible resources*. Radioactive waste remains a solvable problem; at present, this writer’s preference is for nuclear incineration to much shorter half-lives. With IAEA oversight reprocessing and renewing spent

fuel elements need not be a problem. We are aware of strong objections to this, and we have learned much from Fukushima, Chernobyl, Three-Mile Island, and elsewhere. How much more of the earth can we risk with radioactive contamination? **Non-nuclear would be better.** In 2012 of the fifty Japanese nuclear power plants only two units of the Oi plant were in operation; many in Japan would like both units also shut down. What stress does this place on world energy sources?

<http://www.npr.org/2013/12/17/251781788/environmentalists-split-over-need-for-nuclear-power>

<http://www.scientificamerican.com/article.cfm?id=a-path-to-sustainable-energy-by-2030>

Critical comments follow the SA article. In 2014 Japan's Prime Minister supports nuclear energy for Japan.

Perhaps the greatest danger in this workable moral strategy might be the personal avarice of those we are trying to help, just as it has been in nations for centuries, dangerous among nations and industries. A major component of this workable moral strategy is to exactly set in place procedures to eliminate such dangers.

Shortly after WWII Truman was told that if he expected American taxpayers to finance a military buildup in the aftermath of the war's sacrifices he would have to "scare the hell out of them." A very good job was done, continuing to the present day.

But Eisenhower warned us in his farewell message, "America's leadership [in the world] depends, not merely upon our unmatched material progress, riches and military strength, but on how we use our power in the interests of world peace and human betterment..." "...we have been *compelled* to create a permanent armaments industry of vast proportions..." "...We annually spend on military security more than the net income of all United States corporations..."

We need to examine the origins of that compulsion. Does it still exist, and if so, why? What, or who, has prevented ending the compulsion? Internal or external influences?

Eisenhower saw what was coming, "... In the councils of government, we must guard against the acquisition of unwarranted influence, *whether sought or unsought*, by the military-industrial complex. The potential for the disastrous rise of displaced power exists and will persist. We must never let the weight of this combination endanger our liberties or democratic processes."

Should the U.S. go to war to protect "**our vital interests abroad**"? The meaning of "to protect" has been essentially "to secure and control." In the early 1900's the Japanese government did not bother to ask their people just as our government has not asked us for our approval of going to war for such reasons. After the Russo-Japanese war (1904-1905) Japan found itself occupying much of Manchuria and after the Russian Revolution of 1917 it exerted even greater influence in Manchuria, taking advantage, beyond its borders, "to secure and control" and hence "to protect" "its vital resources" of coal, iron ore and other minerals, and the soil for its soy and barley production. Has the United States itself been "occupying" other nations?

It is said that Japan might not have been able to wage war in Asia if it did not have the raw materials of Manchuria, their (Japan's) "vital resources." Where did Japan get those vital resources that were necessary for their economic miracle after 1945? And without war? From newly found friends. Perhaps the U.S. is afraid that it would not be able to conduct war if it loses access to its "vital resources" in the Middle East. Where would the U.S. get those vital resources after 2014? Without war? It could get them from newly found friends.

It has been written, "If a country develops an economic system that is based on how to pay for the war, and if the amounts of fixed capital investment that are apparent are tied up in armaments, and if that country is a major exporter of arms, and its industrial fabric is dependent on them, then it would be in that country's interests to ensure that it always had a market. It is not an exaggeration to say that it is

clearly in the interests of the world's leading arms exporters to make sure that there is always a war going on somewhere." (Marilyn Waring, Documentary, *'Who's Counting'*, based on her book, *Counting For Nothing*, University of Toronto Press, 1999. (10)

But if there were no wars to be fought, what would be the fate and future of the arms makers and exporters? If they wanted to stay in business they would be beating those swords and spears into plowshares and pruning hooks, and exporting them to those who need them.

Justification: A Moral World View

Does the Developed World and its people have any responsibility for the conditions of poverty, starvation, slavery, disease, displaced refugees, rights deprivation, war and killing, and illiteracy, etc., as they now exist in the former colonial and Less Developed world, in Africa, in Asia and the Middle East, in Latin America? The answer depends in part on whether you and your nation have taken selfish advantage of people whose only power was suicide. Over past centuries has the Developed World exploited the people of the UnDeveloped World? If so, does the Developed World have any unfulfilled moral obligations to the former colonial world?

Many believe it does. I have always thought—I was taught—that the United States and other Developed nations considered themselves to be moral nations, whether Christian or not. Whether or not you agree, the past half century of Developed World taxation for military purposes, in deterrent preparation for a possible Nuclear WWII holocaust, clearly shows that, *if the developed world is not militarily or significantly economically threatened*, then it can afford to meet “moral obligations” to the less developed world. **The moral strategy is for US\$330 billion per year for 20 to 25 years to meet this obligation**, while simultaneously ending wars and alleviating international hostilities, conflicts, and the need for war armaments, **via the originally stated specifications of this workable moral strategy**. It is not expected that international or national conflicts will vanish, but there would be procedures in place, early, for rectification without resort to murder on the large scale. Wiser minds, which we must find, can see to that. There have been some in the past, but people do not always listen. “I believe that all men are my brothers... tolerance and kindness can overcome differences in race, culture and language.” —James A. Michener

It seems that the U.S. governing body in 2011-2014 thinks that they have matters of greater importance with which to deal. Do we need wiser minds in government?

Some will say that war is part of human nature and can't be avoided. Nonsense! The United States and Canada will not go to war. Truly democratic nations will not go to war; will not even prepare for war with each other. Spencer Weart has written about this in his book, *Never At War: Why Democracies Will Not Fight One Another* (11). (Of course, over the past 200 years how many truly democratic nations have there been? Well, even if the idea is only 96% true, that's pretty damn good.)

Elimination of the tools of war: There need be no problem with verification or with guarded conversion of fissionable nuclear material and the chemical, biological and other tools of war; these are solvable human problems, and not problems of technology. ***Mankind can make all nuclear weapons unusable easily within a few years if there is a genuine will and need to do so.*** Apparently Russia was willing to trust the U.S. to do so in the offers presented at the Reagan-Gorbachev Summit in Iceland in 1986.

From the catastrophes at Hiroshima and Nagasaki some of us have learned it is most imperative that the world verifiably rid itself of all nuclear weapons. Though some nuclear disarming has been underway there still remain the real fears concerning: proliferation, Reliable Replacement Warheads (RRW), nuclear breakouts and terrorism, and our “new enemies.” The danger continues, as

Oppenheimer in 1946 recognized it would; “nuclear weapons can be very effective.” There still remain in this second decade of the 21st century some 17,200 nuclear warheads. It was once said that 300 might be a sufficient deterrent. If there were none...?

This workable moral strategy represents one certain way for the elimination of international war for all people of the Earth. It is also probably the *only* method, for decades or centuries to come, by which people of the Less Developed world, in peace, can become their own masters, can create the sensible path to their own destinies as so many other nations have. This strategy is not a threat to the Developed World. Peace with justice and fairness is preferable to war, anytime.

For those Developing nations and those who repeatedly blame America and international capitalism for all the ills of the world and all the troubles in their nations, here is their chance to successfully move into the future without necessarily being sucked up into commitments and obligations to Developed World Powers, to the World Bank, and to the International Monetary Fund. How many leaders of Developing nations are willing to put their people first, rather than their military? How many will build schools and hospitals, homes and farms, rather than nuclear fortresses, glorious palaces, and monuments? Which leaders of the Developed AND Developing nations will become immortalized as the ones who led their nation to the “New World,” rather than as the ones who kept them chained to a past of perpetual wars and misery? When will they awaken to a “new way of thinking”? Is time running out? Have we waited too long? Francis Bacon observed, “He that will not apply new remedies must expect new evils; for time is the greatest innovator.”

There can be a peaceful world with justice and fairness for all if both Developed and Developing nations have the hindsight, foresight and courage, to view the world, to think about the world, in new ways. The most effective use of military budgets is, not resorting to murderous war, but the *proactive* conversion of extant or potential enemies into equal and cooperative friends, all working for a peaceful world with justice and fairness for all people and all nations. **Can you conceive of a better way for a nation's military to protect its citizens? This workable moral strategy shows how such a world at peace can be achieved.**

"The day will come when the progress of nations will be judged not by their military or economic strength, nor by the splendour of their capital cities and public buildings, but by the well-being of their peoples: by their levels of health, nutrition and education; by their opportunities to earn a fair reward for their labours; by their ability to participate in the decisions that affect their lives; by the respect that is shown for their civil and political liberties; by the provision that is made for those who are vulnerable and disadvantaged; and by the protection that is afforded to the growing minds and bodies of their children." —Peter Adamson of UNICEF (Preamble to the Progress of Nations Report 1993--following up on promises made at the 1990 World Summit for Children)

If you *do not* find yourself in agreement with this workable moral strategy for achieving and preserving world peace, then it is possible that you are not on the track set for the world in the Charter of the United Nations to which members obligated themselves with their signatures on June 26, 1945 and later. In case you have forgotten here is what members vowed to do, and to which they should be held accountable and responsible:

The Purposes of the United Nations are:(12)

1. To maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace, and to bring about by peaceful means, and in

conformity with the principles of justice and international law, adjustment or settlement of international disputes or situations which might lead to a breach of the peace;

2. To develop friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples, and to take other appropriate measures to strengthen universal peace;

3. To achieve international cooperation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion; and

4. To be a centre for harmonizing the actions of nations in the attainment of these common ends.

World Peace is Possible Now

Nowhere in this essay has World Government been proposed, but perhaps every ten years all nations should formally renew their pledge to all the world peace and cooperation goals of the United Nations. All people, including national leaders and legislators, should reread the first articles of the United Nations Charter and *understand their nations' obligations to this world*.

The people of the world, especially people of enduring regional conflicts, plead for peace, plead for an end to the killing, torture, destruction, contamination of their lands, suffering, occupation, imprisonment, deprivation of their human and civil rights, and destruction of theirs and their children's futures. Leaders, because of greed, ideology, isolated ignorance, internal and external collusion, and misunderstood mythology, will not achieve the sought-for peace. *We have shown how it could be done*. True peace with justice and fairness is not something to be bargained for in secret or in corporate boardrooms.

Indeed, **in 2001**, the World Bank and the United Nations have stated the reasonableness of our *workable moral strategy*: "Afghanistan needs about \$9 billion during the next *five* years to rebuild after 20 years of war, the United Nations and World Bank have calculated." (13) That is only \$1.8 billion per year for five years, only 0.45% of a U.S. Annual \$400++ billion Military budget. And via our *workable moral strategy* half of this cost would have been contributed by all other developed nations. Why was the \$9 billion not used first for the people of Afghanistan instead of destruction? By April, 2004, donors had already pledged \$8.2 billion. You see how easy it might be to get the resources if it means peace. How much will be wasted or stolen by corruption and greed? And now, in 2014, I really don't know if any of the pledged funds have been used. Some Afghan regional lords were asking for about \$25 billion; perhaps they were hoping to use some of the money to rearm. As I write, the National Priorities Project website estimates that the U.S. has spent about \$450 billion in Afghanistan; what peaceful future is there in store for Afghanistan? Was \$9 billion used for building a social and economic structure? What horrible mistakes were made, costing many lives! Here is world military spending; (14).

Should there be any doubts in the minds of people of the earth as to the desires of the United States for world peace with justice and fairness for all nations, presentation of this *workable moral strategy* by the United States government to the United Nations would put such doubts to rest. In contrast to the multitude of secrets, corruptions, overt and covert illegal actions, this strategy would renew the faith of many Americans *and the world* that the United States was seeking world peace, was

not pursuing imperialism.

Concerning U.S. activities and operations in the Middle East we would be wise to heed Einstein's admonition, "Henceforth *every* nation's foreign policy must be judged at every point by one consideration: does it lead us to a world of law and order or does it lead us back toward anarchy and death?" What does the world have in 2014, law and order or anarchy and death? Einstein was once offered the Presidency of Israel. What a wise man!

Gen. Butler expressed his grave concern with America's out-of-control militarism and racist imperialism in a number of articles, letters and speeches. For instance, in a 1933 speech, he declared, "War is just a racket. A racket is best described, I believe, as something that is not what it seems to the majority of people. Only a small inside group knows what it is about. It is conducted for the benefit of the very few at the expense of the masses.... The trouble with America is that when the dollar only earns 6 percent over here, then it gets restless and goes overseas to get 100 percent. Then the flag follows the dollar and the soldiers follow the flag. I wouldn't go to war again as I have done to protect some lousy investment of the bankers. There are only two things we should fight for. One is the defense of our homes and the other is the Bill of Rights. War for any other reason is simply a racket." "General Smedley Darlington Butler's Shocking Revelations of U.S. Meddling"

http://www.enlightened-spirituality.org/General_Butler_Revelations.html

The very significant virtue of the *workable moral strategy* described here is that the dollar never goes overseas, the flag stays home, and the soldiers stay home. The currencies of all **participating nations stay home, so also, their flags and their soldiers.**

"The real truth of the matter is, as you and I know, that a financial element in the large centers has owned the government of the United States since the days of Andrew Jackson." —Franklin D. Roosevelt

There is considerable reason to believe President Roosevelt's statement is true, thus the "financial element in the large centers" shares responsibility and blame for the tens, if not hundreds, of thousands of war deaths in the last two decades. The people of the world need protection from those responsible for provoking nations to war. In the United States this responsibility lies with all elements in the highest levels of government, the decision makers. It lies with those who tinker with political and economic machinations, most likely for the advantage of "a financial element in the large centers." These are probably people young enough and sufficiently uninformed to have *no conception* of the atrocity of the nuclear confrontations and conflagrations to which they are quite possibly leading the world. This group of people may include most people serving in the U.S. Congress and from personal experience almost everyone in the U.S. Military. I have my doubts whether Presidents have seen all of the results of the world's first nuclear war; they are probably protected from this. Photographs of the victims were confiscated and held confidential for more than 22 years after 1945. There were well more than 210,000 victims; not many photographs were made and survived. You have seen in this book a tiny fraction of the truth about what happens to people caught in nuclear war. (Although the story from 210,000+ will never be heard.) In a future war there would be hundreds of thousands, more likely hundreds of millions, of victims. The United States government has not revealed this kind of truth about its first nuclear war. No sitting president has ever visited Hiroshima or Nagasaki, as of early 2014.

This present document has described *a workable moral strategy* that could avoid wars and lead to a peaceful world. It is indeed a plan for the *Incentivization of World Peace*. It is workable; it could be

done. Carried out for the world it might be considered the “ultimate kindness.” What forces in the world would reject such kindness and why would they do it? Einstein evaluated every nation's foreign policy by one criterion: "Does it lead us to a world of law and order or does it lead us back toward anarchy and death?"

To a citizen of the world it may be apparent, now in mid-2014, that the actions currently underway by the two communist nations, China and Russia, are akin to the much more blatant aggressive actions of the Japanese and Nazi war machines in the early half of the past-century. Now squabbling over more territory, more dirt more sea, using variations on the older brute force approaches. Even though a nation can project military power, it is not required that it be used. In the Crimea a mini-war has already claimed lives. Will more be lost in the South China Sea and in the “North China Sea”? Of course, the Brits and we in the U.S. know all about these approaches; we don't need the dirt or the sea but what is beneath them.

"I have known war as few men now living know it. Its very destructiveness on both friend and foe has rendered it useless as a means of settling international disputes."

—General Douglas MacArthur

“All peoples are solely tired of the fear, destruction, and the waste of war. As never before, the world knows the human and material costs of war and seeks to replace force with a genuine role of law among nations.” —President Eisenhower, State of the Union message, January 9, 1959

Justice

Justice in the hands of the powerful is merely a governing system like any other.

Why call it justice?

Let us rather call it injustice, but of a sly effective order,
based entirely on cruel knowledge of the resistance of the weak,
their capacity for pain, humiliation and misery.

Injustice sustained at the exact degree of necessary tension
to turn the cogs of the huge machine-for-the-making-of-rich-men,
without bursting the boiler.

Georges Bernanos (1888–1948), French novelist, political writer.

—M. Olivier, in *The Diary of a Country Priest*, Ch. 7 (1936)

"America can do whatever we set our mind to." —Barack Obama

“But it was impossible to save the Great Republic. She was rotten to the heart. Lust of conquest had long ago done its work; trampling upon the helpless abroad had taught her, by a natural process, to endure with apathy the like at home; multitudes who had applauded the crushing of other people's liberties, lived to suffer for their mistake in their own persons. The government was irrevocably in the hands of the prodigiously rich and their hangers-on; the suffrage was become a mere machine, which they used as they chose.

There was no principle but commercialism, no patriotism but of the pocket.”

— Mark Twain (Samuel Clemens), 19th-century American humorist,
author and journalist. In his: *Letters from the Earth*

Since 1945 have there been any world conflicts which could have justified the use of nuclear weapons? Are there any American politicians that you would trust with the responsibility of using nuclear weapons? Could you trust anyone in the world with this responsibility? Is there anyone qualified to make such a decision? It might be best to remove the necessity for such decisions from human hands and faulty human wisdom.

*The map titled Israel is courtesy of One World – Nations Online, www.nationsonline.org

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Chapter 6

Atomic-Bombings Justified?

The atomic bombings of Hiroshima and Nagasaki evoke emotional responses from most people *who understand* what happened there. Every bit of my moral and ethical fiber tells me it was wrong. Or was it? The United States knew in July, 1945, and even earlier, that the Japanese Emperor and his closest advisors wanted to end the war, *preferably not as unconditional surrender*. “Closest advisors” does not include the Japanese War Ministry which was in actual control of governmental decisions. Do as we say or . . . Assassinations were still possible.

There were four conditions sought by the Japanese military in their surrender “Plan B,” not just a single condition that the emperor would remain as ruler. Those four conditions were:

- 1) There would be no change in the legal position of the Emperor,
- 2) The occupation should be as restricted as possible (meaning few Allied military allowed into Japan),
- 3) Disarming would be carried out by the Japanese themselves,
- 4) Trial of war criminals would be carried out by the Japanese themselves.

It seems that the Japanese war leaders had deluded themselves into thinking that they might end the war not as was done in Europe, but in a diplomatically polite manner, with apologies all around, stopping the battles while possibly even keeping conquered territory. In the temper of the times and with the anger in men’s hearts this would not happen. The day of atonement for the invasions, enslavement, torture, destruction, and millions of deaths was near. Just how it would occur, how the war would end, depended greatly on the Japanese War Ministry’s beliefs and decisions. For the three months since the surrender in Europe they could see what was happening to Germany. The Allied Forces in Asia, still killing and dying; how long shall the world be kept waiting for surrender?

Why was the atomic bomb used so soon after the successful New Mexico “Trinity” test on July 16, 1945? Were the Japanese warned? Why wasn’t more time taken to consider the Japanese indirect offer to end the war via their Plan B?

The Potsdam Declaration (July 26, 1945) in an attempt to be persuasive spelled out what Japan could expect if they did not surrender:

“The might (that defeated Germany) and that now converges on Japan is immeasurably greater than that which, when applied to the resisting Nazis, necessarily laid waste to the lands, the industry and the method of life of the whole German people. 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.”

The Japanese War Ministry must have known this was a good possibility. The Potsdam Declaration clarified and warned: **“The alternative (to surrender) for Japan is prompt and utter destruction.”**

The terms of surrender were then spelled out in some detail, accompanied with a further warning for Japan not to delay: **“Following are our terms. We will not deviate from them. There are no alternatives. We shall brook no delay.”**

Did the Japanese *suspect* that racial attitudes would cause their defeat to be even more cruel and destructive than it was to the Nazis? We do not know, but after August 1945 the cruelty did not happen. (However, some Australians, and probably others, did not treat captured Japanese with any particular care.)

For the concerned reader examination of the Potsdam Declaration is recommended (see end References). Considering the brutal havoc and scope of the devastation brought about by the Japanese military in Asia, it seems that the Declaration's terms are somewhat liberal in preserving Japan as a nation. The terms were more liberal than those forced onto the Asian nations whose lands Japan had conquered. They could have surrendered as late as August 5, but the Japanese civilian Prime Minister's response to the Potsdam Declaration, directed by radio broadcast to the Japanese military and intercepted also by Allied radio, was "to kill with silence" (*mokusatsu*), which was meant to be "no comment," and was mistakenly interpreted and publicized by the Allies as "ignore". Was the intention, "We need more time."?

The hope of the Japanese military (the Army, in charge) was that if they could hold out a little longer and make it more costly for the Allies, then Japan might be able to arrange for more favorable surrender conditions. It is important to understand what their action plan was to seek these better conditions. But the Potsdam Declaration already said there were "no alternatives" and it gave warning about delay. The Japanese War Ministry understood. How could they believe that Japan would get any better conditions than Nazi Germany? The Japanese Military did not suspect that they were about to be blind-sided, as never before in wartime.

Let us suppose that more time was given, that the atomic-bombs were not used. Japan knew to expect the destruction and death of more cities by incendiary air attacks, Hiroshima, Kokura, Niigata, Nagasaki, eventually perhaps, Kyoto and more; perhaps another 200,000 dead; at which point everyone left in Japan will be in coastal villages and in the countryside, awaiting the invasion. But instead of invasion the next step for the Allies could have been the destruction of the rail transportation system with dire consequences for food distribution. Perhaps there were plans to directly destroy the rice crops. How many would die simply from starvation, and from disease brought on by malnutrition? It was already happening. The Soviets will have entered the war in Manchuria; as it was they killed 80,000 Japanese there. Would the Soviets have killed more of their 594,000 Japanese prisoners if the A-Bombs had not forced the Japanese Emperor to take control? And how can war ravaged Russia accommodate almost 600,000 war prisoners?

Nevertheless, just as the loyal and courageous military of many nations would do, the War



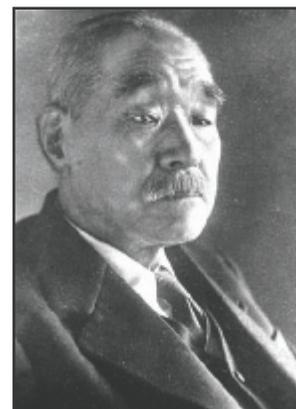
General Anami

Ministry and many officers would attempt by all means to prevent the occupation of Japan, the nation never before successfully invaded. The action plan: All of Japan would be mobilized to fend off the expected impending invasion. The kamikaze attacks by sea and air, and Japanese massive military and civilian, women and children, counterattacks on the beachheads would cause devastating losses to the Allies; hundreds of thousands will die. The Allies believe that when invasion of the Japanese home islands begins, it is likely that all Allied prisoners of the Japanese, some 350,000, will be killed. However, the Japanese believe that such additional destruction, trying to prevent the home island invasion, will somehow give them more favorable surrender conditions. They expect that the horrendous losses (on both sides) will persuade the Allies to sue for an end to it all, under Plan B conditions. War Minister, Army General Anami, and many of his officers promoted this idea. They are sure Japanese citizens will make this sacrifice. They apparently had no understanding of Allied resolve and anger. One would think that by

this time they would have recognized the massive extent of the arsenal aimed at the heart and soul of Japan.

There were some in Japan to whom the concept of invasion, defeat and occupation was so abhorrent that they would have allowed the complete destruction of all Japanese; 100 million will die as one; Japan would survive only in history books. By hindsight then, one might argue that by forcing the war to its nuclear-bomb-ending the Allies were being more humane to the Japanese people than were some of their own military leaders.

At this late point in the war the Emperor had grave doubts about the Japanese military capability to continue with any likelihood of success. If the Emperor or perhaps Prime Minister of Japan, former Admiral Kantaro Suzuki, had been in direct contact with the White House, if they had understood the likely fate of Japan, there was a slight chance the war *might* have ended differently. Japan must have been quite out of touch with reality to think that “Russia” would aid their peace seeking efforts; the “Russia” whose navy with some luck they defeated at the start of the century, and with whom they were doing battle in Manchuria at Nomonhan as recently as 1939. Anyone but “Russia” might have been of more help.



Kantaro Suzuki

The first ever *Allied nuclear* attack struck Hiroshima, August 6, 1945 at 8:15 a.m., the commencement of “prompt and utter destruction” in a new form. **The Japanese military thought they could still postpone the end, defend against an invasion and get better surrender conditions.** They could surrender now, but they did not respond to the Allies. Were they given enough time? In Tokyo, 700 km distant from Hiroshima, did they understand what had happened? The second nuclear attack destroyed Nagasaki, August 9, 11:02 a.m. By radio the Japanese broadcast to the world the inhumanity of atomic bombs. If the Japanese had known of such a weapon prior to the bombings, then this broadcast would have preceded the bombings. (Chemical and biological attacks would have been more humane, would not have destroyed the towns, many fewer blast injuries, no deaths from fire or nuclear radiation and no residual radiation dangers. Rescue could have been easier. The United States was not signatory to the 1925 Geneva Protocol which condemned the use of chemical weapons. Japan employed poison gas against Chinese guerrillas, 1937-1942.)



Emperor Hirohito

On August 9, 1945, one minute after midnight, the Soviet Union began its overwhelming attack on the Japanese army in Manchuria, destroying or capturing the Japanese Army there, with many Japanese civilian deaths also. **But in Tokyo many of the Japanese military still wanted to continue the war; they would lose face if they backed down now.** The Emperor denied them, regardless of what his fate would be.

A coup d'état to isolate the Emperor was attempted by Japanese officers who wished to continue the war, but it was averted. Acceptance of the Potsdam conditions was delivered to the Allies with Plan B attached as “desirable conditions.” War Minister, General Anami, commented that if he had known of the attachment of Plan B conditions, he would not have presented so much resistance to surrender.(1) (Without atomic bombs used would he have lessened his resistance to surrender soon after the Soviets on August 9 marched into Manchuria? If there had been no atomic bombs used would Hirohito have *forced* surrender shortly after the August 9 invasion by the Soviets into Manchuria? We will never know.)

The Japanese proposed to surrender, “...**with the understanding that the said declaration does not comprise any demand which prejudices the prerogatives of His Majesty as a Sovereign Ruler.**” (One of their Plan B conditions.)

The Allies replied, **“From the moment of surrender the authority of the Emperor and the Japanese Government to rule the state shall be subject to the Supreme Commander of the Allied powers who will take such steps as he deems proper to effectuate the surrender terms.”**

Still quite vague as to the fate of Hirohito, but for the Japanese *Foreign* Ministry, considering what was favorable to them in the provisions of the Potsdam surrender terms, this reply was apparently close enough. They could not get any better conditions. Hirohito forced acceptance, August 10, and *after five more nervous and tense days* the word finally got out. The Emperor for the first time ever, August 15, spoke directly to his subjects, by radio broadcast transcription, telling them *not that Japan surrendered* but that the war was over. He and Prime Minister Suzuki expect that better days are ahead and that Japan will recover.

It is all too easy to start a war; to end one may take considerably more wisdom and effort (“Mission Accomplished”). Japan had great difficulty finally stopping. Mosley’s biography of Hirohito describes the internal conflict in the Imperial Conferences from August 9 to August 15, suggesting that, **because of military objections, acceptance of the Potsdam Declaration was still in doubt on August 14.** (2)

In the days to follow some 500 - 600 Japanese military and civilians committed suicide as their responsibility for their nation’s loss. General Anami’s suicide was not an easy one; his knife-cutting was not sufficient, and even a dagger in the neck placed by his brother-in-law, Lieutenant Colonel Masahiko Takeshita, did not allow him to cross over into the next world. Almost three hours in agonizing pain was finally ended by a military physician’s hypodermic. (3)

In the last months of the war a German U-boat was captured carrying 1,200 pounds (560 kilograms) of natural-uranium oxide and two Japanese officers, destined for Japan. The Japanese officers were allowed to commit suicide, and it is thought that the uranium oxide went to the Oak Ridge laboratory of the Manhattan Project (probably too late for use in the Hiroshima bomb).

If Japan, and Japan only, had had atomic bombs would they have used them to defend their nation from invasion? Likewise, if Germany alone possessed the weapon, would it have been used? Both nations had atomic bomb projects; the Japanese project was only in early stages.

It seems that the only ways the atomic bombings of Hiroshima and Nagasaki could have been avoided would have been, for Japan to surrender sooner, or for the moral and ethical standards and wisdom of the Allied powers to prevent the use of such weapons. It is unclear that top-level 1945 Manhattan Project officials from General Groves on up to President Truman had any understanding of the effects on the people of Hiroshima and Nagasaki of the heat and nuclear radiation from the two atomic bombs. The Japanese War Ministry and General Anami in particular failed to realize that the war was a lost cause as early as the defeat of Germany. His insistence, that Japan might get better terms by killing more, was foolhardy. It was the philosophy, “If I’m going down, I’ll take as many as possible with me.” He may have understood the fruitlessness of further resistance, but did not yield to it. Did he actually realize that his war was lost? The people of Hiroshima and Nagasaki needlessly suffered for his intransigence. Possibly, therein lays the key to understanding the world’s need for a prompt end to World War II. The war-time killing finally stopped. Some insist that the atomic bombs were a “military necessity”. It does not seem that the bombings can be termed “military” victories.

If the atomic bombs had not been created, and if the Japanese War Ministry had continued the war, could the subsequent death toll in Japan have reached into additional millions?

Consider also: Suppose WWII had not involved the Soviet Union; suppose it was a war between all the other Allies and the Axis powers; suppose the Soviet Union did not exist. The war would still end in a similar manner, with the possibility of German cities also atomic-bombed. The argument that the atomic bombing was to intimidate the USSR is found somewhat lacking. Peter Kuznick of American

University and Mark Selden of Cornell University would debate this point. Furthermore, in the opinion of Sgt. Stavka, Sword of the Motherland Foundation, “The Soviet Union was not capable of invading the Japanese main islands in 1945. An old quote that applies here is ‘the Russian is primarily a land animal’. They had no sea lift capability, especially in the Far East. Photographs of Soviet units invading the northern islands show them landing in large rowboats and barges. While it’s true that they had amphibious tanks, their amphibious operations against the Germans were very short ranged and poorly executed. They also lacked the naval fire support and air cover needed to protect the landing areas. The Japanese had plenty of aircraft and home defense troops to defend the beaches against any Russian attack.”



President Truman

In America, in 1945, Truman had in his hands a weapon that in all likelihood would end WWII promptly, prevent probably close to a million



Henry L. Stimson

more deaths if the war was to be concluded with invasion and not the bombs. There was no international rule against the specific weapon, just a general rule against weapons like these. Should they have been used? By hindsight, of all the terribly beastly decisions Truman had to make to end the war, to Truman, the practicality of the atomic bombings was likely believed by him to be the least bad of no good choices, for both the Japanese and the Allies. World War II had become *total war*, “a war without mercy.” No one was safe. But there can be no more justification for using such a weapon on a city of civilians, than there can be for: starvation, cruel treatment, and execution of prisoners of war; deadly experiments on captured prisoners; gas attacks against opponents, massacres of civilian populations. The bombings *were* atrocities.

If you condone the use of nuclear weapons then you place yourself also in favor of the use of all “weapons of mass destruction,” chemical and biological weapons, poison gas, in the *ultimate* defense of your nation. On August 1, 1945, it is very possible that neither Truman nor War Secretary Stimson fully understood the total ramifications of nuclear war. Instead, should they have, sooner or later, signaled the invasion to start, triggering War Minister Anami’s fatal defense of the home islands? Or, without atomic bombs, would the Soviet invasion of Manchuria on August 9 with more incendiary raids on Japanese cities, would these have triggered “unconditional” surrender? I think many Japanese believe this last to be true. Mosley has suggested that in Tokyo, a long distance from Hiroshima and Nagasaki, the atomic bombs were not well enough understood by those in power, the military, to provoke surrender. If they had lived, General Anami and the other 500 - 600 who committed suicide might have been able to shed more light on the war’s termination. It is possible that the Japanese have adopted the “American reason” for the war’s end, i.e., atomic bombs. How would it have looked if the reason given was the Soviet invasion of Manchuria?

Though the nuclear host of hell cannot be eliminated, there is a different evil that emerged from WWII that should be controllable. How did it become justifiable, the wholesale bombing and destruction of cities? Who is responsible for legitimizing the killing of non-combatants, civilians, women, children, elderly innocents, simply by virtue, they happen to live there? How did it come to be that military forces were not content to engage in military battles, but needed, were ordered, to slaughter civilians? When the massacre goes on a mile away, or five miles below, or 30 miles down range, or today 7000 miles away, the trigger man gives little thought to his action. He’s simply following orders. Is this the way wars are to be fought, B-52 bombers, napalm on native villages, and drones controlled continents away?

Here is an opportunity for the UN and the International Court to establish some rules of war; detarget from bombing all cities and towns. What use then for nuclear weapons? If the wars in Iraq can be an example, we see that there is no need for nuclear weapons, not even the small low-yield nuclear “bunker busters.” Was the “coalition of the willing” in Iraq reasonably successful in its attempts not to target civilians? North Korea has suggested that in the event of war, Seoul, the capitol of South Korea, would be a target for a nuclear bomb. What has the UN spelled out for North Korea, for any nation, if they use a nuclear weapon on a city? Would it be war crime?

Should President Truman be considered a war criminal? This question (4) is raised (on the Internet) because of the atrocities of Hiroshima and Nagasaki. Why not because of the firebombing of Tokyo? Why not make a war criminal of any pilot who strafed civilians or any soldier who grenaded or flamed a cave or dwelling containing civilians? Why not make a war criminal of any soldier who machine gunned a running populace, or the submarine commander who sunk the Tsushima Maru loaded with 826 children? Did all the missiles aimed at Iraq land on military targets? If drone attacks hit the wrong target or destroy too many homes and families, is the drone pilot a war criminal? Should the U.N. itself be considered a postwar criminal if its actions or inactions cause the death by starvation and disease of Iraqi children? Better to not start the war.

Military-Industrial-Theocratic control of a nation is an invitation to trouble, if not to eventual disaster. When you resort to war as *the means* to resolve conflict you have no control over what the opposition will use against you. But if you rely upon internationally accepted legal means of conflict resolution, then you maintain some control, and you may even be able to predict, the outcome of the conflict, no matter how long it may take. This is why the United Nations and the International Court need to be supported and strengthened in their efforts to remedy international conflicts, to avert wars. If nations take on these responsibilities themselves, individually, then more wars will be our fate. India, Pakistan, China, Taiwan, North Korea, Iraq, Iran, Israel, Crimea . . .

Japan is a mountainous country with few natural resources, except . . . Over the many years of its military rule, during that period of western colonialism elsewhere, Japan failed to realize that its most valuable resource, a natural one, was its people. This has been verified in the 10-40 years that followed the destruction of Japan. The policies of the Japanese military government caused the destruction of 2,000,000 of their own. When we in the U.S. think of Allied servicemen who did not return, in Japan the same feelings arise when they view films of their young military cadets proudly and with dedication going off to a war from which a great many did not return. Think where Japan could have been in 1955 had it not sought imperial expansion abroad. Consider where some of today’s militarist nations might be were they not so trapped by religious, political, and historical ideologies. What shall be the fate of their young men unless there are changes?

Well you might wonder why the U.S. government, U.S. nuclear/weapons industries, and others in the ten years following 1945 would not want to reveal the truth about any nuclear dangers. Most people at that time did not know the truth because the Occupation not only confiscated such evidence but it also placed severe restrictions about what the Japanese could reveal about the initiation of nuclear war on them. I have spent more than 54 years in study, twelve summers of it in Hiroshima and Nagasaki so that I could get it right.

I can certainly understand the happiness of WWII veterans, primarily those who were in the Pacific War Theater or who faced the prospect of being sent there at that time. Pacific Theater—what a misnomer! As if it was a pacific place from which to watch the show, view the slaughtering battles.

But the truth about what happened to the people of those two cites would not be revealed for some 22 to 30 years after 1945. And who cared then? We were busy killing other Asians in Vietnam, no time to look back. If you read what was going on in Japan from August 1 to August 17, 1945; it may

provoke doubt as to the reason the war ended. Vietnam veterans seem more sympathetic of the victimization of the Vietnamese and Cambodian people, even though the killing was not as horrendous. What changed? Why are there organizations such as *Iraq Veterans Against the War*?

In August of every year now, throughout the world, there would be no “Hiroshima Day,” there would be no “Nagasaki Day,” if the killing and destruction had not been brought about by **nuclear weapons**. *That is the difference* in this nuclear age and critics and skeptics seem not understand this. Or more likely and all the more regrettable, critics and perhaps many Americans *do not wish to understand this, will not make any effort to understand this*. But Hiroshima and Nagasaki were *not* military battles or victories.

Here is what Truman was beginning to learn in the three days following the first bomb: “August 10, 1945: Having received reports and aerial photographs of the effects of the Hiroshima bomb, Truman ordered a halt to further atomic bombings. Secretary of Commerce Henry Wallace recorded in his diary on the 10th, "Truman said he had given orders to stop atomic bombing. He said the thought of wiping out another 100,000 people was too horrible." “He didn't like the idea of killing, as he said, 'all those kids'." (John Blum, ed., "The Price of Vision: the Diary of Henry A. Wallace, 1942-1946", pg. 473-474.)” <http://www.doug-long.com/hst.htm>

And Truman on August 10, 1945, could not have imagined what happened to the people of Hiroshima and Nagasaki; the only photographs he had were aerial, not showing what was under the rubble, under the smoke, what was in the crude aid stations, what was lying along the roads, sheltering in the wood groves and caves, floating in the rivers out to sea. Apparently there are no good resolution aerial photos of either Hiroshima or Nagasaki, photos of the roads and rivers, taken during the hours immediately after the bombings; *extreme and unforgivable Collateral Damage*.



Nagasaki, August 10, 1945. Mother and child were awaiting the train at Urakami Station. The war had become the indiscriminant slaughter of women and children. Photo A-13-16 by Yosuke Yamahata, © Shogo Yamahata.

It seems no one had informed Truman that when he approved the bombings of Hiroshima and Nagasaki, targets surrounded by workers' homes, that he would be killing tens of thousands of women, children, and elderly. Even in Truman's later years of small bluster he said he would do it again. But one would have to give him some credit for recognizing in the aerial photographs of destroyed Hiroshima that something terribly wrong had happened and he was responsible. To a lesser or greater degree, in wartime, everyone's humanity fades.

It is easy not to have understood. Schools and media have presented incorrect assumptions and conclusions about the nuclear weapons used against Japan; the Japan already defeated, trying to find a way to end the war. Not to know is understandable; where would teachers find this topic in their own training? How would WWII veterans learn any of this? For that matter, how does it come about that members of Congress learn of such matters? When and if they learn, is their information politically doctored?

One who really understood by being there was Marine Sgt. Joe O'Donnell, photographer of Hiroshima and Nagasaki beginning in September, 1945. He was the photographer of the black and white photograph of Sumiteru Taniguchi's back, he of the "red back", who has now painfully carried the atomic bomb on his skinless, scarred and eroded back since 1945.

Upon discharge from the service O'Donnell kept 300 of his personal negatives. Because they were so personally disturbing he locked them away and did not look at them again until 1989. (I assume that if the military knew he had such negatives they would have been confiscated by the Occupation Forces.) After his discharge he became a photographer in the White House and occasionally spoke to President Truman but not often. In an informal situation in October 1950, walking next to the President on a Wake Island beach, he finally got up the gumption to raise the question that had bothered him for five years. I quote from O'Donnell's book (5):

"Mr. President, I said, "I was a Marine photographer assigned to Hiroshima and Nagasaki after the war, and I often wondered if you had any second thoughts about your decision to drop the bomb on those cities." His reply startled me. It was quick and loud, if somewhat cryptic.

"Hell, yes! I've had a lot of misgivings about it, and I inherited a lot more, too!"

In August, 1995 O'Donnell said, "I believe it was wrong; morally wrong. Just as wrong as the holocaust. It was a crime not just against history but against humanity. I walked in the ashes of Hiroshima and Nagasaki in 1945 and photographed the children, the women, the elderly, the mutilated and disfigured. The victims who suffered and died like no other people in the history of the world...We owe it to those who died to keep their memory alive...We cannot, we must not, let any one country become the victim or attacker again. No more Hiroshimas! No more Pearl Harbors! No more Nagasakis! No More! For Peace is the future and without peace there will be no future."

What this former Marine with A-Bomb experience in Hiroshima and Nagasaki is saying is this: If we do not keep the memory of the first *nuclear* massacre *alive*, there is a much more likely chance that it will happen again. And *we* might say, especially likely if left to "deciders" whose knowledge, wisdom, motives, and knowledge about nuclear war are highly questionable. (See this chapter's references to Joe O'Donnell's two books.)



Joe O'Donnell, permission from Kimiko Sakai.

We are aware of President Eisenhower's admonition in his farewell address: "In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for *the disastrous rise of misplaced power exists and will persist.*"

To me, this has become painfully obvious over the last several decades.

But you don't have to take their words for it. General David M. Shoup, a sharp critic of the war in Vietnam, was awarded the Congressional Medal of Honor for his service in WWII. At that time he was Marine Colonel Shoup, commanding officer of all Marine Corps troops attacking Betio Island, Tarawa Atoll, and the Gilbert Islands in November 1943. Later he became the 22nd Commandant of USMC, 1960-63. In May, 1966, about the war that was building in Vietnam he said, "I believe if we had, and would, keep our dirty, bloody, dollar-crooked fingers out of the business of these nations so full of depressed, exploited people, they will arrive at a solution of their own. That they design and want. That they fight and work for...and not the American style, which they don't want. Not one crammed down their throats by the Americans."



General David M. Shoup, USMC

Does the following describe contemporary America? "As a result of the war, corporations have been enthroned and an era of corruption in high places will follow, and the money power of the country will endeavor to prolong its reign by working upon the prejudices of the people until all wealth is aggregated in a few hands and the Republic is destroyed. I feel at this moment more anxiety for the safety of my country than ever before, even in the midst of war. God grant that my suspicions may prove groundless." -- U.S. President Abraham Lincoln, Nov. 21, 1864 - (letter to Col. William F. Elkins) - Ref: The Lincoln Encyclopedia, Archer H. Shaw (Macmillan, 1950, NY)

Thinking more about this, one comes to realize that despite all the patriotic phrasing that is used with relation to military service, the truth really comes down to the fact that military training has one general purpose *for all* and that is to prepare every service-person to be able to forget their humanity, to be prepared to kill another human on the command of someone "superior" to them. Veterans of all wars may never realize this, but why else did they all qualify with rifle or carbine, everyone trying to achieve the "expert" badge. Expert at what? I suspect that the current wave of suicides within the "active" military is related to this possible quandary, "How did I stop being human?" Yes, when hundreds of the enemy come storming at your base, you will shoot to kill! But who put you in that position? Why have you been screwed into that predicament? It must be a terrible challenge to come back to a peaceful world after the killing fields of battle. Do all Commanders-in-Chief also confront such quandaries, unsolvable by them?

"Like all members of the military profession I never had an original thought until I left the service. My mental faculties remained in suspended animation while I obeyed the orders of the higher-ups. This is typical with everyone in the military service."

—Major General Smedley Butler. USMC (Ret.)

One might consider the deep meaning of this short tale which has been told many times in many ways:

—An elderly and wise Cherokee Native American was teaching his grandchildren about life. He said to them, "A fight is going on inside me...It is a terrible fight, and it is between two wolves. One wolf represents fear, anger, envy, sorrow, regret, greed, arrogance, self-pity, guilt, resentment, inferiority, lies, pride and superiority. The other wolf stands for joy, peace, love, hope, sharing, serenity, humility, kindness, benevolence, friendship, empathy, generosity, truth, compassion, and faith. This same fight is going on inside of you and every other person too."

The children thought about it for a minute and then one child asked his grandfather, "Which wolf will win?"

The old Cherokee simply replied, "The one I feed."

"The use of the atomic bomb was not really needed to produce this result. With 9/10 of Japan's shipping sunk or disabled, her air and sea forces crippled, her industries wrecked, and her people's food supply shrinking fast, her collapse was already certain." —Winston Churchill

The mere passage of time does not change the morality of crimes against humanity. The definition of "atrocities" does not depend upon who commits it or the reasons for so doing.



The boy is waiting to put his dead sibling into the pyre.
Photo by Joe O'Donnell, permission from Kimiko Sakai.

"I hate war as only a soldier who has lived it can, only as one who has seen its brutality, its futility, its stupidity." —Dwight D. Eisenhower.

We have seen in this book that war is brutal. Ike is now telling us that Congress, the Presidency, and the U.S. State Department lead us into futile and costly expenditures of money and lives. They direct the population into wars that are "stupid." Thus implying what about these "decision makers," these "deciders"?

Who among the leadership of any nation is *qualified* to order the use of nuclear weapons against another nation? What are the qualifications of such a person or group? Would you trust a high ranking politician with such a decision? *A politician?*

August 9, 1945

Dear Dick:

I read your telegram of August seventh with a lot of interest.

I know that Japan is a terribly cruel and uncivilized nation in warfare but I can't bring myself to believe that, because they are beasts, we should ourselves act in the same manner.

For myself, I certainly regret the necessity of wiping out whole populations because of the "pigheadedness" of the leaders of a nation and, for your information, I am not going to do it unless it is absolutely necessary. It is my opinion that after the Russians enter into war the Japanese will very shortly fold up.

My object is to save as many American lives as possible but I also have a humane feeling for the women and children in Japan.

Sincerely yours,

HARRY S. TRUMAN

Honorable Richard B. Russell
Winder
Georgia

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Potsdam Declaration, http://metalab.unc.edu/pha/war.term/093_03.html

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CHAPTER 7

A Natural: Nuclear Physics, Nuclear War. Is It, Was It, Missing from Your Curriculum?



"You can't say civilization don't advance...
in every war they kill you in a new way." - Will Rogers

Thoughts on Teaching about Nuclear War

"...This class has definitely changed my view on the world today and the idea of nuclear weapons. It has opened my eyes to the horrors of what these "monster weapons" can do. I am grateful for the knowledge I have found. I can't believe how much conversation strikes up at the dinner table over this issue now that several of us are taking this class. I wish everyone had a chance to take a class like this. Maybe then the countries of this world would stop and take a look at what they are doing!.....Can't wait to talk to you some more about this! ...” —a student comment to parent.

From 1979 to the present day Illinois Wesleyan University has been providing its students with a course about which some students have remarked, “This should be required of everyone!” They are speaking of our *general education course* in the physical sciences the theme of which is: an exploration of the first use of nuclear weapons in war, nuclear physics and technology, and avoidance of a repeat use of nuclear weapons. It is the story that in the year 2000 journalists voted “*The story of the century,*” Illinois Wesleyan’s unusually successful course, Physics 239, “*Problems of Nuclear Disarmament.*”

Is a course like this missing from your curriculum? Or did you miss such a course in your school days?

“Francis Kazemek, an associate professor of education at Eastern Washington University, researched the extent to which texts gloss over important topics. *The atomic bombing of Hiroshima, which Kazemek calls ‘a morally complex action,’ was allocated a paragraph (two at most) in the 50 elementary and secondary history and social studies textbooks he surveyed. ‘Hardly enough,’ the researcher says, ‘to present even a cursory overview of the physical, moral, and political implications of the event.’*” (1)

At no time in recent history has the need been greater to educate young people of the USA and the world about the urgent need for peace and about the true realities of nuclear war; that should be obvious from the earlier chapters of this book. Nuclear war problems led to the creation in 1945 of a new journal, *The Bulletin of the Atomic Scientists*, endorsed by many Nobel Laureates including Albert Einstein, and also by Robert Oppenheimer, the “creator” of the first atomic bombs, and Leo Szilard who in 1934 obtained British patents for the nuclear fission process, patent numbers 440,023 & 630,726. The world’s nuclear problems remain largely unsolved; some have become more complex; and without doubt these nuclear problems dictate the foreign policies of a number of nations. **Are our educational systems helping to teach the next generations of politicians, decision-makers, and citizens, the nature of nuclear war, the importance of a solution to this problem, and the effect nuclear confrontations have had on our lives? Do our current representatives in Congress, who fund our nuclear weapons programs and decide our nuclear policies, do they fully understand the nature of nuclear war? Do they fully understand what the true cost of a nuclear war would be to the United**

States and to the world? Do they understand the importance of a solution to this problem? Apparently not; in 2014 they are more concerned with the Affordable Care Act, immigration, same sex marriage, concealed carry, and the next election.

Hiroshima, August 6, 1945, 8:15 A.M.

16 kiloton bomb (rated as 12.5 kton - until 1986)

1.0 kton of TNT = complete fission of about 57 grams of fissionable material.

15 kton → a fireball of temperature about $\approx 7700\text{ C}^\circ$
Radius (maximum): ≈ 0.11 miles ≈ 177 meters
Diameter: 354 meters ≈ 354 yards (3½ football fields)

All at ≈ 8000 Kelvin (Sun's surface ≈ 5800 Kelvin)
Hanging in the sky ≈ 400 meters above the ground
at Hiroshima and Nagasaki

15 kton
On the skin: $7\text{ calories/cm}^2 \rightarrow 3\text{rd degree burns}$
(out to 2 km at Hiroshima)

At the Hiroshima hypocenter,
radiant exposure = 99 calories/cm^2

Illinois Wesleyan's physics course provides general education credit in Physical Science (as an "Issues" course) without a Lab. The 40-75 or more students who have enrolled in many May Terms are from all major areas of study. Because of its detailed look at things Japanese, including the catastrophic events at Hiroshima and Nagasaki, the course also provides university "flag credit" in the area of *Global Diversity*.

This "flag credit" required some thought, on the part of this writer to design it, and on the part of the university's curriculum council to approve it. *If you are a teacher* and your institution has provision for "global diversity credit," you are encouraged to consider seeking it if you adapt some of this book's ideas. Obviously the global diversity accent would be on "things Japanese," and probably stressing the "war period for Japan."

The war topics that would be encountered can be depressing: not only the physical and societal effects upon the people of Japan in the aftermath of the nuclear war, but also the effects on *hibakusha* (bomb affected people) worldwide: Marshall Islanders, "down-winders" in the U.S., victims of uranium ore mining, unsuspecting physiological test victims, and many others. The Japanese are not the only victims of the worldwide nuclear enterprise. Every nuclear nation has victimized part of their population, though it is little publicized. The addition of "things Japanese" *that I will recommend* have a tendency to lighten-up the course; I feel it is needed; you probably would also. This present chapter then, is written from that point of view. The material related to the course's Global Diversity flag credit is a pleasant experience for all students. Through the physics material and demonstrations I can make the course "enjoyable," but *if your course area is other than science you will need to think about what material you can use to "lighten-up."* You may find sufficient just using the "global diversity" items clearly listed in pages that follow. *Otherwise students can/may become somewhat depressed; there is much death and destruction in such a course, as you have understood from the previous chapters.*

The *Syllabus for Physics 239* is rather long. From it students will get a vague idea of my opinions about nuclear weapons. As a solution for conflict, I am biased against war in general and nuclear war especially. Students are told on the first day of class, that if they sense any other biases on my part, perhaps political ones, they should raise that question.

I could not continue to teach this subject matter over 53 years, repeatedly going over such gruesome and disturbing material, if I was not an optimist and, if in spite of it all, I didn't enjoy the classroom encounters and know that students have found the knowledge gained, valuable, and sometimes, believe it or not, fun.

"...I have been meaning to email you about the May term class. I loved the class so much and I was so sad when it was over. The class opened my eyes to so many interesting things that I have never learned about. I have been reading books about World War II, Hiroshima and Nagasaki, and other issues involved with the history of our world...thanks again for a great May term; I never thought I could be so interested and excited about a class!" —a student comment to RW.

For a number of years at IWU (total enrollment about 2,100, but most seniors gone in May term) some 30-79 have enrolled in this May Term physics course; it became "popular." Through the course we try to examine what might be necessary to eliminate *war being used as a conflict solution*. An earlier version of those ideas formed half of the last chapter of James Warf's book, *All Things Nuclear*, 2005 Edition.

The IWU course, Physics 239 "Problems of Nuclear Disarmament," was regularly scheduled for a 3-week May Term, meeting for five hours per day, for the three weeks; students are enrolled in only one course in May Term. This was ideal for this course in view of the quantity of visual material utilized. These notes are written then as if you also had 5 hours per day, for three weeks. Your adaptation would require some thought. Three weeks of class, that's 15 days, that's 75 hours total in class. Commencing in the Fall, 2012, the course is to be offered in a regular semester; the 3-week May Term version may also continue.

But first, if you are teaching, your students will need to find out what war is, what nuclear war is, and what preparation for nuclear war is, and why preparation has been done. It would be advisable for you to consider what you wish to be the end goal of any course you teach. Why would you, why are you, teaching about this? What do you want your students to possess and further seek after completion of their study with you? Watch out for your biases. A visitor to Einstein very calmly and coolly said to him: "Why are you so deeply opposed to the disappearance of the human race?"

The Summer One-Week Workshop for Teachers

In addition to the *Problems of Nuclear Disarmament* class, starting in 2002, I offered at Illinois Wesleyan a series of five one-week summer Workshops, "Hiroshima and Nagasaki for College Teachers." At their inception the workshops received support from the cities of Hiroshima and Nagasaki through the Hiroshima Peace Culture Foundation (HPCF) which oversees Hiroshima City's peace programs. The SENCER program of AAC&U also provided some support as did the Illinois Wesleyan Physics Department. If you contemplate teaching in this area, HPCF and the Nagasaki Atomic Bomb Museum will assist you, as can I.

"Before I enrolled in Professor Wilson's Workshop, I had very limited knowledge of the seriousness of the events of WWII including the long-term biological effects of the Atomic Bombs. My lack of prior knowledge is embarrassing, but typical for those Americans in my generation who had only a few lines in a history textbook in high school noting that two bombs were dropped in Japan in August of 1945..." —a high school teacher in Illinois.

The workshop illustrated how one may create a lively, thought provoking, important course, greatly appreciated by students. If you offered such a course, would you be prepared for large enrollments?

If you plan to teach about this, you may wish to consider this useful document: "*Considering Controversial Issues in the Classroom and Beyond*," by Dianne L. Smith, Dr. Lee Makela, and Heidi M. Makela, of the Global Issues Resource Center (1), at this URL, <http://w3.iac.net/~pfilio/smith.htm> The example case study of this document is, *Hiroshima Lessons for Humanity*. This paper presents a *General Framework for Teaching a Controversial Issue* as well as a *Framework for Teaching about Hiroshima and Nagasaki and Suggested Activities*. Quoting from the document's introduction, "**Teachers in a democracy should conduct, not neglect, classroom discussion on curriculum-related controversial issues,**" suggests Dr. Thomas Kelly (Kelly, 1989) of John Carroll University in Cleveland, Ohio. Why? Because properly conducted, considerations of controversial issues provide both teachers and students a fruitful experience in enhancing the skills needed by a democratic citizenry." This document can be a very useful resource and perhaps guide. Something to think about.

If You Are a Teacher in the Sciences

There is a lot of good undergraduate science here; and fascinating problems:

1. What does it really mean when it is said that the temperature on the ground at the Hiroshima hypocenter was thousands of degrees? What kind of thermometer measures that? In less than 3 seconds? Yes, it got hot; people were burned. How would you determine the temperature? Or is something other than temperature the major concern?
2. About 700 meters away from the hypocenter, did the heat melt the lead of the leaded-glass windows of Nagarekawa Church?
3. From the bomb's neutron flux what kind of residual radioactivity was induced in the environment, in dirt, aluminum, glass, bones, granite, etc.? Does any remain today?
4. Can one correctly simulate 100 calories/cm² to human skin, as at the Hiroshima hypocenter, using, say, pig's-knuckle in a broiler? It was 229 calories/cm² at the Nagasaki hypocenter. For comparison, the solar radiant exposure in Hiroshima at midday in August over a three second period is normally about 0.06 calories/cm². (Shohno (2)) (7 calories/cm² will yield 3rd degree burns.) This is an interesting experimental problem. Where in a school setting can one find a measurable source of heat similar to that experienced in Hiroshima or Nagasaki? The type of burner of an electric range might work, but a pig's-knuckle would drip fat onto the burner and ignite. A portable burner standing on its side (if it didn't switch off)? A heat lamp? How would you measure the irradiance at the target in (calories/sec)/cm²? (Could the manufacturer tell you?) This setup would take considerable running time; range burners are not that hot. Were people near the hypocenters in Hiroshima and Nagasaki really vaporized? Perhaps this can be answered by just using thermodynamic principles. (Be careful here with definitions and units for radiant exposure, and irradiance. (3) (In note (3) check Radiation units,)

But as interesting as these problems might be in the sciences, one quickly realizes, I hope, that the overwhelming problem is far more important than any others; *“How do you prevent this from ever happening again?”* That question, that problem, is certainly not constrained to be in the sciences, so there is plenty of opportunity here for teachers and students in all areas, even art, music, mathematics... Students will want to pursue that problem also, I hope. What does the future hold for them and possibly their children?

Most, if not all students, will have an incomplete understanding of nuclear effects, nuclear policies, and what happened in our first nuclear attacks upon Hiroshima and Nagasaki. The instructor attempts to provide a base of understanding; but the social, ethical, moral, and political issues continue, for many, to remain very much open to debate. Our intention was not to reach any consensus, but to inform, and indeed inform of the viewpoints and new concepts of “world policies” that will affect students' lives over the next century.

Following, are some typical problems, issues, and ideas with which students can “wrestle.” It will be noted that some relate to past events which may continue to influence current and new policies.

1. **Have there been any world conflicts in the years following WWII that would justify the use of nuclear weapons?** If nuclear weapons “save lives and end wars sooner” should they have *also* been used in Korea and Vietnam where the American military casualty tolls (not death tolls) were about

36,574 and 58,209 respectively (The Navy Department Library). In Korea and Vietnam why were nuclear weapons not used to save lives? (One might wish to include here the total casualties on both sides and all nations; you might have Korean, Vietnamese, or British students in your classes.)

2. From your understanding of nuclear explosion effects, estimate the nuclear radiation dose received by 2-year-old Sadako Sasaki, on Aug. 6, 1945, (4) in her home quite near the Misasa Bridge in Hiroshima, and try to determine if that radiation could have been sufficient cause for her leukemia and death at age 12. Are there limits to knowledge of physical cause and effect? Compare her dose with the federally recommended standards for safe exposure. Is there a low limit of nuclear radiation dose to humans, below which no harm will occur? (No, there is not. (5)) Should there be special limits for children? (What has been the effect of depleted uranium (DU) weapons on Iraqi children?)

3. At the course mid-point: Write to parent(s) or significant other describing how your new understandings of nuclear war and policies have affected you. How have you changed? Compare what you understand now with your knowledge at the beginning of this course. What international nuclear policies are acceptable to you?

4. **Should the United States attempt the construction of a barrier to nuclear attack?** Would such be possible? Would it be affordable? Is the creation of a “fortress America” a proper approach to this international problem? Who is to be saved?

5. **Was it proper and justifiable military policy for the Allies to use nuclear weapons, i.e., commence the first nuclear war, against Japan in 1945?** Your reasons? How would a citizen of Hiroshima or Nagasaki respond to this question? Were there alternatives which would have been likely to achieve an end to WWII but without as many deaths? Were nuclear weapons or invasion the only possibilities? Why did Truman choose atom bombs? (On the Internet there are several sites which raise the question, “Was President Truman a war criminal?” Here is one. (6))

6. **Should the pictures of Hiroshima and Nagasaki victims have been “classified” and kept from public view for some 22 - 30 years after WWII?** Why do you believe this was done? In this world of modern communications could such information in a new situation still be withheld? Have you seen the effects on people from recent wars in Africa, Afghanistan, Syria, and Iraq? Are depleted uranium (DU) weapons really as dangerous as some believe them to be? Even after 1975 there was no rush by the U.S. government to reveal the entire truth; they never have, hence private individuals publish what they can, even as late as 2014. (Try Google images for Hiroshima and Nagasaki Atomic Bombs, and Depleted Uranium. You will harvest more than could be permitted for this book.)

7. Discuss, critically comment, on Wilson’s Chapter 5 of this book, *A Workable Moral Strategy for Achieving and Preserving World Peace*. Could this lead to an International “Manhattan Project for World Peace”? Can you conceive of an alternative program of shifts in international relations that could likely assure: peace, justice, prosperity, and fairness for all nations? Of what would such a program consist? What protection and assurances would you require?

Using the **Global Nuclear Stockpiles, 1945 - 2000** chart (Appendix), from the *Bulletin of the Atomic Scientists*, March 2000, we calculate the equivalent number of Hiroshima-type bombs (16kton) created every day of every year for the 50 years following 1945. Take today as an average warhead yield, 150 kton. Wow! About 60 Hiroshima size per day. That is, about 1.0 Megaton of nuclear explosive was created each and every one of those 18,250 days. Some bombs have 100 to 1000 times more yield than the Hiroshima 16 kiloton bomb. Only two were ever “used.” The most recent charts are in the October, 2013 *Bulletin of the Atomic Scientists*: <http://bos.sagepub.com/content/69/5/75.full.pdf>



The students of Physics 239 - *Problems of Nuclear Disarmament* did not seem to mind the five hours per day, 5 days per week, 3-week regimen.

Possible Guide for a Science Based Course

Physics 239, “*Problems of Nuclear Disarmament*,” Sequence of Topics

(Is your background in physical science limited? How about a team taught approach?)

Origin of the universe; our nuclear origin. Why so much hydrogen? It will help if you have some background in astronomy. This topic leads to the next.

Origin of nuclei and atoms, the empirical evidence. Starting with the Big Bang; Jim Warf in his *All Things Nuclear*, Chapter 2, reminds us that Calvin, of Calvin and Hobbs, prefers the title, "The Horrendous Space Kablooie." All of Warf's Chapter 2 is a good reference here. The *Powers of Ten* film is also a good resource to help students start thinking.

The four forces of nature, the energies associated with electromagnetic and gravitational forces, the classical physics we will need. There are only four forces; we need to start somewhere; this grows naturally from the Big Bang. These items will lead to understanding atomic and nuclear phenomena, such as, atomic and nuclear spectra, radioactivity, fission and fusion. The classical physics I needed concentrated on energy and momentum and their conservation. (That suggests some joyful demonstrations in momentum conservation.)

Bohr theory of the hydrogen atom. Tying all the classical physics together and adding "a new way of thinking," this is how a new theory evolves. Nice opportunity for colorful discovery and demonstrations.

Energy from atoms. Spectral analysis demonstration. 13.6 eV, to be later compared to 931.5 MeV/u. (u = atomic mass unit, previously abbreviated, amu)

Radioactivity. Demonstrations with Cl-36, old Coleman lantern mantle, clock dial, trinitite, old Fiesta dinnerware (Google "uranium in dishes"), etc. Can I sell you some stock in a plutonium mine? See this book's Appendix on natural radioactive series.

Appropriate nuclear physics and nuclear energy, $E = mc^2$. Aha!

Biological effects of ionizing radiation, radiation doses, LET (Linear Energy Transfer), RBE (Relative Biological Effectiveness.) In the previous chapters we have seen some effects of nuclear radiation on humans. The film (and video), *Radio Bikini*, shows the preparation for the 1946 Able and Baker nuclear bomb tests at Bikini Atoll, what happened to the Bikinians, and what happened to sailor John Smitherman (and others) who got too much radiation. The film (and video), *Half Life*, tells the story of the natives of the Atoll, Rongelap, which was 100 miles downwind of the 15 Megaton "Bravo" bomb test and was showered with radioactive fallout. (The Bikinians' "home" is now, sadly, primarily on the Pacific island, Kili. Their situation is nicely shown in the video, *Bikini: Forbidden Paradise*, available from Amazon.com or from the Bikini Atoll Store, <http://www.bikiniatoll.com/>)

You may wish to read, **The Able-Baker-Where's Charlie follies: the story of Operation Crossroads** is a sad tale of U.S. naval arrogance ... and ignorance. Print, and digital at Amazon (7).

Making a fission-fusion-fission bomb. I use a simplistic explanation of an F-F-F bomb; nowadays such bombs are adjustable for yield. The Film, *The Day After Trinity: Robert Oppenheimer and the Atomic Bomb*, is an excellent documentary describing the development of the first atomic bombs, their use on Japan, and the downfall of Oppie because he had a new way of thinking which was contrary to that of government politicians and others in the new nuclear industrial complex. They thought he was a security risk but what he wanted was a peaceful world. *The Day After Trinity* ends with a remarkable series of nuclear explosions.

Nuclear testing: Effects on the Japanese, Pacific islanders - particularly those of Rongelap, Atomic Veterans, U.S. Downwinders, and those at Semipalatinsk, Depleted Uranium. The Internet will be a fruitful source for students to look into these topics.

Effects of an all-out nuclear attack on London; protection. The BBC Film: *Nuclear War: A Guide to Armageddon* is excellent in describing what would happen should a one Megaton bomb be detonated one mile above St. Paul's Cathedral in London. Could you protect yourself in such an event?

Topics Related to Public Policy and the Applications of Science and Technology

A Workable Moral Strategy for Achieving and Preserving World Peace: A Strategy That Can Create Over 500,000 American Jobs. This is Chapter 5 of this book. I'm never quite sure, where in the course term, students should have a first confrontation with it. Amazon.com offers an early edition as a separate small paperback.

Japanese and U.S. political conditions during the last months, weeks, of WWII.

Physical, biological, social ramifications for *hibakusha*; Japanese government response and responsibility.

The arms race, 50 years & 127,500+ nuclear warheads; billions of US\$, creation of the *equivalent of 60 Hiroshima bombs every day for 50 years.* Demo: *The Nuclear Weapons Dot Chart (1982)*, Important to stress that this was the situation in 1982. 6000 BBs slowly poured into a metal wastebasket; close your eyes and listen.

World Military and Social Expenditures (Ruth Leger Sivard. It seems the last one published was for 1996; regrettable, all WMSE issues were remarkably enlightening.).

Tools and Resources

**Appropriate Film & Video Portrayals
Many will be available via the Internet.**

Chapters from the **BBC *World at War*** have Laurence Olivier (not yet Sir) narrating, with Japanese and non-Japanese people relating the significant inside-events in the last four years of the chapters dealing with Japan's Pacific war. This excellent series can be found on the Internet, see below. (BBC has issued a restored set of these eleven, ***Region-2*** dvds.)

<http://www.moviemail.com/film/dvd/The-World-at-War-Restored/>

The World At War, Episode 22, Japan (1941-1945).

Japan's society and culture during wartime, and how life is transformed as the country gradually becomes aware of increasingly catastrophic setbacks including the Doolittle raid, defeat at Midway, the death of Admiral Isoroku Yamamoto, the Battle of Saipan and the relentless bombing of Japanese cities.

http://war.docuwat.ch/videos/the-world-at-war/world-at-war-22-japan-19411945/?channel_id=0&skip=0

The World At War, Episode 6, Banzai! Japan (1931 - 1942).

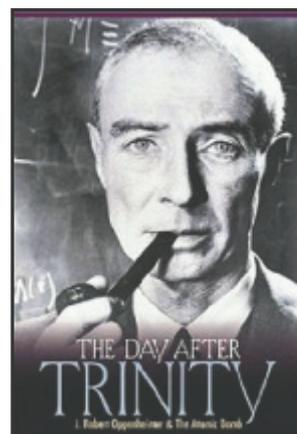
The rise of the Japanese Empire, the Sino-Japanese war, Pearl Harbor and the early Japanese successes, and the fall of Malaya and of Singapore.

http://war.docuwat.ch/videos/the-world-at-war/world-at-war-06-banzai-japan-1931-1942/?channel_id=0

Both of these episodes, 6 & 22, will have better resolution on the DVDs.

The Day After Trinity: J. Robert Oppenheimer and the Atomic Bomb

The film tells the story of J. Robert Oppenheimer (1904–1967), the theoretical physicist who led the effort to build the first atomic bomb, tested on July 16, 1945 at Trinity site in New Mexico. Featuring candid interviews with several Manhattan Project scientists, as well as declassified archival footage, *The Day After Trinity* was nominated for an Academy Award for Best Documentary Feature of 1980, and received a Peabody Award in 1981. It also



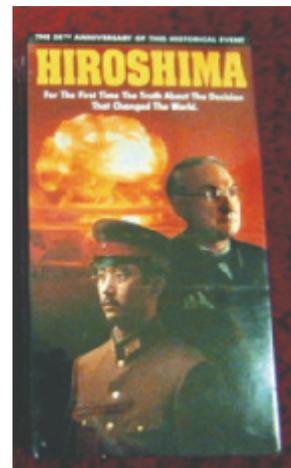
concludes with a remarkable display of nuclear bomb explosions. I used this film *after* students understand what nuclear war meant to the people of Hiroshima and Nagasaki. Available at Amazon.com. and YouTube:

<http://www.youtube.com/watch?v=R2mVC2Hn3qs>

Hiroshima

An excellent video, *Hiroshima*, is a joint Canadian/Japanese 1995 production directed by *Spottiswoode and Kurahara*, which commences with the death of U.S. President Roosevelt, and tells the story of the war's end as experienced by both sides; the acting is exceptional. Be careful; there are several items called Hiroshima on the Internet. Several versions of *Hiroshima*, with Wesley Addy as Truman are available at Amazon.com. The Japanese cast is excellent and Richard Masur does a good General Groves.

http://www.amazon.com/Hiroshima-Lynne-Adams/dp/B00002IJ36/ref=sr_1_23?s=movies-tv&ie=UTF8&qid=1364267710&sr=1-23&keywords=hiroshima



The Hiroshima/Nagasaki Experience

Black Rain

This is an award winning Japanese film based upon real people, adapted from the book by Masuji Ibuse; it relates the human impact of that day as well as the radiation sickness which was still killing five years later. Ibuse and Director Shohei Imamura used to go fishing together. This is an excellent film. (Do not confuse this *Black Rain* with another, produced in the same year, a Japanese gangster (*yakuza*) movie with Michael Douglas.)

The version of Black Rain available from AnimEigo includes a 19 minute alternate ending in color, www.animeigo.com

Also available at Amazon.com.

http://www.amazon.com/Black-Rain-Etsuko-Ichihara/dp/B002FG9NAU/ref=sr_1_1?s=movies-tv&ie=UTF8&qid=1364269213&sr=1-1&keywords=black+rain+imamura

For a limited time, if you purchase this book you are reading, I can send you a used VHS version of *Black Rain*. Amazon.com offers it on DVD.

Barefoot Gen (Anime from Japan)

Barefoot Gen, the film, is based upon volumes 1 & 2 of the 10-volume manga of Keiji Nakazawa. This is essentially a biographical account (with literary liberties taken) of Nakazawa. He was a schoolboy in Hiroshima surviving only by chance, but his father, sister, and younger brother were killed by the bomb. His infant sister, born that day, died shortly after; his mother died 21 years later. (See Chapter 8.)

This is the version you would want:

http://www.amazon.com/Barefoot-Gen-Issei-Miyazaki/dp/6305339724/ref=sr_1_2?s=movies-tv&ie=UTF8&qid=1364269688&sr=1-2&keywords=barefoot+gen

However, some Amazon.com prices are high. If you can play *Region-2* DVD, [Amazon.co.uk](http://www.amazon.co.uk) sells this at a reasonable price and includes *Gen-2*. http://www.amazon.co.uk/Barefoot-Gen-DVD/dp/B0009S4VX0/ref=sr_1_1?s=dvd&ie=UTF8&qid=1364269904&sr=1-1

Also, Zakka Films sells *Barefoot Gen's Hiroshima* at a reasonable price.

<http://www.zakkafilms.com/film/barefoot-gens-hiroshima/>

“Through my story, I hope viewers will come to feel closer to a world without war and nuclear weapons. Please ponder that possibility as you watch this film.” —Keiji Nakazawa

"With the passing of Keiji Nakazawa in December 2012, *Barefoot Gen's Hiroshima* now stands as the manga artist's last message of peace to the world. Mr. Nakazawa recounts his life, from the aftermath of the atomic bombing up until the days he created his acclaimed manga series *Barefoot Gen* (*Hadashi no Gen*), by exploring sites of painful memories in Hiroshima. Through Mr. Nakazawa's story, and his original art work, *Barefoot Gen's Hiroshima* illuminates the nature of war and nuclear weapons, urging us not to repeat the past.

Details of author Nakazawa's actual circumstances are presented in Chapter 8 of this book.

Both *Black Rain* and *Barefoot Gen* offer the rare opportunity to witness, even though simulated or animated, the effects of a small nuclear explosion over a city and the deadly personal chaos that follows. For a limited time, if you purchase this book you are reading, I can send you a used VHS or DVD version of *Barefoot Gen-1*.

Prophecy (Correct title is simply *Prophecy*, not *The Prophecy*.)

This is one of three films produced from the Japanese "Ten-Foot-of-Film" campaign, a compilation of film and photos confiscated by the Occupation authorities and decades later returned to Japan. Top brass in the Pentagon and the Atomic Energy Commission wanted the footage "buried," according to Daniel McGovern, a self-described "conservative" who admits he "had control" of the film for many years at Norton Air Force Base in California. McGovern wanted to make military training films from it but, **"I was told by those people that—hell and damn no—they did not want that**



Permission from Keiji Nakazawa

material shown because it showed the horrible effects on man, woman and child. They were fearful of it being circulated."

The film might still be hidden were it not for a chance encounter during the first Special Session on Disarmament at the United Nations (UNSSOD I) in 1978 (33 years after the bombings). Lt. Herbert Sussan filmed, in color, Sumiteru Taniguchi's burned red back, January 31, 1946, at the Omura Naval Hospital near Nagasaki. Years later Sussan visited an exhibit at the UN of Hiroshima and Nagasaki photographs set up by the Hiroshima-Nagasaki Publishing committee. The exhibit's chief coordinator was Tsutomu Iwakura, who was surprised to learn from Sussan of the existence of the color film (classified by the Occupation in 1946). Iwakura started looking for it and was successful the next year, 1979, at the U.S. National Archives, where it had been sent after being declassified without anyone, including Sussan, having been notified.

Nearly 500,000 Japanese contributed to the Hiroshima-Nagasaki committee's Ten-Foot Campaign, donating 3,000 Yen (\$12 to \$15 then) to acquire 10 feet of the film and to make movies. Iwakura's group has produced three films from the footage so far (two with English subtitles). I believe the only American film to use Sussan's footage is *Dark Circle*, which premiered at a New York Film Festival.

Some of Sussan's *footage of Sumiteru Taniguchi* is included in Part 1 (1/6) of the YouTube video of *Prophecy* linked a couple of lines below. The *complete footage* is available here, as the last scene, <http://research.archives.gov/description/64449>

Prophecy may be available at the museum shop in the Hiroshima Peace Museum in Hiroshima Peace Park. (Years ago I found one copy on ebay.) Here is the link to the YouTube presentation via several clips, <http://www.youtube.com/watch?v=UcwcWJcktVc>

A Google search of this, **342.USAF.11002**, will also get Sussan's film.

Taniguchi-san is also part of this small image video, in Japanese, http://a-bombdb.pcf.city.hiroshima.jp/pdbe/jsp/collect/play_movie.jsp;jsessionid=FQFEP6138PPJHVURV18M830VSFFDIVEMNF05U8E899FCTASV7S7VOQVEUL0G20005400000.heiwadb_001?discode=VZ00002-1&type=1&mov=mov

A Mother's Prayer (Japan) 1990, 30 min.

This is a documentary film that calls for the abolition of nuclear weapons and notes the importance of peace from mothers' points of view in Hiroshima at the time of the A-bombing. Color and some black and white. I can find only one Internet site hosting this video (in three parts). It is a small video image only in Japanese. The Hiroshima Peace Museum in Hiroshima Peace Park is likely to carry this video in English. It may also be available through Interlibrary Loan, in English. But there are lots of other "Mother's Prayers."

http://a-bombdb.pcf.city.hiroshima.jp/pdbe/search_rule.do?class_name=mov

Red Back: 50 Years Carrying the Atomic Bomb on His Back. (Japan)

This is an NHK documentary about Sumiteru Taniguchi who was badly burned on his back, at age 16, in Nagasaki. He is a remarkable person. Perhaps NHK will include it someday, on their NHK Peace Archives. http://www.iwu.edu/news/2010/fea_Physics_00410.html

A brief excerpt, *My Burning Back*, in English, is here,

<http://www3.nhk.or.jp/nhkworld/english/tv/featured/ac/lineup.html>



Sadako and the Thousand Paper Cranes (1991)

“Sadako Sasaki, a young Japanese girl, on the threshold of adolescence, developed leukemia in 1955 from the effects of radiation caused by the bombing of Hiroshima. While hospitalized her closest friend reminded her of the Japanese legend that if she folded a thousand paper cranes, the gods might grant her wish to be well again. With hope and determination, Sadako began folding. Actor Liv Ullmann vividly tells this poignant story with original music performed by George Winston.” Produced by The Better World Society and Informed Democracy. Directed by George Levenson. Writing credits, Eleanor Coerr (book), George Levenson. 30 minutes.

<http://www.informeddemocracy.com/sadako/contents.html>

Pika-Don

Sometimes spelled Pica-Don, either way meaning flash-boom. This was the first animation attempt to portray the atomic bombing of Hiroshima for children. About 7 minutes long, by Renzo & Sayoko Kinoshita. This YouTube clip seems to include all 7 minutes.

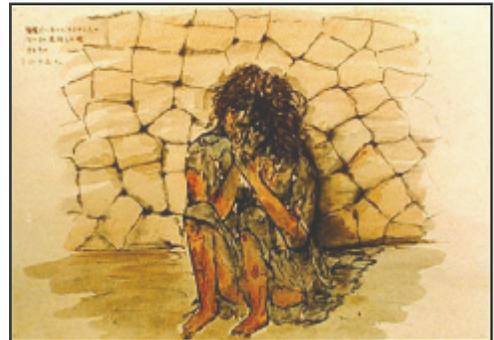
<http://www.youtube.com/watch?v=eEOZ1sBppWs>

AV material: **Hiroshima Survivors Recollect**. This is a soft introduction but there are a couple of R-rated images of burn victims. These pictures with text are now on the Internet. This is a set of images drawn by survivors depicting what they saw on *that day*, with descriptions in English, which in a student slide presentation, students could read aloud. Arranged by Hiroshima Appeal Committee. Supported by NHK Hiroshima.

<http://www.pcf.city.hiroshima.jp/BPW/>

or Google “A-bomb survivors recollect” or “Hiroshima survivors recollect”.

Right, Hiroshima: The girl died in this position – no one came to rescue her; 17th image of *Hiroshima Survivors Recollect*



Hiroshima Survivors Recollect

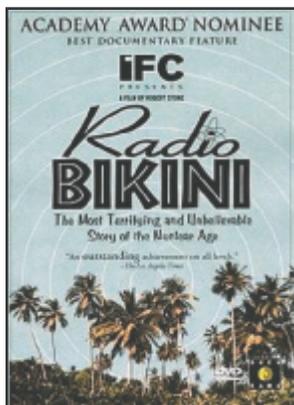


Other Experiences with Nuclear Weapons

Nuclear War: A Guide to Armageddon (BBC)

There are several Internet sites which host this film. It portrays what happens in London if a one Megaton nuclear weapon explodes one mile above St. Paul's cathedral. Narrated by Ludovic Kennedy, a well known British broadcaster and humanist, and husband of ballet dancer, the superb but late Moira Shearer. (Aha! Now I understand the little bit of ballet at the beginning.) Excellent. I was going to include two images from the film, one of which is a pumpkin, but BBC doesn't easily grant permission. So why not just go to this YouTube page and watch some of it. Watch for the pumpkin at about 11:22.

<http://www.youtube.com/watch?v=mb7EO1e62IQ>



Radio Bikini,

Radio Bikini is a 1988 American documentary film directed by Robert Stone. It was nominated for an Academy Award in 1988 for Best Documentary Feature. (The *Ten-Year Lunch* won.) The film documents the nuclear tests performed at Bikini Atoll during Operation Crossroads in 1946, and their effects on the indigenous population and American servicemen involved in the testing. John Smitherman appears near the end of this film. The DVD is available from the Bikini Atoll store and elsewhere.

<http://www.bikiniatoll.com/> (scroll to their store)

Here is an excerpt: <http://vimeo.com/191433>

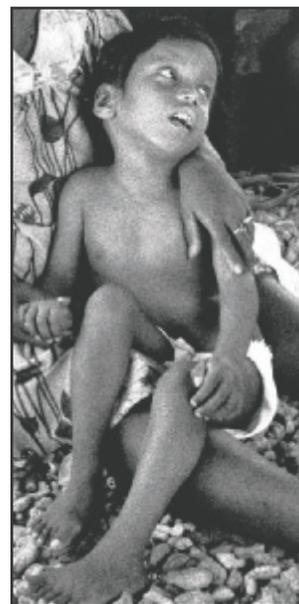
Permission from Robert Stone

Half Life: A Parable for the Nuclear Age (Australian film by Dennis O'Rourke)

“By contrasting the 1954 film footage of the 15-Megaton *BRAVO* blast with the daily life of contemporary Marshallese children of Rongelap Atoll, O’Rourke foreshadows the impact of the fallout that is documented as the film progresses. The children he shows playing in the villages in this clip seem like normal happy children, but as we find out in Part Three, it is children like these who have suffered the most. The absence of a spoken voice-over in the film lets the surviving islanders speak for themselves.” This note is by Poppy De Souza (It is important to be aware that the Rongelap atoll is some 100 miles from the explosion; they experience only the radioactive fallout.)

<http://aso.gov.au/titles/documentaries/half-life/clip1/>

On the right: This child of Rongelap, near Bikini, has no control of its body, its head or eyes. Fallout from a Bikini test is the likely cause. Not before nuclear testing had they seen such disabilities. Photo-permission, Dennis O’Rourke



Ed Bradley in Semipalatinsk (CBS 60 Minutes)

Almost every Internet link to Ed Bradley mentions his award winning documentary about the results of nuclear testing on people at Semipalatinsk, Kazakhstan. CBS declines to post this very important story. (1995 Emmy award)

Right: Berik Syzdykov, from Znamenka, victim of USSR nuclear bomb testing, Semipalatinsk, Kazakhstan met with Ed Bradley. (Photo by Yuri Kuidin, died, 18 June 2000, permission from Alyona Kuidina).



Paul Jacobs and the Nuclear Gang The focus of the film is the government cover-up of the health hazards related to the 1950s atomic bomb testing in Nevada. Paul Jacobs, a journalist, activist and co-founder of the magazine *Mother Jones*, on a suggestion from Linus Pauling, investigated the results of the Nevada tests on unknowing civilians and soldiers used as guinea pigs. Jacobs died of lung cancer before the film was completed; his doctors believed he contracted cancer as a result of radiation exposure. -Wikipedia. May be difficult to locate complete film. Concluding words are here:
<http://www.youtube.com/watch?v=aOaWp3cXOhU>

A “Time-Lapse” Map of Every Nuclear Explosion Since 1945 – by Japanese artist Isao Hashimoto. Isao Hashimoto has created a beautiful, undeniably scary time-lapse map of the 2053 nuclear explosions which have taken place between 1945 and 1998, beginning with the Manhattan Project's "Trinity" test near Los Alamos and concluding with Pakistan's nuclear tests in May of 1998. This leaves out North Korea's two alleged nuclear tests in this past decade (the legitimacy of both of which is not 100% clear).

Each nation gets a blip and a flashing dot on the map whenever they detonate a nuclear weapon, with a running tally kept on the top and bottom bars of the screen. Hashimoto, who began the project in 2003, says that he created it with the goal of showing "the fear and folly of nuclear weapons." It starts really slow — if you want to see real action, skip ahead to 1962 or so — but the buildup becomes overwhelming.

<http://www.youtube.com/watch?v=LLCF7vPanrY>

Global Diversity



The late Hideko Takamine with her *Twenty-Four Eyes*.

Twenty-Four Eyes (Japanese)

“Keisuke Kinoshita’s *Twenty-Four Eyes* (*Nijushi no hitomi*) is an elegant, emotional chronicle of a teacher’s unwavering commitment to her students, her profession, and her sense of morality. Set in a remote, rural island community, Shodoshima in the Seto Inland Sea, and spanning years of Japanese history, from 1928 through World War II and beyond, Kinoshita’s film takes a simultaneously sober and sentimental look at the epic themes of aging, war, and death, all from the lovingly intimate perspective of Hisako Oishi (Hideko Takamine), as she watches her pupils grow and deal with life’s harsh realities. Winner of the **12th Golden Globe for Best Foreign Film in 1955.**”

<http://www.shochikufilms.com/movie/24.html>

I highly recommend this film. <http://www.criterion.com/films/745-twenty-four-eyes>

Well worth the \$24.



You can still visit the school of *Twenty-Four Eyes*, as we did in 2004.

Come See the Paradise

"Come See The Paradise is a deeply touching love story set against the backdrop of a dramatic and controversial period in American history. It follows the romance and eventual marriage of Jack McGurn (Dennis Quaid), a hot blooded Irish American, and a beautiful Japanese American, Lily Kawamura, (Tamlyn Tomita) at the outset of World War II. The clash of cultures, at once painful for the two lovers, becomes insurmountable after the Japanese bomb Pearl Harbor. Lily and the Kawamura family are relocated to a bleak, outdoor internment camp in California, Jack is drafted into the Army, powerless to help the woman he loves." The Japanese cast is excellent. A preview is here:



<http://www.youtube.com/watch?v=pBxqOy937j0&list=UU2U7EnFDIyvVIGew3to4bAQ>

The DVD is here:

http://www.amazon.com/Come-See-Paradise-Dennis-Quaid/dp/B000EXDSCK/ref=sr_1_2?s=movies-tv&ie=UTF8&qid=1364266310&sr=1-2&keywords=come+see+the+paradise

“Special feature on *this* (ASIN: B000EXDSCK) double-sided DVD is the 1999 documentary *Rabbit in the Moon*. Not all Japanese Americans endured their World War II internment with quiet stoicism. Not all second generation (Nisei) young men welcomed the chance to prove their patriotism by serving in the armed forces of the very government that was holding their families captive. A more complex, turbulent and intimate story of the internment camps is revealed in Emiko Omori’s film, *Rabbit in the Moon*.” Here is a good resource: <http://www.bookmice.net/darkchilde/japan/camp.html>

MacArthur’s Children (Japanese, in color with English subtitles)

(*Setouchi Shōnen Yakyū-dan*) is a popular and influential 1984 Japanese motion picture. Describing the impact of the United States' Occupation of Japan from the perspective of the inhabitants of a small, rural island community, the film featured the big screen debut of actor Ken Watanabe. Amazon.com usually lists a few used VHS tapes. (Be patient with the subtitles; this is a very good film. I hope it will be reissued, restored, on dvd.) 125 minutes. You may be able to find VHS tapes for sale on the Internet.



The Colonel Comes to Japan, 1981, color, 28 min

(Enterprise series) “It seems highly unlikely that Colonel Sanders ever thought that he would be selling his Kentucky Fried Chicken to the Japanese, but Kentucky Fried Chicken, Japan, Inc. is doing just that, and doing it successfully. The company, headed by an American director and staffed by the Japanese, has raised the business of fast-food retailing to an art. Here West meets East as the Japanese are shown how to prepare the product and the Americans are introduced to the fine art of Japanese business.” There is a three-minute sampling of this 28 minute video here, <http://www.youtube.com/watch?v=LAV9hGEVYtw>



Two videos that I have used to introduce my students to *contemporary* Japanese life are *Starting Your Life in Japan* and *Hello Furosato!* **Neither of these two videos will be easy to find. Interlibrary Loan via OCLC World Catalog (or a local University Library with a Japanese program) may have them.** (The original tapes I used were not copy protected.)

Starting Your Life in Japan

“Edited by the Association for Overseas Technical Scholarship VHS/NTSC. A video developed to introduce Japanese life to the newcomer to the country and to remove some of the obstacles that confront them everyday. It covers a diverse range of subjects ranging from banks to phoning to visiting a Japanese home.” (Naomi and Awang are the young nonprofessional actors). This video is in English, but in some versions the narration can be in other languages. In the following 7 minute clip the narration is not English though the actors do use English.



http://www.4shared.com/video/-noLE8ff/Starting_your_life_in_Japan-1.htm

or search for this: Starting your life in Japan-1.wmv

(Turn off the commercial, lower right.)

http://www.roellin-books.com/product_info.php/info/p487_Yokoso-Nihon-E.html

If you have difficulty, Google video search, “Starting your life in Japan”.

Perhaps your best chance of finding this would be at a local university that has a Japanese Program or in the video library of a Japanese Embassy or Consulate.

Hello! Furusato Episode 15 of the video series, *The Way of Life in Japan*.

1994. NHK International, INC. / The Japan Foundation, Price: ¥4800/per volume, Length: 20 minutes per volume, Call# English Version: 302.1 WA1-12, Difficult to find!

“Summary: This is a good culture video series which takes a look at everyday life of ordinary Japanese. It is very entertaining and will not get boring for 20 minutes. *Hello! Furusato* focuses on the "Furusato" (hometown) pictured by people in Iiyama, Nagano, and on a German woman, Ann Haswell. Ms. Haswell went to Japan as a Coordinator of International Relations (CIR) through the JET Program, and renewed her contract with the city of Iiyama after JET.”

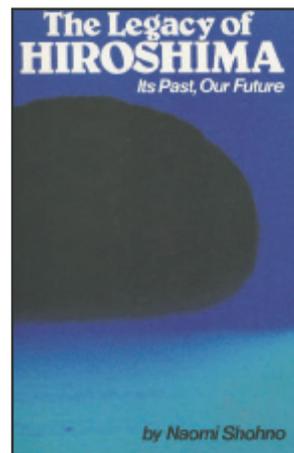


Perhaps your best chance of finding this would be at a local university that has a Japanese Program or in the video library of a Japanese Embassy or Consulate.

References (Books):

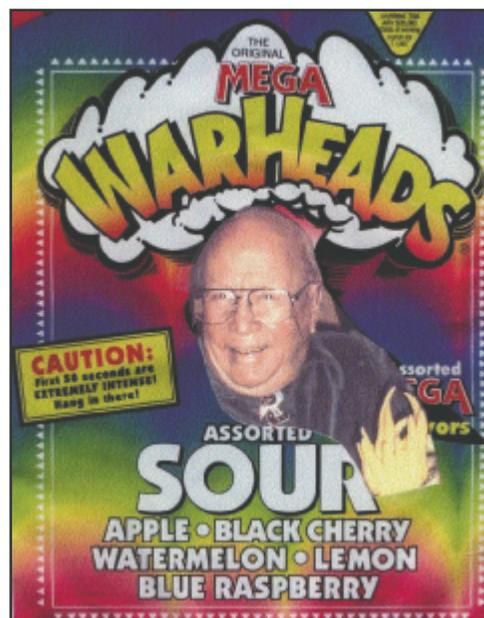
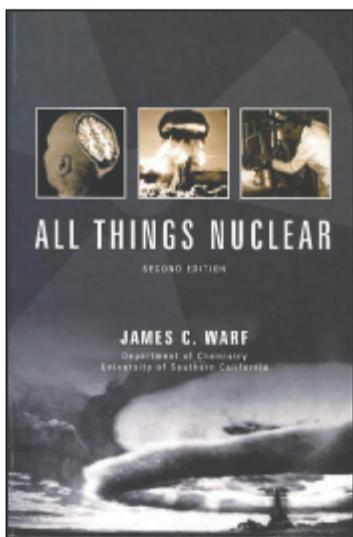


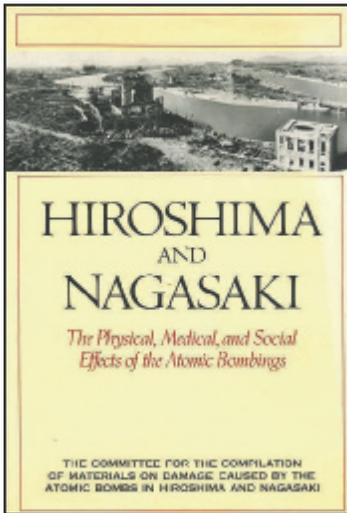
Naomi Shohno, **The Legacy of Hiroshima: Its Past, Our Future**, Kosei, 1986. ISBN 4-333-01234-1. Tuttle is the American distributor. Professor Shohno (1926-2012), he, was a physics professor in Hiroshima. Professor Shohno died in February, 2012.



James C. Warf, **All Things Nuclear**, Figueroa Press, Los Angeles, 2005. ISBN 1-932800-00-X If your course is in the sciences this would be a good choice for your students. Even if your course is not in the sciences take a look at this document, well-written by a former Manhattan Project plutonium scientist and section leader. It is an excellent reference book. I (RW) wrote half of the last chapter but this book you are looking at will contain an updated version of that, here in Chapter 5. The late James Warf was Distinguished Emeritus Professor of Chemistry at the University of Southern California (USC). An excerpt,

“Unethical Radiation Experiments”, from his Chapter 5 is in the Appendix of this book. The picture, right, was part of a running joke between us.





Hiroshima and Nagasaki – The Physical, Medical, and Social Effects of the Atomic Bombings, Eisei Ishikawa and David Swain (translators), (*Hiroshima Nagasaki no Genbaku Saigai*), by The Committee for the Compilation of Materials on Damage Caused by the Atomic Bombs in Hiroshima and Nagasaki, Hutchinson & Co., London, 1981. ISBN 0091456401. 706 pages with b/w illustrations.

There exists an abbreviated version (218 pages) titled, **The Impact of the A-Bomb**, pub. by Iwanami Shoten, 1985. ISBN 4-00-9766-0

<Cover image: From *Hiroshima and Nagasaki* by Hiroshima-Shi Nagasaki-Shi Gembaku Saigaishi Hensh-U Iinkai, copyright © 1981. Reprinted by permission of Basic Books, a member of The Perseus Books Group

The Effects of Nuclear Weapons, compiled and edited by Samuel Glasstone and Philip J. Dolan, published by DOD and ERDA. I prefer the 3rd edition, 1977. There is no copyright on this item since this is a government document. Thus there are several versions now available. It can be quite useful, but it does not really provide a complete description of what really happens to people in a nuclear war. The website, ebay, may have this available on dvd, which is nice if you wish to reproduce some of its graphical data; no copyright. A PDF version is here: <http://www.fourmilab.ch/etexts/www/effects/> Using the data, here are slides of a lecture by Alexander Glaser, 2007: http://www.princeton.edu/~aglaser/lecture2007_weaponeffects.pdf

Your students will like and learn much from reading the graphic novel, BAREFOOT GEN by Keiji Nakazawa; there are now 10 volumes in English translation, just as there are 10 in Japanese. Let all students read at least Vol. 1. Much more about it in the next chapter, 8.

The following can also be helpful resources:

<http://atomicbombmuseum.org/>

http://ocw.mit.edu/ans7870/21f/21f.027/groundzero1945/gz_essay01.html

<http://www.worldwar2database.com/html/frame1.htm>

<http://www.worldwar2database.com/html/atombomb.htm>

<http://nuclearsecrecy.com/nukemap/>

There are many others on the Internet.

Notes

1. "*Considering Controversial Issues in the Classroom and Beyond*," by Dianne L. Smith, Dr. Lee Makela, and Heidi M. Makela, of the Global Issues Resource Center, at this URL, <http://w3.iac.net/~pfilio/smith.htm>

2. THE LEGACY OF HIROSHIMA: ITS PAST, OUR FUTURE, by Naomi Shohno, Kosei Publishing Co., Tokyo, 1986. footnote, p. 55.

3. <http://www.bom.gov.au/climate/austmaps/solar-radiation-glossary.shtml>

Check "Radiation units."

4. CHILDREN OF THE PAPER CRANE: The Story of Sadako Sasaki and Her Struggle With the A-Bomb Disease, by Masamoto Nasu. translated by Elizabeth Baldwin, Steven Leeper, and Kyoko Yoshida; M.E. Sharpe, Inc., 1991. ISBN 0-87332-715-2

5. Committee to Assess Health Risks from Exposure to Low Levels of Ionizing Radiation, National Research Council of the National Academy of Science, "Health Risks from Exposure to Low Levels of Ionizing Radiation, BEIR VII PHASE 2", The National Academies Press, Washington, D.C. 2006, p.15. ISBN 0-309-09156-X. also,

http://www.dep.state.pa.us/brp/radon_division/BEIR%20VII%20Preliminary%20Report.pdf

6. Philip Nobile, "HIROSHIMA DEBATE: Was Harry Truman a War Criminal? Applying the Nuremberg Standards to Ourselves", <http://www.rondan.co.jp/html/atom/atomE.html>

7. http://www.amazon.com/The-Able-Baker-Wheres-Charlie-follies-Crossroads/dp/B000920STW/ref=sr_1_1?ie=UTF8&qid=1394398520&sr=8-1&keywords=able%2C+baker%2C+where%27s+charlie

Chapter 8

Where Was Barefoot Gen?

Who Is Keiji Nakazawa?

1. **If you happen to be a teacher**, at just about any level from high school upwards (and maybe middle school), **this chapter will show how you can incorporate exercises about the world's first nuclear war into your classroom.** Doesn't that seem important? Obviously we can't be demonstrating *small* nuclear explosions, of which there are none. But after your students think they know what happens to people and places under a nuclear detonation, here is a challenge for them.

This is an inverse problem. There are data tables in this chapter which describe the effects of different size nuclear explosions at various distances from their hypocenters. The problem presented here turns it around and asks the students to determine: From the bomb effects Gen Nakaoka (Barefoot Gen) experiences, estimate his distance from the hypocenter.

Preparation for this exercise would include: reading *Barefoot Gen*, at least Book 1, the first of ten volumes; watching the film *Barefoot Gen*, #1 (there is a sequel – the continuing story – *Barefoot Gen* #2). **Caution here:** You may wish to get (may need) parents' permissions before showing the film, and perhaps also for using the book.)

There are ten volumes of *Barefoot Gen* in English; all ten might cost a total of \$120 - \$150. Volumes 1 and 2 may be adequate. The author, Keiji Nakazawa, in 2010, has also written a detailed account of his real life, *The Autobiography of Barefoot Gen*. However, here in this Chapter 8 you will find a 2003 interview of Keiji Nakazawa by Alan Gleason who was one of the early translators/editors/facilitators of Project Gen, making Gen available in languages other than Japanese. Keiji Nakazawa died on Dec. 19, 2012. His work lives on; that's the way he wanted it. Here is a well done Zakka film interview with Keiji Nakazawa:

<http://www.zakkafilms.com/film/barefoot-gens-hiroshima/>

The interviewer, Tomoko Watanabe, makes you feel that you are right there, watching over her shoulder.

2. **A second useful exercise** is to have students map out what would happen to their own hometown should a nuclear bomb detonate above it. However, the *average* yield of modern nuclear weapons is about 10 times that of the Hiroshima bomb, something of the order of 150 - 200 ktons or a bit more. (Actually, today's super bombs are "tunable.") Luckily there are data tables which explain the effects of these more powerful weapons, all of which are basically hydrogen fusion bombs.

My students choose their hypocenter and choose a weapon yield appropriate for their size town. With concentric circles drawn about the hypocenter they are asked to determine what would happen to places and people of their hometown. We call the exercise, "Hometown Goodbye." What happens to your home, your school, your girl/boy friend's home, the hospital, the McDonald's,... Where would you be safe? Which way did the radioactive fallout go? —You get the idea.

However, in 2014, there is a website through which one can get results immediately without needing to do all the hand-mapping. **<http://nuclearsecrecy.com/nukemap/>**
It is well worth considering.

3. Students are asked to write a paper they will compose titled, “**Discussion with my friend after viewing the film *Black Rain (Kuroi ame)*.**” The movie has English subtitles so be prepared to read a movie.

THIS FILM IS NOT RECOMMENDED FOR CHILDREN.

Students are to arrange for a friend, relative, teacher, *who has not taken this course*, to view the film together. Afterward, talk about it. How do you both feel about the use of nuclear weapons in war? In *that* war? The film accurately portrays Japanese life and society, in those places, at those times. What did you find interesting about this look into Japanese very personal affairs? Did it seem that nuclear bombs were necessary to defeat Japan? Is radiation sickness portrayed accurately? Will Yasuko, five years later, die? *I would rather have your original thoughts about the story and the people of Black Rain rather than merely responding to questions I raise.* Was this a film about "the Hiroshima bomb"?

Here is a list of the principal characters in *Black Rain*:

Yasuko TAKEMARU, the niece	Yuichi , the PTSD war veteran	AONO , a suitor for Yasuko
Shigematsu SHIZUMA , the uncle	Tatsu , Yuichi’s mother	Fumiko IKEMOTO , bar hostess
Shigeko SHIZUMA, the aunt	KOTARO , the go-between	Fumiko’s mother , of Ikemoto-ya
Grandma (Kin) <i>Obaachan</i>	SHOKICHI , village headman	The shaman (psychic)
Dr. FUJITA, Shizuma’s doctor	Kane , Shokichi’s wife?	Yasuko’s father and stepmother
Dr. ANDO, grandma’s doctor	KATAYAMA , the peddler	

Nine Japanese Academy Awards - <http://faculty.ccp.edu/faculty/DFreedman/HCS/feleppa.pdf>

Your paper is based upon your discussion(s). The film *Black Rain* is adapted from the novel by Masuji IBUSE, based on real people and a real diary. The film director, Imamura, and Ibuse used to go fishing together. On my campus I showed this film twice, once in class, then again in an evening for students’ friends who were not free during our class time.



© Imamura Productions

4. Students are asked to compose a paper titled, “**Discussion with my friend after viewing the film, *Barefoot Gen*.**” Versions of this DVD have either dubbed English or English subtitles, or both.

THIS FILM IS NOT RECOMMENDED FOR CHILDREN.

Again, view the film with an adult friend *who has not taken this course*. Your paper is to be based upon the subsequent discussion with your friend. Most kids in Japan have read "Gen" and seen the movies (Gen 1 & 2). It has been released commercially in America as a feature film. Did it make it to your local theater? How will parents and the PTAs feel about it? But again, what original thoughts do *you* have about the film and its portrayal of life in Japan at that time? Could you have done what Gen

did? What is his final outlook on life? In what kind of society will Gen now live for the next years of his life? On my campus I showed this film twice, once in class, then again in an evening for students' friends who were not free during our class time.

The last part of the “**Where Was Gen**” exercise (later in this chapter) is an interview which reveals many of the facts of author Keiji Nakazawa's life. It would be good preparation for your friend's questions.

Your friends who are “into” Japanese manga and anime will appreciate this. What were some of the things they did not know that you, now somewhat expert, were able to explain to them?

5. Part of a student's grade comes from a **letter—written to your parent(s)** or other person with whom you have a close relationship. In this letter you are to *summarize what is happening to you as a result of this course*. Let your parents know what is new to you, what you believe, and don't believe. Have you changed in any way? Your thinking? Your attitude? How? Why? How do you feel about what you have learned? Original thoughts? Do you now look at nuclear war, disarmament, military expenditures, Hiroshima, Nagasaki, the Japanese, the Russians, the Iranians, North Koreans, etc., any differently? Is war a good way to solve problems? Do we need 10,000 nuclear warheads? What does all this mean in this year? This course (is/is not) what I thought it would be. Will you keep a *daily diary* of your thoughts?

Is the instructor doing a reasonable job or do you wish he would change some things? Is he biased toward anything? If so, did you mention it to him in class? You can write what you want. I'm going to read the letters and probably make short comments in pencil. **There is no subjectivity in your final grade so you can express yourself freely.** You can do that, can't you? . . .

Dear Mom and Dad, . . .

This letter is due at the half-way mark, **best written that weekend**, a daily diary would be useful...

The English language books **BAREFOOT GEN** have had three publishers in the U.S. The current publisher is Last Gasp of San Francisco.

<http://www.lastgasp.com/?search=barefoot+gen>

BAREFOOT GEN Vol 1: A CARTOON STORY
ISBN 0-14-025125-1 (Keiji Nakazawa)

Available from Last Gasp and Amazon. Cartoonist Keiji Nakazawa was 6 years old and living in Hiroshima in the early days of August 1945 when the city was destroyed by an atomic bomb dropped by the U.S.A. Starting a few months before that event, the ten volume saga of young *Gen* shows life in Japan after years of war and privations..

BAREFOOT GEN Vol 2: THE DAY AFTER
ISBN 0-14-025126-X (Keiji Nakazawa)

BAREFOOT GEN Vol 3: LIFE AFTER THE BOMB: A CARTOON STORY OF HIROSHIMA
ISBN 0-86719-452-9 (Keiji Nakazawa)

BAREFOOT GEN Vol 4: OUT OF THE ASHES: A CARTOON STORY OF HIROSHIMA
ISBN 0-86719-453-7 (Keiji Nakazawa)

All ten volumes complete, 2011.

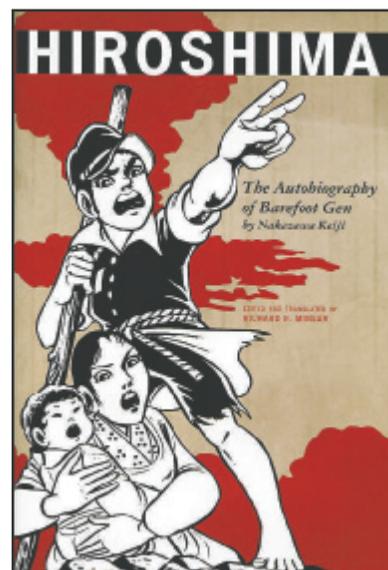
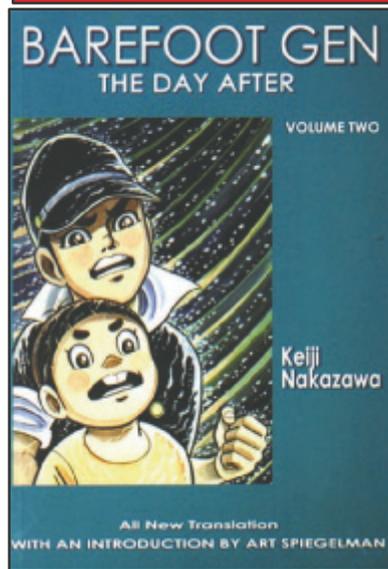
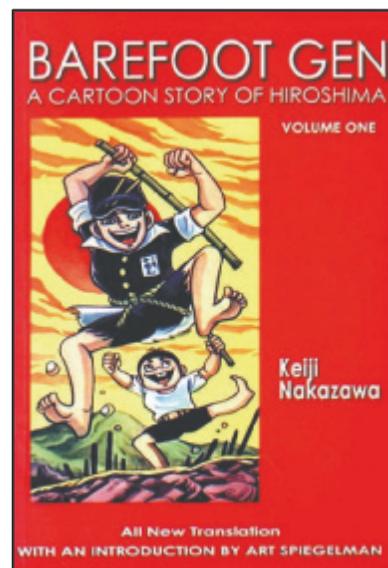
In the most recent editions in English the text has been done by computer rather than hand-lettering.

The films, *Barefoot Gen* 1 & 2 are available.

Hiroshima: The Autobiography of Barefoot Gen, by Keiji Nakazawa.

“This compelling autobiography tells the life story of famed manga artist Keiji Nakazawa. Born in Hiroshima in 1939, Nakazawa was six years old when on August 6, 1945, the United States dropped the atomic bomb. His gritty and stunning account of the horrific aftermath is powerfully told through the eyes of a child who lost most of his family and neighbors. In eminently readable and beautifully translated prose, the narrative continues through the brutally difficult years immediately after the war, his art apprenticeship in Tokyo, his pioneering ‘atomic-bomb’ manga, and the creation of *Barefoot Gen*, the classic graphic novel based on Nakazawa's experiences before, during, and after the bomb.

This first English-language translation of Nakazawa's autobiography includes twenty pages of excerpts from *Barefoot Gen* to



give readers who don't know the manga a taste of its power and scope. A recent interview with the author brings his life up to the present. His trenchant hostility to Japanese imperialism, the emperor and the emperor system, and U.S. policy adds important nuance to the debate over Hiroshima. Despite the grimness of his early life, Nakazawa never succumbs to pessimism or defeatism. His trademark optimism and activism shine through in this inspirational work.” ISBN-13: 978-1442207479

<http://www.amazon.com/Hiroshima-Autobiography-Barefoot-Asian-Voices/dp/1442207477>

On the following pages is a form of the exercise about Barefoot Gen described at the very beginning of this chapter.

こんにちは

著者からみなさんへのメッセージ



●中沢啓治氏の略歴
1939年広島市舟入本町に生まれる。
1945年8月6日被爆。父、姉、弟、爆死。「はだしのゲン」の他「黒い雨にうたれて」など多数。

「はだしのゲン」は、私がほんとうに描きたかった、戦争指導者の動きとそれに躍らされた国民の姿、アメリカの原爆投下計画と原爆地獄が造りだされてゆく過程に一番力を入れました。「ゲン」は、どんな残酷な場面でも手加減せずに描きました。子どもにもむごたらしい事実を直視して欲しいからです。

思い出すのもいやで、描くことがつらくなることもありましたが、2600頁を描きあげました。子どもたちの心に「ゲン」が生きつづけてくれることを願っています。



Translation: HELLO FROM THE AUTHOR of *Barefoot Gen (Hadashi no Gen)*

Brief personal history of Keiji NAKAZAWA: Born, Funairi-hon-machi, 1939. Atomic bombed on August 6, 1945. Father, elder sister, younger brother died from the bombing. In addition to *Gen* he wrote many books including *Kuroi Ame ni Utarete (Showered by Black Rain)*.

“In *Hadashi no Gen* I made great effort to describe: the actions of the (Japanese) war leaders and the subsequent behavior of the Japanese people who were influenced and manipulated by them, the U.S. plan for the atomic bombings, and the process by which the atomic hell was created. In *Gen* I described the cruel scenes, holding nothing back, because I want children to look directly at the atrocity, to see it all. Sometimes, when I did not want to recall memories, it was difficult to continue writing, but I did complete 2600 pages. I hope *Gen* will continue to live in the minds of children.”

Where Was Gen?

Where was Gen Nakaoka at 8:15 A.M. on August 6, 1945?

You have become somewhat familiar with part of the life of *Barefoot Gen* via the book by Keiji Nakazawa, and you also have some knowledge of the effects of nuclear bomb explosions. You are to put these understandings together and attempt to locate Gen, that morning, to within a 0.5 km. It may be helpful if you have a map of Hiroshima with 0.5 km annular rings drawn about the hypocenter. We hope this exercise will aid your understanding of the effects of a small 15 kton nuclear explosion. (16 kton by more recent, 2003, revisions. This could be *your* hometown.)



After completing your estimate the instructor may reveal to you where author Nakazawa placed Gen. Some detective work on your part might suggest his location, but "Kamiyama National Elementary School" (written on the gatepost) is fictitious. (Kanzaki Primary School was Nakazawa's school.) Also, in *Barefoot Gen* author Nakazawa used some "author's literary license" as to the distance of Gen from the hypocenter (revealed in a note to R.W.).

In the following pages you will find useful information specific to Hiroshima and Nagasaki compiled by **Japanese Experts** for presentation to the United Nations in 1976. In it you will find data tables related to the bomb's destructive power; data based upon the evidence, but also based upon the 1976 estimate, that it was a 12.5 kiloton explosion. This data, and more is also available in Naomi **Shohno's** book *The Legacy of Hiroshima - Its Past, Our Future*.

More recent estimates of the bomb yield, in 1986, based upon more modern and more sensitive techniques, arrived at a weighted average estimate of 15 kilotons. (*US - Japan Joint Reassessment of Atomic Bomb Radiation Dosimetry in Hiroshima and Nagasaki*, Vol. 1, p.35. RERF, Hiroshima Japan; commonly referred to as DS86.) (But 16 kt is even more recent; see the Appendix of Chapter 2 for the 2003 estimates.)

Other useful references with data and graphs are: the US Government DOD publication by Glasstone and Dolan, *The Effects of Nuclear Weapons* (**ENW**), *Nuclear Radiation in Warfare* (**SIPRI**), written by Nobel Peace Laureate Joseph Rotblat and published by the Stockholm International Peace Research Institute (SIPRI). and *Nuclear War: The Facts on Our Survival*, by Peter Goodwin, The Rutledge Press, 1981.

In the exercise ahead references are referred to as **Japanese Experts, Shohno, ENW, SIPRI**.

If you don't have a good map of the city of Hiroshima, **try Google Earth (GE)**, you may wish to locate the following:

1. Bridge Aioi (*Aioi bashi*) (The “T-Bridge”, the aiming point)
2. Shima Hospital, the hypocenter (actually 15 meters west of Shima Hospital). Shima Hospital in Google Earth is 0.21 km due east of the Bell of Peace in Peace Park; it is the building on the SE corner of that street intersection. GE can search for Shima Hospital, Hiroshima.
3. A-Bomb Dome
4. Peace Park and the Memorial Museum
5. Baseball Stadium (The old stadium was near Shima Hospital; the New stadium, *Mazda Stadium*, is about 1.7 miles east, near the railroad yards. Check GE for both old and new.)
6. KAMIYACHO corner (A main intersection, downtown Hiroshima; the first main intersection east of the “T-Bridge”.)
7. Peace Boulevard, runs east-west along the south edge of Peace Park.
8. Hiroshima Castle and its moat, NE of the “T-bridge”.
9. Misasa Bridge on the Ohta River. Sadako Sasaki lived near here in 1945; it is the 2nd bridge north of the “T- Bridge”. The 1st bridge at Jonan Dori was not there in 1945. Sadako lived near the west end of the Misasa Bridge.
10. Hiroshima Train Station. East of the castle and moat. This is where you would likely enter Hiroshima.
11. Yokogawa Station (1.5km north of the “T” bridge, where we first meet *Black Rain*’s Shizuma-san). GE can “search” for you.
12. A.B.C.C. (Atomic Bomb Casualty Commission), now RERF (Radiation Effects Research Foundation in HIJIYAMA PARK (for research with *hibakusha*). GE can search for RERF-Hiroshima, and “Street View” can take you up there.
13. MAZDA automobiles are produced in the Industrial District, immediately south of Ogonzan Ryokuchi Park.
14. Honkawa Elementary School and its Peace Museum, west across the river from the A-Bomb Dome.
15. The Ujina area (S) (In 1945 this is a port for shipments into the Pacific area.) Let GE search for Hiroshima Port Station.
16. Ebayama Park (far SW): This is where Nakazawa (Gen) took refuge with what remained of his family. In those days this was the town of Eba also. You can understand that on August 6, 1945 many burned people entered the Motoyasu, Honkawa, and Tenma Rivers. (Some sources suggest Nakazawa took refuge at Ebasarayama Park. In his biography he mentions the weather station on top of the hill.)
17. Ebayama Museum of Meteorology still shows evidence of the atomic bombing, 3.77 km from the Hypocenter, up the hill from Ebayama Park.

Does it seem like it might be interesting and enjoyable to explore here for a week, a month, or more? There are “youth hostels” in Hiroshima.

<http://www.hiroshima-navi.or.jp/en/accommodation/21052.php>

And there are others; check location on a map before making a reservation.

There is a Mr. Donut shop near Shima Hospital (GE can locate it, the **A** one) and a McDonald's restaurant (the **D** one) another 125 meters from the Donut Shop, both along the Hondori shopping street. And there are others.

TURN THIS PAGE IN.

Your Name _____

1. Blast Effects

All wooden and some stone structures near Gen were destroyed, i.e., knocked down, collapsed. Where will this effect place Gen? He ran home to a collapsed and burning house and it is not clear whether he ran toward or away from the hypocenter. Consult **Shohno**: pages 54 and 107.

Your thoughts: _____

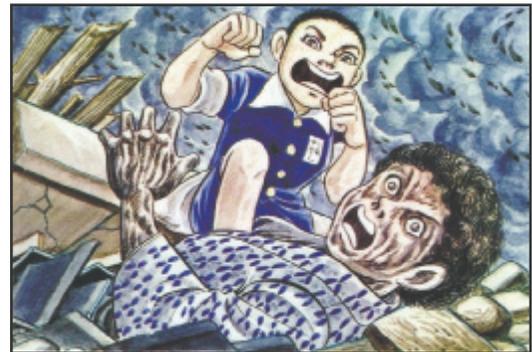
Gen’s distance estimates from Shohno’s blast information and other resources.

_____ km



2. Thermal Radiation

Shielded partly by 12 inches (30.5 cm) of stone wall, Gen was burned only on the back of his head. *His cap must have been on because the heat and light radiation arrives first, before the blast wave; he was burned through his dark cap.* The woman he was talking to received at least third degree burns or worse on her face; others in the immediate area were similarly seared.



Japanese Experts: Section (2); **Shohno:** Pages 55 and 106-108;

ENW: Figures 7.42 and (12.64 for reference);

SIPRI: Figure 3.

{Reminder: 7 cal/sq. cm. means third degree burns (roughly, for this size bomb.)},

{1 mile = 1.61 km.}

Gen’s distance estimates from the thermal radiation:

Experts _____ km

Shohno _____ km

ENW _____ km

SIPRI _____ km

TURN THIS PAGE IN.

Your Name _____

3. Nuclear Radiation

Gen thinks it is lack of food and bad smells which are making him sick. We are never told whether he had diarrhea. I suspect that he had radiation sickness even though Gen was partially shielded by the stone wall. Gen experiences epilation (which can occur after a scalp exposure of 300 rads or perhaps less), so he did get a dose of radiation. Here it will be appropriate to **add together the gamma ray and neutron doses**. Where will this effect place Gen?

Shohno: pages 23 and 30;

EXPERTS: Section (4);

ENW: Figures 8.33a and 8.64a;

SIPRI: Figure 15, and (references Figure 6, Tables 8 and 25.)

Gen's distance estimates from nuclear radiation:

EXPERTS _____ km

Shohno _____ km

ENW _____ km

SIPRI _____ km



4. Final Estimate

Now using all these estimates can you arrive at a best estimate? Do you trust one estimate more than others? Would you want to weight some values more than others?

My Final Estimate of Gen's Distance from the Hypocenter _____ km

5. Who is Keiji Nakazawa? _____

6. Who is Gen Nakaoka? _____

Information Compiled by Japanese Experts

Adapted from "Appeal to the Secretary General of the United Nations," 1976, by the Mayors and Citizens of Hiroshima and Nagasaki. Reproduced (and edited) with gratitude to them, and with the hope that others will learn from them.

1. PHYSICAL DESTRUCTION DUE TO THE ATOMIC BOMBS

(1) Energy of the atomic bombs

The first nuclear weapon to be used in warfare, a uranium bomb, was dropped on Hiroshima City on August 6, 1945. Following this, on August 9, a plutonium bomb was dropped on Nagasaki City. The yield of these atomic bombs was said to be equivalent to 20 kilotons of the conventional TNT explosive. Comparatively recently [prior to 1976], however, it has been estimated that the yield of the Hiroshima bomb had actually been equivalent to approximately 13 kilotons (1.3×10^{13} calories of energy) and that of the Nagasaki bomb, to approximately 22 kilotons (2.2×10^{13} calories of energy). [In 1986 these values became 15 kilotons and 21 kilotons based on the RERF DS86 Final Report. We are likely to encounter other contradictory values in various sources; e.g., some scientists in the late 1940s insisted that the Hiroshima bomb yield was 12.5 kilotons. The RERF 1986 values seem to be best estimates; though a more recent estimate of 2003 (Chapter 2 Appendix) sets the Hiroshima bomb yield at 16 kton.]

Hiroshima is a city on a flat delta surrounded by mountains to the north and west and facing the sea to the south. Because the burst point of the bomb was approximately 600 meters above ground (Chapter 2 Appendix) and very near the center of this flat land, the entire city was affected concentrically.

The terrain of Nagasaki City is in very large part mountainous. Because the explosion occurred approximately 500 meters above ground (error ± 20 m) in the northern part of a narrow city area surrounded by mountains, the damages which differed greatly by direction were not so extensive in the center of the city facing the sea to the south compared to those in Hiroshima.

With the explosion, there was formed a large fireball, a small sun so to speak, **intense heat rays** and **nuclear radiation** were radiated in all directions, and a **blast** occurred with the tremendous expansion of the surrounding air. Both being air bursts, it is estimated that approximately 35% of the total energy generated was **thermal radiation**, approximately 50%, **blast energy**, and approximately 15%, **radiation energy** (5% from **initial prompt radiation** and 10% from **residual radiation**).

(2) Effects of thermal radiation

The fireball that developed in the air simultaneously with the detonation attained a maximum interior temperature of several million degrees Celsius at the instant of the explosion and rapidly increased in volume, and then lost its luminosity after 10 seconds. In the meantime, the fireball underwent the following changes in size and temperature.

The fireball had a diameter of about 28 meters and a uniform temperature of about 300,000 degrees 1/10,000 of a second after the detonation, a diameter of about 180 meters and a surface temperature of about 1,700 degrees Celsius 1/100 of a second later, a surface temperature of about 7,000 degrees Celsius - rising again - 0.3 seconds later, a maximum diameter of about 280 meters and a surface temperature of about 5,000 degrees Celsius 1.0 second later, a surface temperature of 1,700 degrees Celsius again 3 seconds later, and thereafter it gradually dropped. Ninety-nine percent of the thermal radiation from the fireball had strong effect on the ground only during the time from 1/100 to about 3 seconds after the detonation. The thermal radiation, with a wave length longer than 186 nanometers, was a mixture of ultraviolet rays, visible rays and infrared rays. **It was in particular the**

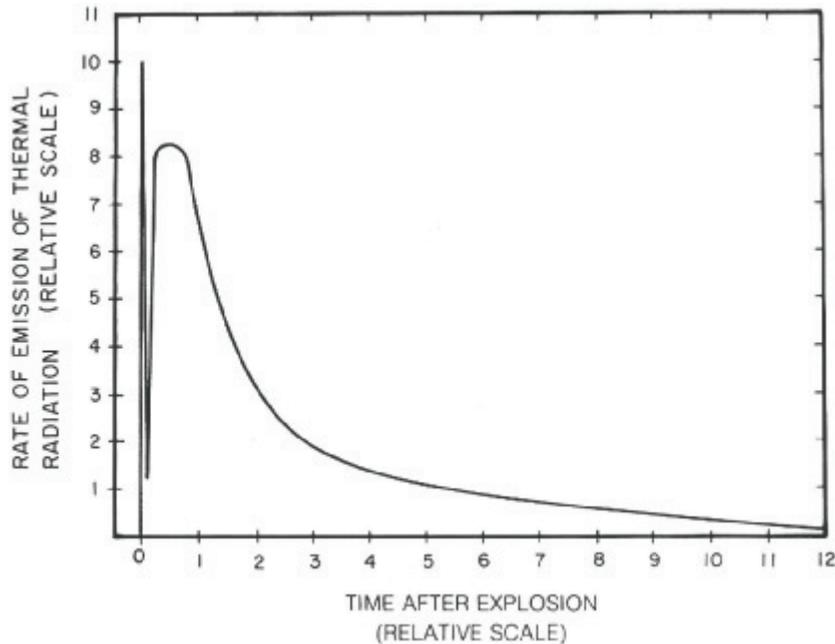
infrared rays emitted 0.3 second to 3 seconds after the explosion (wave length 760 nanometers or over) that caused heat burns on the human body.

Table 1 shows the energy of thermal radiation (calories/cm²) according to distance from the hypocenter (point on the ground directly below the burst point) and the burst point.

Table 1 - Thermal radiation energy on the ground)			
Distance from hypocenter (m)		Distance from burst point (m)	Thermal radiation energy (calories/cm²)
0	Hiroshima	580	99.6
	Nagasaki	500	229.4
500	Hiroshima	766	55.8
	Nagasaki	707	111.5
1,000	Hiroshima	1,156	23.2
	Nagasaki	1,118	42.2
1,500	Hiroshima	1,608	11.3
	Nagasaki	1,581	19.9
2,000	Hiroshima	2,082	6.3
	Nagasaki	2,062	11.0
2500	Hiroshima	2,566	3.9
	Nagasaki	2,550	6.7
3,000	Hiroshima	3,056	2.6
	Nagasaki	3,041	4.4
3,500	Hiroshima	3,548	1.8
	Nagasaki	3,536	3.1
4,000	Hiroshima	4,042	1.3
	Nagasaki	4,031	2.2

As a reminder we note that about **7.0 calories/cm² lead to 3rd degree burns (the worst),**
4.5 calories/cm² lead to 2nd degree burns,
2.2 calories/cm² lead to 1st degree burns.

Note: The atmospheric condition at the time of the atomic bombing is involved in deriving these values, but because it was rather clear in both Hiroshima and Nagasaki, theoretical calculation was done for each city based on visibility of 30 kilometers. It is important to consider the following facts in conjunction with the values of Table 1. Thermal radiation heat burns of the exposed human skin were observed to about 3.5 km from the hypocenter in Hiroshima and up to about 4 km in Nagasaki. Fabric and wood became charred by thermal radiation up to about 3 km from the hypocenter in Hiroshima and up to about 3.5 km in Nagasaki.



It is also estimated that in both Cities persons located without shielding within about 1.2 km from the hypocenter sustained fatal heat burns and 20 to 30% of deaths were due to this injury.

(3) Overall damages due to thermal radiation, blast, and fire

Generally, fire storms are accompanied by rain because, in case of a conflagration, moisture can be considered to condense around the particles of carbon and other matter produced by the fire when they come into contact with the cold air above. In fact, a considerable amount of so-called "black rain"

with radioactivity fell in Hiroshima over a wide area ranging from the north to the west of the hypocenter.

With respect to the damages caused by the blast and fire, similar damages should result with the use of the conventional bomb and incendiary bomb. For example, it is estimated that material damages of the extent of Hiroshima can be caused with about 290 tons of TNT bomb and about 900 tons of incendiary bomb. However, the atomic bomb is unique in that its destructive power is delivered in one instant and that it is accompanied by radiation

Due to the destruction of a wide area in one blow by a powerful blast, the fire fighting organization was almost totally destroyed at once and the supply of water stopped in Hiroshima and Nagasaki. Debris covered the streets and the damages being so enormous that it obstructed the fire fighting activities.

(4) Effects of Radiation

Anyone entering within 1.0 km of the hypocenter in Hiroshima or within 0.8 km in Nagasaki within 100 hours of the explosion was considerably affected by external exposure to **gamma rays of induced radiation (or residual radiation)**. That is, not radiation directly from the fireball. The effect was greater the longer one remained close to the hypocenter, and the **maximum possible dose received was approximately 100 rads in Hiroshima and 50 rads in Nagasaki**.

Strong **residual radioactivity** was detected in areas where "**black rain**" fell immediately (from the north to the west) after the explosion in Hiroshima and in the remote areas in the eastern part of Nagasaki, and in these areas considerable damages were incurred due especially to external exposure to gamma rays from the radioactivity of nuclear fission products. The **maximum possible value of the residual radiation dose from this source was approximately 40 rads in Hiroshima and 200 rads in Nagasaki**.

The foregoing described the effects of external exposure to gamma rays, but there is yet another source. This is direct exposure of internal organs to **radiation ingested or inhaled** into the body due to the effects from **beta rays** and **alpha rays** as well as **gamma rays**. In particular, those persons who experienced the thick dust that arose immediately after the explosion and those persons who later

entered the city to dispose of dead bodies and debris and inhaled large amounts of dust are **likely to have accumulated in their bodies radiation in excess of the maximum permissible dose [undefined]**. Owing to local conditions, **some people ingested radiation in especially large quantity through the intake of polluted water and food.**

Many cases have been found that diseases developed on account of residual radiation even though they had not been exposed to initial radiation, some even dying because of this.

	Distance from hypocenter (m)	Distance from burst point (m)	Gamma rays (rads)	Neutrons (rads)
0	Hiroshima	577	10,306.6	14,176.6
	Nagasaki	507	25,131.0	3,907.2
500	Hiroshima	764	2,791.7	3,156.8
	Nagasaki	712	7,091.1	703.1
1,000	Hiroshima	1,155	255.5	191.6
	Nagasaki	1,121	888.7	35.9
1,500	Hiroshima	1,607	21.6	10.1
	Nagasaki	1,583	119.0	1.7
2,000	Hiroshima	2,082	1.9	0.5
	Nagasaki	2,063	17.8	0.1
2500	Hiroshima	2,566	0.2	0.0
	Nagasaki	2,551	2.9	0.0

* As a first approximation these values represent air doses in rads to the skin. A more correct dose, as applicable to the internal organs would have to be calculated in rems. But we can use these values as a first estimate, in which case the total dose can be obtained by simply adding the *gamma ray rad dose + the neutron rad dose*. For example, at 1,500 m in Hiroshima the total prompt radiation dose would be 31.7 rads.



The Real Story –The Real Barefoot Gen, Keiji Nakazawa

The Jan. 11, 2003 interview by Alan Gleason follows. It will answer some of your questions about Gen.

1. What is notable about the book, *Barefoot Gen*?
2. In August, 1945, how old was Keiji Nakazawa?
3. Did he really have a younger sibling on August 5, 1945?
4. Did his family have enough to eat?
5. Did he and his friends play baseball?
6. In peacetime what would his father's occupation have been?
7. Who arrested his father?
8. Did his father serve any jail time?
9. What did Nakazawa's uncle do in the war?
10. Was Nakazawa *really* protected by the school gate?
11. Who was the lady with whom he was talking?
12. Did people *really* have glass shards sticking into their skin?
13. Do people *really* turn black when scorched?
14. Did burnt skin *really* slough off, eyeballs *really* hang out, intestines *really* spill out?
15. Did Nakazawa *really* assist at his baby sister's birth?
16. Did Nakazawa *really* experience "black rain"?
17. Was Nakazawa's mother *really* pulled away from the burning house by a neighbor?
18. What medication was used on Nakazawa's head burns?
19. What noise was made by dead bodies in the rivers?
20. Was Nakazawa well-behaved in school?
21. What year did his mother die and what was unusual about her burial?
22. About 30 years after the Bombing the U.S. allowed the Japanese photos of A-Bomb victims which had been confiscated by the occupation forces to be returned to Japan. Would Nakazawa have trouble publishing his "Black" series in 1966-67? Why?
23. By the mid-1970s did the Japanese people know much about "the A-Bomb experience"?
24. Why does he think Americans will support a war in Iraq? (2003)
25. How long did Nakazawa's baby sister live?
26. Does Nakazawa mind that all his characters, in English, became southpaws?



27. Does Nakazawa have any A-Bomb disease?
28. If he made another movie now what would be the topic?
29. How does he feel now?

Keiji Nakazawa Interview,
By Alan Gleason, 1-11-2003,
(Printed by permission of Alan Gleason.)

AG: Among manga translated into English, Barefoot Gen stands out for several reasons. Not only is it the first book-length manga translated into English (in 1978), but it attracted the attention of readers and critics outside of comics fandom because of its serious theme. Readers are aware that Gen is primarily autobiographical, based on your own experiences growing up in wartime and postwar Hiroshima and your direct experience with the atomic bomb. Can you tell us about your childhood, before the bomb?

KN: I was born in Hiroshima in 1939, less than a mile from the epicenter of the bomb. I was the fourth of five kids [later, actually of six – R.W.]. In my earliest memories, we were already in the middle of the war. We didn't have enough food. I remember we were always hungry, always scrounging for food.

AG: So your earliest memory is of wartime?

KN: It was toward the end of the war. We were just hungry, air raids every day, hiding in the shelter. That was our everyday life.

AG: Did that seem normal to you?

As a kid, you just figure it's normal. I don't remember feeling afraid. I didn't know any different life.

AG: Even during the war, were you and your friends typical kids, wanting to play and have fun?

KN: We were just normal kids. We played games based on the war, Japan vs. the enemy. That was pretty much all we did all day!

AG: What was your father doing during the war?

KN: He was an artist, and a real eccentric. When he was young he'd gone to Kyoto and studied lacquer work and Nihonga (traditional-style Japanese painting using natural pigments). He was also in an underground theater troupe, with the actors Osamu Takizawa and Eitaro Ozawa. They did a lot of contemporary drama. During the war if you were caught with subversive works like that you could be arrested. Well, they were engaged in an anti-war movement of sorts, and the whole troupe was arrested by the thought police. **They took my father away and put him in jail for a year and a half. When I asked where he'd gone, my mother lied and said he'd been drafted into the Army. They held him in the Hiroshima Prefectural Prison. Apparently they tortured him.**

AG: Did you have any feelings then, as a kid, about the police, the government, the military?

KN: My father was always saying the war was wrong, that Japan would lose for sure, and that maybe then and only then, the country would get better. He's the one who shaped my views about the war.

AG: Did that get you in trouble at school or with other kids? Did you notice his views differed from other people's?

KN: I was just a first-grader, I couldn't really judge, but I realized my father thought differently about the war than just about anyone else. As I wrote in Gen, word got around at school that he was against the war. But I think I felt kind of proud of that.

AG: Where did your father acquire his antiwar viewpoint?

KN: From his friends and colleagues, I suppose. When he was in Kyoto, a lot of his friends were leftists who were opposed to the war. My mother was terribly worried when she heard him criticize the Emperor. My father would say that the imperial system was dangerous and had led to the creation of the military establishment that was pushing the war. **He'd say "Down with the Emperor system!"**

AG: And that worried your mother?



Keiji Nakazawa near the A-Bomb Dome, Hiroshima. Image from the dvd "Barefoot Gen's Hiroshima", courtesy of Kuniko Watanabe, available at ZAKKA FILMS.
Photo © Siglo Tomo Corporation

KN: Oh yes. My mother tried hard to keep his views from being known in the neighborhood. I didn't really understand how radical his opinions were till after the war.

AG: So you first understood his point of view after you'd grown a bit older.

KN: Yeah, I would think, so that's what my father was talking about! At the time I didn't really understand it.

AG: So as you were growing up in postwar Hiroshima, had you already embraced your father's views on the war?

KN: No, I was still just a kid. I wasn't capable of thinking about things that deeply. But I would think, this must all be the Emperor's fault like my father said. It's the fault of the imperial system that we don't have enough to eat and have to scrounge for food every day. I learned that from him early on.

Now, I had an uncle, my mother's brother, Miyake Yoshio, who was a submarine officer in the Navy. He participated in the attack on Pearl Harbor. After the war, he came to our house and said to me "Your father was right."

He told me how he had been ready to go to war and die for the Emperor. But just before he shipped out for Pearl Harbor, he came to see my father. They talked, thinking it was the last time they'd see each other.

But just as the attack was to begin, his submarine hit something on the sea bottom and was disabled. They finally got clear but by the time they surfaced, the attack was over. So he survived. After the war, he came to see us and told us what my father had said to him before he left for Pearl Harbor. "You think Japan can win this war? That's absurd. We'll lose for sure. Just come back alive. Don't kill yourself for nothing. Down with the Emperor system!" When he heard that, my uncle said, his heart nearly stopped. But Japan did lose, exactly as my father had predicted. That's what my uncle meant by my father being right.

So that was how I was raised by my father, up until August 6, 1945.

AG: Tell me what happened that day.

KN: Even though it was August, we weren't on summer vacation. Kids were required to attend classes all summer, the idea being it would turn us into "strong citizens." I was on my way to the **Kanzaki** primary school on August 6. If I'd gone through the school gate a moment earlier, I wouldn't be here. Just a little thing like that -- I've often thought about it. Luck or fate is a strange thing.

As I was about to enter the gate, the mother of a classmate of mine called out to me. She asked whether they were holding our class at the school that day, or at a nearby temple as they sometimes did. They were always switching locations because some schools had been bombed in the air raids. I told her I didn't know, she'd have to ask the teacher. I was standing right in front of the gate, and the lady was standing about a meter in front of me.

Just then we saw a single B-29 fly overhead. "That's a B-29!" I said. "Yes, so it is," she answered. But there was no air raid siren, like there usually was. The lady said that was really strange. Then, just at that moment, there was a huge flash. It seemed to rush at me. I remember the center was pure white, with blue-white around it, and orange-red around that. I saw that flash for an instant, and after that I don't remember anything.

The next thing I remember, it was pitch dark. It seemed like night. But a moment ago, there had been blue sky overhead. I felt something jabbed in my cheek, a nail. I still have the scar, see? I wondered what had happened. When I tried to get up I found I was under a pile of tiles and boards. The wall of the school had collapsed behind me. I crawled out from under it. In front of me I saw the lady I'd just been talking to, but now she was lying out in the street. Her hair was all burned, her face and skin were black, and she was staring straight at me.

I went out into the street. It was a wide avenue with a streetcar track running down the middle. On both sides all the houses were collapsed, and the streetcar wires overhead were all twisted around like spider webs. I guess a homing instinct kicked in then. I wasn't thinking anything, just that I had to get home. I ran down the street.

As I ran, the first people I met were five or six women walking along in only their underpants. They had all this glass sticking straight out of them, but on different sides -- some on their left side, some in front, some on the right, some only on their backs. They'd been struck by glass from shattered windows. Then I saw people who looked like their bodies were colored blue. When you got closer you realized they were completely covered with glass shards.

Farther along I came to a place where people were lying along the roadside, like a human carpet. Their skin was burned completely black. Other people were crawling across the road to drink from a water pump on the other side. I kept going. I just couldn't understand what had happened. What was really strange was that nobody cried out. Some were silently drinking water as fast as they could; others were sitting there picking the glass out of their bodies.

I just kept running along the street till I got to my neighborhood. But it was on fire and I couldn't get any closer to my house. That was when I first came to my senses, I think. I ran back out to the main street and started crying at the top of my lungs, Mama! Papa!, running up and down the road looking for them.

There were throngs of people walking silently along like a parade of ghosts. Their skin was all in strips. The heat

from the A-bomb reaches around 5,000 or 6,000 degrees, you know. It melts the skin right off you in an instant. But human skin is pretty amazing stuff. It strips right off you all the way down to your fingernails, and just hangs there. So people were walking along with their hands out in front of them, the skin from their arms dragging on the ground. Just like a bunch of ghosts.

When the blast from the bomb hit people in the face, their eyeballs would pop out and dangle from their sockets. So people were staggering along supporting their eyeballs in their hands. If the blast hit you in the belly, it would split you open, so some people had their intestines spilling out and were trying to stuff them back in.

So I was running through this scene, calling out for my mother and father. Miraculously, a neighbor lady recognized me. She was standing there, covered with glass, pressing her body to try to stop the bleeding. She told me my mother was by the streetcar tracks near a certain intersection. I didn't think, I just ran.

Another thing I noticed was that people wearing white clothing had those clothes on intact. But the rest of them was completely burned. Later I learned that the heat of the blast behaved like light hitting a mirror. It reflected off white clothes but was absorbed by dark clothes. Unfortunately, most people at this point in the war were in the habit of wearing dark clothes so they wouldn't be visible to enemy planes at night.

When I got to the intersection I found my mother sitting on a futon she'd laid out by the side of the street. She was just sitting there staring blankly. I remember we just kept looking at each other; we didn't have the energy to talk. Then I noticed she was holding something in her arms. It was a baby. The shock of the bombing had hastened the birth.

AG: So she'd given birth right there, by the side of the road?

KN: Yes, just a little while before I got there. It was a girl. [Sibling #6, -R.W.]

We just sat there staring at the ghost parade as it streamed by. People were fleeing the hypocenter. We were a little ways outside of town. There were vegetable fields on both sides of the road around us, completely covered with bodies. People would collapse on top of the vegetables. It felt cool to their burned bodies, I guess.

At some point black rain started to fall on us. It had the consistency of heavy oil. No one knew what it was. Somebody said the Americans must be dropping oil on Hiroshima to make the fire spread. But we were very lucky. If we'd fled west, we would have been exposed to the full brunt of the black rain and would have died from the radioactivity. But we'd gone south, and only a few drops fell on us. To the west, so many people died of acute radiation sickness or later of leukemia.

So we spent the rest of the day just sitting there. Then, at night, people all around us started moaning for water. We couldn't sleep. My mother took pity on them and went to the pump to get water for them. They'd grab the bucket, drink the water down as fast as they could, and then, in a matter of seconds, they'd fall over -- dead. Maybe it was a shock to their system, or maybe they'd been hanging on for dear life, just craving water, and when they finally got some they could let go and die.

When the next day dawned, just about everyone lying in the fields was dead. The stink of dead bodies was horrible. You couldn't breathe, especially when the midsummer sun heated up. We decided to climb a nearby hill, Sarayama, where the trees would provide shade. But the hill was so covered with people; we couldn't find any room to sit, so we gave up and went down again.

Right about then I noticed that the back of my head and neck felt really itchy. It turned out I'd suffered burns from the bomb there. The school wall hadn't completely blocked the flash and it had burned me on the head and neck. There was a first aid station the army had set up in a tent at the bottom of the hill, so we went there to get treatment for me. But they didn't have any medicine at all. They told my mother to put juice from a squash plant on my wounds. She did that for a year and they healed.

There was nowhere to go, but we needed to let my older brother Yasuto know we were alive. So we went back to the main street near where our house had been and waited for him to return. **My brother had been drafted to work at the Kure Shipyard outside Hiroshima,** and had helped build the battleship Yamato. So he wasn't in Hiroshima when the bomb fell. Eventually he did find us, and then the four of us -- with the baby -- went out to a town outside of Hiroshima called Eba where we had relatives. They weren't happy to see us because they were already short on food.

AG: You describe that situation in Barefoot Gen. Was it just like in the book?

KN: Yes, exactly the way I wrote about it in Gen. They let us stay in a storeroom they had, but they were really nasty to us.

AG: When did you learn that the rest of your family had died in the fire?

KN: Not right away. After we arrived in Eba and settled down a little, my mother told me for the first time how they had died. Just as I described it in Gen. They were trapped under the fallen beams of our house and burned to death there.

My little brother Susumu's head had been caught in the collapsed doorway, but he could still move his legs. My

mother tried to pull him out, but she couldn't. He was crying and crying how much it hurt, and my father was yelling for my mother to do something. But there was nothing she could do. She temporarily lost her mind. They were dying right in front of her. She decided she'd die with them. But just as the flames reached our house, **a neighbor came by and dragged her away.** He told her there was no point in her dying too. She could still hear the cries of my brother and father from inside the flames as she was pulled away. My sister Eiko had died instantly, thank goodness.

After a few days, I went back with Yasuto to where the house had been, and we found the bones of my father, sister and little brother right there where they had died. We put their skulls in a bucket and took them back with us.

I still remember when I held my little brother's skull in my hands, the cold chill I felt through my whole body, even on a hot summer day. I was thinking how terrible it must have been for him, crying out for my mother, his head caught under that beam, his body burning.

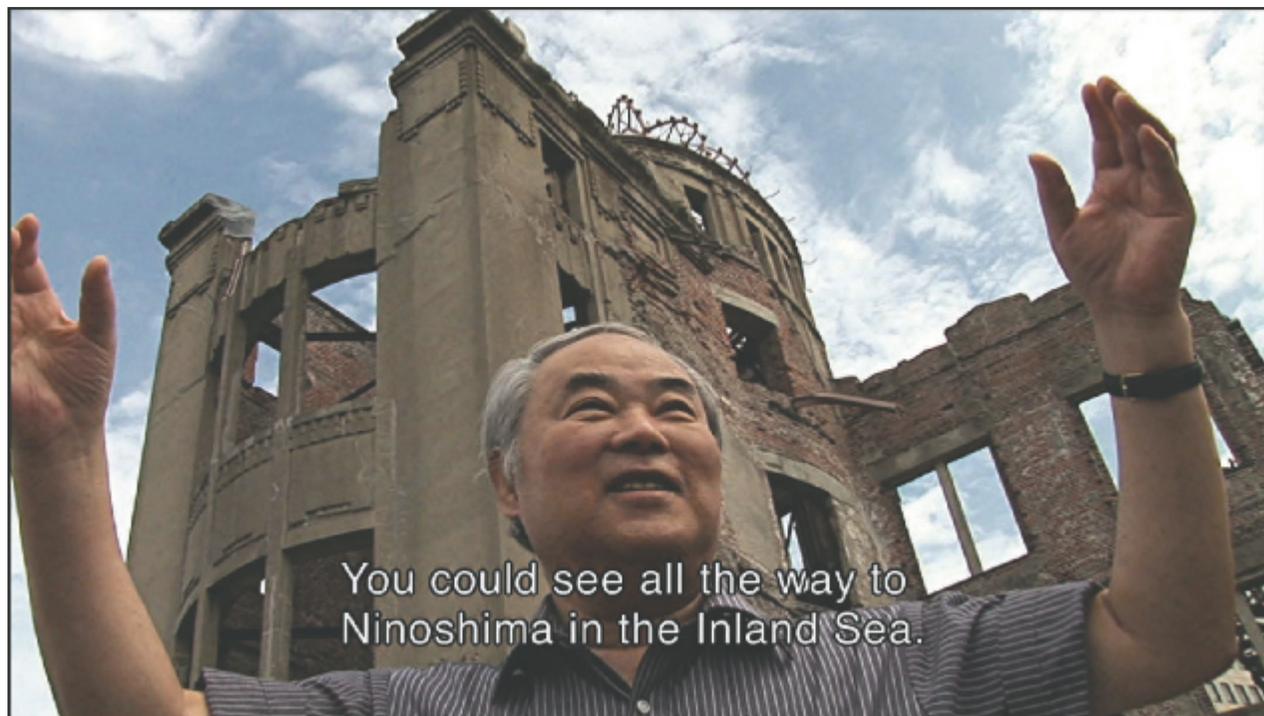
That was the first time I saw Hiroshima since we'd left for Eba. All that was left of the city was a vast scorched plain. The only structures still standing were concrete cisterns that had held water for firefighting purposes. These tanks were full of corpses, people who'd tried to escape the fires. You could see parents and children clinging to each other. They looked so human, even in death. As you got closer to the epicenter, the cisterns were overflowing with bodies. People had jumped into the tank, one after the other, falling on top of each other. It was very symmetrical, the way the corpses were piled up.

The only things moving over the ruins were flies. There were clouds of flies everywhere. They'd swarm after you. I thought they were going to eat me alive.

Downtown, below the bridge at the epicenter of the bombing, the river was filled with bloated, rotting corpses. They'd wash up and down stream with the tide. Every so often you'd hear a loud pop when the gas inside a corpse built up and its belly burst open. The whole city was filled with bodies. **Everywhere I walked there were charred, blackened corpses.**

AG: So you stayed in Eba for some time after the bombing?

KN: Yes, but we were treated so badly by people there -- they clearly didn't want us around -- that we decided to leave as soon as we could. We started collecting lumber and when we had enough, we built a shack on the rubble back in town, not far from where the Atomic Dome still stands.



Keiji and his friends would climb to the top of the A-Bomb Dome for play and to retrieve pigeon eggs to eat. He said it was a great view from up there. Ninoshima was 5 miles (8 km) away. Image from the dvd "Barefoot Gen's Hiroshima", courtesy of Kuniko Watanabe, available at ZAKKA FILMS. © Siglo Tomo Corporation

They reopened a school in Hiroshima within a month after the end of the war. But we had nothing to study with -- no paper, no textbooks, no desks. We spent our free time climbing around in the ruins, like on the Atomic Dome. You could see all the way across what was left of Hiroshima from up there. Around that time they had cremation fires burning nonstop. There were acres and acres of bones piled up from the cremations, everywhere you looked.

AG: Did you have friends you hung out with, like the character Ryuta who is Gen's best friend in the book?

KN: Well, I was the worst-behaved kid in my school. I was always getting in fights. I was the boss of my own little gang. We'd scavenge around through the ruins, picking up scrap metal to sell on the black market for pocket money. The black market was the only place you could get most necessities, and of course it was run by the yakuza. You couldn't avoid them. That was just the way it was then. Everyone was desperate.

AG: When did you first discover comics, or start drawing?

KN: I think it was when I was in third grade, around 1948, when I first saw the comic book Shin-Takarajima (New Treasure Island) by Osamu Tezuka. The first I heard of it was when one of my classmates got a hold of it. I kept bugging him to let me borrow it, but he wouldn't let me. I wanted it so badly. So I saved up my money from selling scrap metal and finally bought my own copy. I spent all my free time reading it over and over.

AG: Had you heard of Tezuka before that?

KN: No, never.

AG: Why did you want to see the comic so badly?

KN: We had no other means of entertainment then. Comics were new and exciting. Also, there had never been big, thick, book-size comic magazines like Shin-Takarajima before, only much shorter comics. The sheer size of it was thrilling to me.

AG: So it was like the big manga weeklies we see nowadays, like Shonen Jump?

KN: Yeah, around 250 pages. Tezuka's was the first manga I remember seeing, and that's what I grew up on.

AG: Were you already drawing before you first saw Tezuka's work?

KN: I'd always been good at drawing, even as a little kid, thanks to my father's example. I did well at art in school. Once I got hold of the manga, I started trying to copy Tezuka's images. I became more and more of a manga fanatic as time went by.

In fifth or sixth grade I sent in a cartoon I'd drawn on a postcard for a contest run by a Tokyo publisher. I got an honorable mention and my name appeared in their magazine. I was overjoyed!

AG: Did your classmates think you were weird for being a tough guy who also drew cartoons?

KN: Oh, it made me popular. Kids would line up at school and ask me to draw cartoons for them -- I was that good!

I think it was in my blood, something I inherited from my father. I loved pictures. I could draw for hours on end, completely in my own world. And if you keep doing something you love, you're bound to get better at it.

When I entered middle school, I became even more obsessed with manga. By then I'd set my heart on being a professional cartoonist when I grew up. I wanted to go on to high school, but my family couldn't afford to pay my tuition. So when I graduated from middle school, I was only 15 but I had to find a job. I wanted to do something that would help with my cartooning, so I decided to be a sign painter. Painting signs gives you practice sketching, lettering, and coloring -- all skills that you need for manga. So I painted signs all day, and when I got home I'd draw manga.

I did that until I was 22. I kept sending my manga work to publishers in Tokyo, won a number of prizes, and gradually acquired more and more confidence in my work.

AG: What sort of work were you doing?

KN: Period pieces -- historical adventures, samurai dramas; usually in 16-page installments.

AG: How did your mother react to your desire to become a professional cartoonist?

KN: She was really against it. She knew what it was like to be married to an artist, how poor you're going to be! She didn't want me following in his footsteps. But I'd get mad at her and tell her I was going to draw no matter what she said. I drew every day -- I was a manga maniac!

AG: So Tezuka was your biggest influence. Who are some other manga artists you liked?

KN: Eiichi Fukui, Noboru Baba, Jiro Ota -- I really liked them. They all appeared in the manga magazines of the time.

When I was 22, I couldn't stand it anymore. I decided I had to draw manga full-time, so I moved to Tokyo. It was 1961. I found a tiny three-mat room in the Yanaka district, and started carrying my manuscripts around to different publishers.

AG: Did you have letters of introduction or anything?

KN: Nothing. I'd just walk in and ask them to look at my stuff. Mostly they'd just say, looks interesting, come by again when you have some more. Finally I made my debut in the monthly manga magazine Shonen Gaho (Boys' Pictorial). It happened pretty fast, actually -- I'd only been in Tokyo a year when I got the job. The title was "Spark One". It combined auto racing and spy intrigue.

AG: What was the connection between auto racing and spying?

KN: One racing team was trying to steal the secrets of another team's car design. That ran in Shonen Gaho for a year. I got another job doing a short sci-fi series called "Uchu Jirafu" (Space Giraffe) for the manga weekly Shonen King. But when those series ended, I thought, oh no, what'll I do next? I started working as an assistant for Naoki Tsuji, who was a very popular cartoonist.

During that time I also was doing short pieces for magazines like Kodansha's Bokura (We), Shonen Sunday, and Shonen magazine. I did all kinds of genres -- sci-fi, baseball, samurais -- I liked drawing them all, so I'd try my hand at anything.

AG: Were you being commissioned by the magazines to draw specific types of stories?

KN: No, I'd draw what I wanted and peddle it around.

Then, in 1966, my mother died. I got a telegram and rushed back to Hiroshima, but it was too late, she was already lying in a coffin.

I was so grateful to her. If it hadn't been for my mother, who knows what would have happened to me. I would've been a war orphan -- I'd either be dead or in jail, most likely.

I went to the crematorium to collect her ashes. Actually, when you're cremated, there are always some bones left -- the skull, backbone, arm and leg bones. But there were no bones left in my mother's ashes. Nothing. It was an incredible shock to me. I think the radiation must have invaded her bones and weakened them to the point that they just disintegrated at the end. I was appalled.

Since coming to Tokyo, I hadn't said a word about being an A-bomb survivor to anyone. People in Tokyo looked at you very strangely if you talked about it. So I learned to keep quiet. There was still an irrational fear among many Japanese that you could "catch" radiation sickness from A-bomb victims. There were plenty of people like that, even in a big city like Tokyo.

But I was enraged that the bomb had taken even my mother's bones. I wanted to yell, "Give my mother's bones back!" All the way on the train back to Tokyo, I couldn't stop thinking about it. **I realized I'd never thought seriously about the bomb, the war, and why it happened. The more I thought about it, the more obvious it was that the Japanese had not confronted these issues at all. They hadn't accepted their own responsibility for the war. I decided from then on, I'd write about the bomb and the war and pin the blame where it belonged.**

Within a week after getting back to Tokyo, I wrote my first work about the bomb, Kuroi Ame ni Utarete (Struck by Black Rain). It's about young people in postwar Hiroshima getting involved in the black market for weapons. The main character is an A-bomb survivor whose hatred drives him to kill an American black marketeer. He asks the Americans, who are you to talk about justice when you massacred hundreds of thousands of innocent people in Hiroshima, in Nagasaki, in the firebombing of Tokyo? Was that what you call justice?

The editors who read "Struck by Black Rain" were very moved by it and told me to write more. I wound up writing five books in my "Black" series -- "Black River," "Black Silence" and so on.

(Nakazawa's) "Black Rain" was published in serial form in Manga Punch, an "adult" manga magazine by a small publisher, Hobunsha. The big publishers turned it down. They said it was too radical for them, too political.

AG: What was it they objected to, specifically?

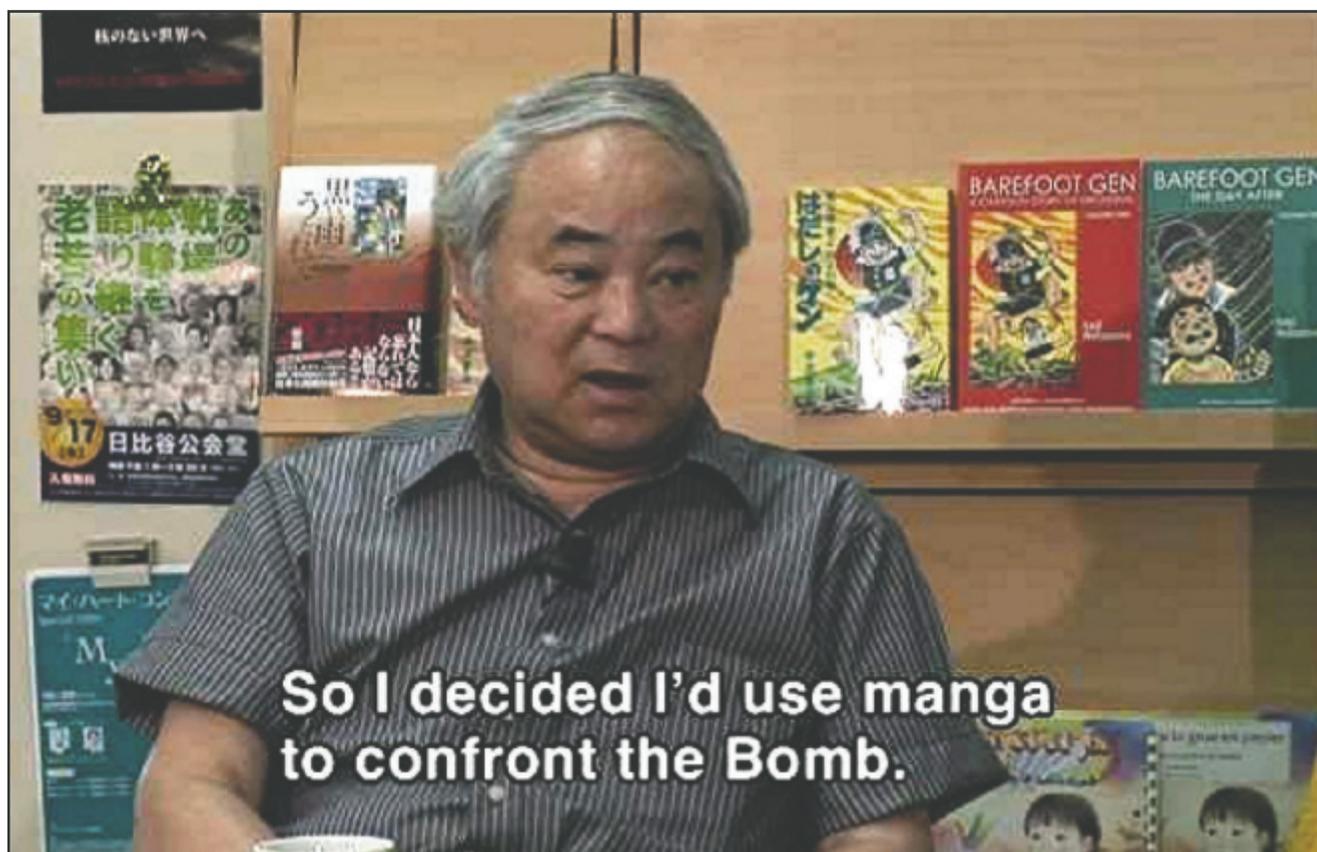
KN: They said they were afraid they'd get harassed by the CIA or sued by the U.S. government for writing about the A-bomb. When I mentioned this to my editor at Hobunsha, he laughed and said, "Hey, they can arrest me! That would be great publicity!"

But "adult" -- meaning erotic -- magazines like Manga Punch had a very small share of the market. I wanted to write on these themes for a bigger publisher. I was lucky to find a very good editor at one such publisher, Shueisha. His name was

Tadasu Nagano. He really championed my work. He urged me to write more about the A-bomb, so I began my "Peace" series, starting with Aru Hi Totsuzen ni (One Day, Suddenly).

AG: So by the late sixties, you were writing manga primarily on themes like the war and the A-bomb. Did you write about your own Hiroshima experience in those works?

KN: Oh yes, I based a lot of what I wrote on my own experiences. But it didn't really occur to me to write about what happened to me personally until the magazine Monthly Shonen Jump started running a series of "cartoonist autobiographies." They asked me to write one about myself. At first I didn't want to, but they kept after me. The result was Ore wa Mita (I Saw It) [46 pages; English translation published by Educomics in 1982]. When Nagano read it, he told me, "**You should do a longer series based on this. You can make it as many pages as you want and we can run it for as long as you want.**" I could hardly believe it. That was the first time an editor had ever said anything like that to me. I was incredibly grateful, and felt I should do the best job I could. That was how Hadashi no Gen (Barefoot Gen) came about.



From the dvd "Barefoot Gen's Hiroshima", courtesy of Kuniko Watanabe, available at ZAKKA FILMS. © Siglo Tomo Corporation © Siglo Tomo Corporation

If it hadn't been for Nagano, Gen never would have happened. But after a year and a half, he was kicked upstairs and made director of his division, and another editor took his place at Jump. The new editor had different tastes, and decided to cancel Gen.

After that the monthly magazine Shimin (Citizen) picked it up for a year. They went out of business, so next Gen moved to another monthly, Bunka Hyoron (Cultural Criticism), where it appeared for 3 1/2 years. Then that magazine ran out of money, so Gen moved to Kyoiku Hyoron (Educational Criticism) for another 3 1/2 years.

AG: What pace was Gen being serialized at in these publications?

KN: **Sixteen pages, every month. That took Gen up to its present ending, ten volumes' worth.**

AG: Someone once told me they thought that Jump had canceled the original Gen serial after a year and a half due to right-

wing pressure. Is there any truth to that?

KN: No, none whatsoever. It was just the whim of the new editor.

We expected right-wing pressure. But we never experienced any. When Gen first appeared, I warned my wife to be prepared to get hate mail or threatening phone calls. Not a thing. Gen only got praise. Even the right-wingers cried when they read it!

AG: You've also mentioned before that the Japanese left wanted to use Gen for their own political agenda, and that at one point the Japan Communist Party pestered you to join them.

KN: Oh yeah, sure, but I just said no. They left me alone after that. Actually, you could say the Communists turned me down too. Bunka Hyoron was affiliated with the Communist Party, but they canceled Gen when they ran out of money.

AG: So for several years, you were kept busy with Gen. But you were writing other works, too, during that time, right?

KN: Oh yes, quite a few. I wrote for Monthly Champion and Manga Action. Mostly social commentary, but lighter stuff too. I did a manga called Yakyu Baka (Baseball Fool), about a kid who really was a complete fool for baseball. You get tired of doing serious stuff all the time! But I was also doing work in the same vein as Gen and Okinawa. I did a serial called Geki no Kawa (Geki's River) about a boy growing up in Manchuria when it was a Japanese colony.

AG: At some point you also started giving talks in public. When was that?

KN: I guess after Gen first appeared as a four-volume set, so that would be in the mid-seventies.

AG: You were speaking about your experiences as an A-bomb survivor?

KN: Yes, and about peace issues. To citizens' groups, schools, teachers' groups around Japan.

AG: Are you still doing that?

KN: Not now. I'm tired. I was still doing it last year, but I don't want to any more. At the peak I was giving 20, 25 talks a year.

AG: What would people ask you about?

KN: They wanted to know what the war and the atomic bombing were really like. It was the first time people had heard the truth. That's what they told me everywhere I went.

AG: I've heard that Japanese school history books don't say much of anything about the bomb. Why not?

KN: The government probably doesn't want to risk encouraging anti-American sentiment. But the facts are the facts. People should be told what happened.

AG: Americans, too, generally know about the two A-bombs dropped on Hiroshima and Nagasaki, but hardly anyone knows about the extent of the B-29 air raids that leveled most Japanese cities before that. In Tokyo alone, 100,000 people were killed in one night of fire-bombing -- that's nearly as many as died in Hiroshima. And though most Americans know about the A-bombs, a common knee-jerk reaction to any discussion of their effects is "What about Pearl Harbor?" -- that sort of thing. Even Americans who consider themselves liberals tend to have very mixed emotions about the A-bombs -- whether they were necessary to end the war or not. **Yet those who read Gen often say it is more even-handed than they expected in spreading the blame for the war.** You don't just blame America for dropping the bomb; you blame the Japanese militarists for starting the war, and the emperor system for allowing the militarists to wield such power in the first place. You definitely don't come across as anti-American. Is that how you always viewed the war, even when you were young?

KN: Well, I spent a lot of time thinking about why it happened. And if you think it through, the answer clearly lies with the militarists and the imperial system. And as a young kid, of course, I'd heard my father criticizing them too.

AG: As you were growing up in postwar Hiroshima, did you talk about things like that with your friends?

KN: Never! Everyone had their hands full trying to survive. I kept my thoughts to myself. If I tried to bring it up, no one wanted to hear about it.

AG: When did you start talking about it?

KN: Pretty recently, I guess. It's only lately that I've really started speaking out about how bad the entire imperial system is.

For a while I only expressed those views in writing, through my manga starting in the sixties.

AG: But I gather that, even if you didn't talk directly with your colleagues about your experiences, you could tell that people like your editor Nagano shared your views.

KN: I was really very lucky to have an editor like him. Without Nagano, I never would have been able to draw the Peace series. And he knew it, too. He'd say to me "There are forty editors here at Jump and I'm the only one who understands what you're doing!"

AG: Would you talk to Nagano about your views on the emperor?

KN: Not really, but he knew how I felt from my manga. And he never censored a single word of what I wrote.

AG: Was there ever pressure from his higher-ups at the company about your work?

KN: Oh yeah. One series I did, Okinawa, was going to be published in book form by Shueisha. But the top brass pressured them to cancel it.

AG: Was that before the U.S. had returned Okinawa to Japan [in 1972]?

KN: Before.

AG: Do you think the cancellation was for the same reason you gave that Japanese textbooks don't talk about the A-bombs -- to avoid provoking anti-American sentiment?

KN: Certainly. That wasn't my purpose in writing it, but they assumed I was criticizing the U.S. occupation of Okinawa. The top management at Shueisha was very nervous about such things.

AG: Don't you find it odd that they'd allow you to write about the A-bomb, but not about Okinawa?

KN: I guess they thought the Okinawa theme was more controversial because the situation was still "delicate" -- it wasn't resolved yet at the time.

AG: Did you have any other run-ins of that sort?

KN: That was about the extent of it. The problem is that I got labeled as a lefty cartoonist. That's still how I'm viewed by the media.

AG: When did they first start labeling you like that?

KN: Ever since Gen, I guess. There simply weren't too many other cartoonists taking on controversial issues like the war and the political system.

AG: Are there any other cartoonists writing on such topics whose work you admire?

KN: Hmm... Sanpei Shirato is about it. He wrote the Kamui Den (Legend of Kamui) series.

AG: Recently there have been some examples of right-wing political manga, like the Gomanism (Philosophy of Arrogance) series by Yoshinori Kobayashi. Kobayashi made headlines recently when he defended Japan's colonization of Taiwan, didn't he.

KN: Right. What can I say? All I know is, if you live through something like the A-bomb, you know that war is too horrible not to be avoided at all costs, regardless of the justifications offered for it.

AG: As we speak, the U.S. government is pressing for a war with Iraq. The polls suggest that many Americans support a war if they think it can be pursued from a distance, through bombs and missiles, so that American soldiers don't get killed. What strikes me about the debate on the war, particularly among U.S. politicians, is that few express concern that even if hardly any Americans die, thousands of Iraqis probably will.

KN: I think it's simply that Americans haven't experienced massive bombings first-hand. All their wars in the past century were fought overseas. Vietnam is a good example.

AG: The terrorist attacks on September 11, 2001 are often described as a turning point because they are the first attack on American soil to cause thousands of civilian deaths since the Civil War. Now the government seems to be calculating that it can do what it wants in Iraq as long as too many Americans don't die.

KN: Japan is just as bad. Here's a country that experienced complete devastation in the last war, and yet ultra-nationalists are crawling out of the woodwork again, glorifying the war and trying to rewrite the history textbooks. And as usual they talk about restoring the emperor to his rightful position of absolute authority.

AG: Do you think there's really a possibility of that happening?

KN: Definitely. That's why I say we need to dismantle the whole imperial system.

AG: Not to change the subject, but I wanted to ask you some more questions about your experiences growing up in postwar Japan, which provided the background for Barefoot Gen. You've said that Gen is mostly autobiographical, and the main character Gen Nakaoka is clearly modeled after yourself. How did you go about combining autobiography with fiction in developing your story?

KN: I definitely based it on my own experiences growing up. I was writing Gen in the late sixties, so I looked back at what I was doing each year through the fifties and sixties, and what Japanese society was like at each point.

AG: Some sequences seem like they might be straight autobiography, like when Gen's family goes to live with the unsympathetic relatives in Eba right after the bombing. You mentioned earlier that this is lifted directly from your own experience. But, for example, you have a subplot later on in Volume Two about how Gen and Ryuta get work caring for Seiji, a young artist who has lost the use of his hands in the bombing, and how they inspire him to begin painting again, holding the brush in his teeth. **Some of Gen's adventures, like that one, are so dramatic I have to ask -- did that really happen to you? And if not, where did you get the idea from?**

KN: It didn't happen to me, but it was a combination of true stories I heard and things that happened in my neighborhood. For example, there really was a young A-bomb victim who taught herself to paint with her teeth. And Seiji's household, which is treated like a pariah by the neighbors, is modeled after a house we kids called the haunted house because a badly injured victim lived there. And I wanted to tell the story of the artist to show how people can overcome the greatest adversity. If you can't use your hands, use your teeth. **As I wrote at the beginning of Gen, the real theme of the story is symbolized by wheat, which springs back no matter how many times it's trampled.**

AG: One of the most significant characters in the first four volumes of the Gen story is Gen's baby sister. Much of the story revolves around her birth, illness, and premature death. I know from what you said earlier that this is based on what happened to your own little sister.

KN: Yes, she died after only a few months, most likely of malnutrition. And we cremated her by the ocean, just as Gen's sister Tomoko was in the story.

AG: At the end of the tenth volume, Gen's mother dies. Did you intend all along to bring the story up to that point and end it there?

KN: Yes. Although I don't really view the Gen series as complete, I wanted to tell Gen's story up to that point at least. So far, that's where I've left it.

AG: In later volumes of Gen you write about kids in Hiroshima trying to survive in an underground economy -- the black market, and what seems like the dominance of the yakuza gangs in early postwar society. I assume that's also based on what you saw growing up. How did you feel about that environment when you were growing up in it?

KN: So many kids in Hiroshima were war orphans, and if you were an orphan, your only means of survival was to join the yakuza. That was just the way it was. Hiroshima was burned flat, it was a clean slate -- it offered unlimited opportunities for the yakuza. They moved in right away and engaged in furious turf wars. And the war orphans made perfect recruits -- they had no relatives who would care if they died, and they wanted someone to look after them. If my mother hadn't been there to take care of me, I would have joined the yakuza too. There's no question about it. I'd either be dead or in jail now.

AG: Did you have friends who did follow that path, like Gen's sidekick Ryuta in the book?

KN: Yes, Ryuta was based on a friend of mine. He was always in and out of jail. But he's alive and well -- and still a yakuza.

AG: How did the movement to translate Gen into other languages begin?

KN: While it was still being serialized, a Japanese college student named Masahiro Oshima came to visit me and said he and his friends wanted to translate Gen into English. I said it was fine with me, go ahead and translate as much of it as they could. Oshima put a group of volunteers together and called it **Project Gen**. I think it wasn't too long afterward that you came on

board.

AG: Right. I met Oshima and his group in 1977 when I'd just moved to Tokyo. They were still working on the first volume and they put me to work proofreading the pages they'd already translated and lettered.

KN: I have to admit, I was a little disappointed in that first English volume. The paper was cheap, and the lettering was all over the place.

AG: Yeah, our letterers were amateurs who didn't really read and write English that well. It was pretty messy. We didn't know how to deal with the fact that Japanese comics read from right to left, either. Nowadays everything is automatically flipped in advance, but back then we were trying to stay true to the original. We cut out each frame and pasted them back in reverse order, and re-drew the speech balloons only if the sequence inside a frame needed to be reversed. We didn't realize it at the time, but it was the first full-length manga to be published in English. So we didn't have any models to go on.

KN: I didn't know that.

AG: There was a lot of trial and error. By the fourth volume, I think it looked a bit better. We flipped all the pages at the outset, as most English manga publishers do now, and one of America's best professional letterers [Tom Orzechowski] did the lettering for us. You gave that approach your blessing, **but I wondered -- how do you feel about seeing your work appear backwards, in a mirror image of the original?**

KN: I don't mind. As long as the story gets told, it doesn't really matter to me.

AG: So you don't mind when your characters all turn into southpaws?

KN: Nah.

AG: There's now a new group of volunteers called Project Gen based here in Japan that has recently been working on a new set of translations in various languages. How did that get started?

KN: I don't know. It was just like with your group -- I got a call from someone saying they wanted to work on Gen, and I said, go ahead. **They already produced Korean and Russian editions, which have been published -- all ten volumes. Now they're working on a new English version of all ten volumes, and an Indonesian version and a Thai version.**

AG: **Gen has also been turned into several films over the years**, including a three-part live action series and a two-part full length animation. Then, about three years ago, you produced and directed another live action film about Hiroshima.

KN: Right. It was called Okonomi Hatchan [lit. Young Hatchi the Okonomi Maker -- "**okonomi**" is a kind of **meal-in-itself, meat and vegetable filled hotcake, a Hiroshima specialty**]. That was my first experience at directing a film myself.

AG: It takes place in Hiroshima, right?

KN: It's about a young guy struggling to make a go of his okonomi business, and the different customers who come to his shop. One of them is a second-generation A-bomb victim, who gets in a fight with someone from Tokyo who makes light of the bomb. The story takes place in the present.

AG: I know you were concerned about the possible effects of your exposure to radiation on your own children. You've told me that you were very worried before your daughter Keiko was born, and how relieved you were when she turned out completely healthy. How about yourself? **Do you have any lingering aftereffects from the bomb?**

KN: I've had diabetes for thirty years. That's one of the designated A-bomb related diseases, one that many survivors get. In the past couple of years I've had serious problems with my eyesight, but I don't know if that's a direct effect or not.

AG: Do you associate with any organizations of A-bomb survivors?

KN: No, I don't see any point in it. I say what I want to say about the bomb through my manga. I don't feel the need to join a group to draw more attention to what we went through. I don't join cartoonist associations either! I'm really a lone wolf type.

AG: Are you working on any new projects now?

KN: I'd like to make another film, and that would be about it.

AG: What would it be about?

KN: About the children of divorced parents. Couples seem to get divorced at the drop of a hat these days. What happens to their kids? I've been writing a manga on this subject, *Jizo no Matsu*, about children of broken homes. Matsu is a young boy whose mother divorces his father and takes another lover. Matsu cries for his mom but she won't come back. I'd like to make that into a movie. I've written a script. But movies cost a lot of money, so I don't know.

AG: Are you still drawing manga?

KN: No, I don't draw anymore. I'm too tired. January 11, 2003.

Another interview with Keiji Nakazawa also by Alan Gleason is here, with pictures, <http://www.tcj.com/keiji-nakazawa-interview/#comment-401765>

Wednesday, Dec. 26, 2012. Keiji Nakazawa, author of the autobiographical "*Hadashi no Gen*" ("Barefoot Gen"), an iconic comic about the 1945 Hiroshima atomic bombing, has died of lung cancer at a hospital in the city, on Dec. 19, sources said Tuesday. He was 73.



**Tomoko Watanabe and Keiji Nakazawa, remarking that *Gen* was cheerful like himself.
From the dvd "*Barefoot Gen's Hiroshima*", courtesy of Kuniko Watanabe,
available at ZAKKA FILMS. © Siglo Tomo Corporation**

Tetsujiro Yamagami and Kuniko Watanabe have produced a 77 minute DVD based on Tomoko

Watanabe's interviews with Keiji Nakazawa commencing in 2009, titled, *Barefoot Gen's Hiroshima*. This DVD also contains a shorter 32 minute version for educational purposes, titled, *Barefoot Gen's Message*. Both versions, on the same disk, are excellent.

Cost, about \$47.00 (in 2013) from the Hiroshima Peace Museum shop; they do not ship overseas; if you have a friend in Japan they can order it for you and send it to you.

But *Barefoot Gen's Hiroshima* is also sold by Zakka Films, \$34.95 (\$180.00 to institutions) with minimal shipping cost on the following website. At this URL there are also brief excerpts from the DVD: <http://www.zakkafilms.com/film/barefoot-gens-hiroshima/>

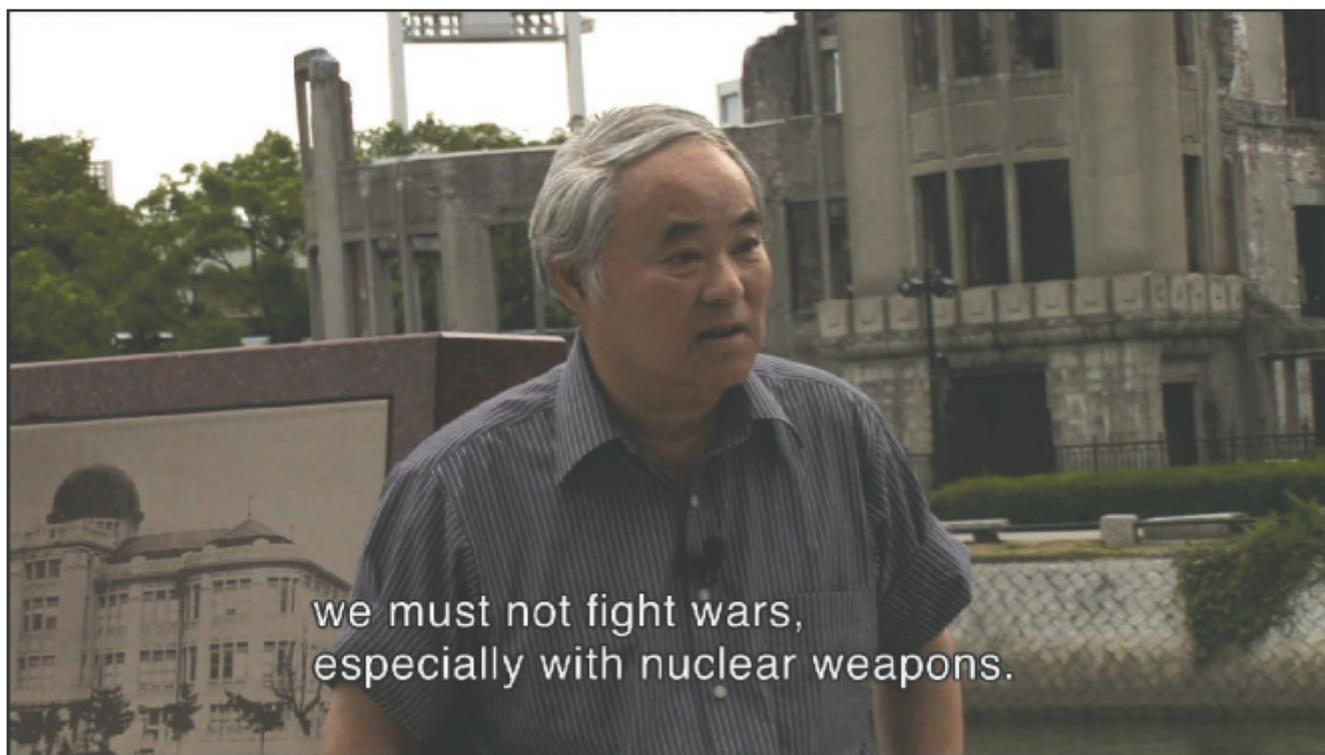
“Through my story, I hope viewers will come to feel closer to a world without war and nuclear weapons. Please ponder that possibility as you watch this film.” —Keiji Nakazawa

Photo of Keiji Nakazawa's mother here,

http://www.hiroshimapeacemedia.jp/mediacenter/article.php?story=20120718131330394_en

Photo of Keiji Nakazawa's father here,

http://www.hiroshimapeacemedia.jp/mediacenter/article.php?story=20120704111853642_en



From the dvd “Barefoot Gen’s Hiroshima”, courtesy of Kuniko Watanabe,
available at ZAKKA FILMS. © Siglo Tomo Corporation



**Left, interviewer and writer Alan Gleason with friend
and R. Wilson**

Alan Gleason is a translator, editor and writer based in Tokyo, where he has lived for 28 years. In addition to writing about the Japanese art scene he has edited and translated works on Japanese theater (from kabuki to the avant-garde) and music (both traditional and contemporary).

Alan Gleason's experience as a translator began in 1977 with the manga *Hadashi no Gen* (*Barefoot Gen*), as part of a volunteer project that continued for 30 years. Project Gen inadvertently became the world's first publisher of manga in translation when it issued *Barefoot Gen Volume One* in 1978. With

the tenth and final English volume completed in 2009, the *Gen* series bears witness to the evolution of the translation of manga over three decades. Gleason described that evolution at a session of the 21st International Japanese English Translation Conference (IJET-21) in April 2010, and agreed to write about it in detail for the Society of Writers, Editors, and Translators members as set down in this article.

http://www.swet.jp/resources/article/the_hadashi_no_gen_project/_C30

Appendices

Appendix 1 – Section 5-27 **Unethical Radiation Experiments** [carried out by the United States] from James C. Warf's *All Things Nuclear*, with permission from the publisher.

Appendix 2 – **Background of the Photograph Confiscation at the Time**, reproduced with permission of the family of the author, Hideji Aihara.

Appendix 3 – **Radioactivity Decay Charts of the four naturally occurring radioactive series; and Some notes on Depleted Uranium**

Appendix 4 – **Visiting Hiroshima. The World Friendship Center, and the Aster Plaza: Hiroshima International Youth House/"Hotel"**

Appendix 5 – **Global Nuclear Stockpiles 1945-2000, NRDC**

Appendix 6 – **Darwin's Mistake**

Appendix 1

5-27 Unethical Radiation Experiments [carried out by the United States]

Excerpted from James C. Warf's *All Things Nuclear*, with permission from the publisher.

Late in World War II, rumors began to emerge that human beings were being used as guinea pigs in testing ionizing radiation in a number of facilities scattered over the United States. In 1993 Energy Secretary Hazel O'Leary, in an American type of glasnost blew the cover from government secrecy and publicly acknowledged that indeed a series of such tests had been carried out up to 1974, and that many if not most of these were illegal. O'Leary was "appalled, shocked, and deeply saddened," she said. Her revelation was a welcome and rare instance of government candor.

While some records have been destroyed, at least 800 people were used in experiments in which potentially harmful amounts of radioactive materials were injected into their bodies, or they were exposed to harmful doses of X-rays. In addition, around 8000 American military personnel were exposed to fallout during nuclear bomb tests, and others suffered radiation injury in cleanup operations of battleships contaminated with fallout.

The "patients" selected were not a representative cross-section of the American people: they were mostly prisoners, poor and pregnant women, the elderly, disadvantaged people of color, and some who were believed to be mentally retarded. In many, perhaps most, cases the consent of the persons affected was not obtained, and little or no explanation was given. In one of the earliest experiments (April 1945 - to July 1947), 18 unwitting Americans were injected with soluble plutonium compounds. Seventeen of them died slowly and painfully. In the end, there was no admission of responsibility by the government, no compensation, and no apology. In 1946-47, a study at the University of Rochester involved injecting six patients with increasing doses of uranium to induce renal [kidney] damage. The object was to determine what level of radiation and/or chemical toxicity would cause a given level of damage to the kidneys. The patients included a homeless person and alcoholics. In 1948, 751 women sought care at the prenatal clinic of Vanderbilt University. They were treated with low doses of radioactive iron (Fe-59), producing a level of radiation about 30 times background, which was considered safe at the time. Three of the children born later died, and the radiation probably played a role in this. Between 1960 and 1972 at Cincinnati General Hospital, at least 82 charity cancer patients (61 of them African American) received whole-body X-irradiation. The maximum dose was 200 rads. According to the physician in charge, the intent was to give relief from pain and to cause the cancers to shrink, but there is documentary evidence that the study was also designed to gauge the level of radiation exposure to soldiers on the battlefield. Moreover, the Department of Defense paid \$651,000 to support the experiments. The Pentagon sent copies of the report on the radiation experiments to numerous weapons testers, but not to a single civilian cancer researcher, so one can see where the priorities lay. The 200-rad dose was known to be unsafe; indeed, 25 of the patients (about 30%) died within 60 days. In 1999 the families of the victims were awarded \$4.6 million in compensation.

Shortly after the war, there was curiosity and an alleged need to know how and at what rate the body eliminated plutonium. At the Manhattan District Hospital at Oak Ridge and at other sites, 18 seriously ill patients were given injections of soluble plutonium salts. Their excreta were monitored for periods up to about 135 days. Five of the 18 subjects were still alive in 1974, when they were informed of the nature of the experiments. The plutonium could hardly have contributed to improved health of the patients, but most were so sick that they probably would have died regardless of the plutonium. In 1961 two small nodes were found under Woodrow Litton's arm, and cancer was suspected. He died in 1965 at the Oak Ridge Institute of Nuclear Studies hospital. His son tried to get the medical records, but was told they were "classified." They were not released until 1994, when his son described his father "was part of

one of the most horrifying radiation experiments by the U.S. Government," and that his father had been "used like an animal for experimental purposes." The records revealed that Woodrow Litton had been given lanthanum-140, iodine-123 and -131, and iron-59. He received a dose of 4500 rads of gamma rays from cobalt-60 and 150 rads from cesium-137. There was a statement that "Mr. Litton is not responding to radiation by cobalt-60 or cesium-137." But nevertheless, the next day he received an additional dose of 220 rads from cobalt-60. There is no way in which even the Cold War could justify such acts.

President Clinton set up an advisory committee to study the matter, offer an official apology, and arrange financial compensation. He said the experiments "were unethical not only by today's standards but by the standards of the time." A payment of \$6.5 million was made to the families of 16 of the 18 the victims who were injected with plutonium or uranium; the remaining cases are yet to be settled.

It is self-evident that each of us has the fundamental right not to be used involuntarily or unknowingly as subjects in experiments on our bodies.

Appendix 2

Background of the Photograph Confiscation at the Time

Written by Hideji Aihara

This document is used with permission of the family of author, Hideji Aihara, permission facilitated by The Chugoku Shimbun, Dokusha-Kohobu. After the confiscated photographs were returned to Hiroshima, The Chugoku Shimbun published in August 1973 a large format book of the photographs, boxed with a separate portfolio of three approximately 8-foot long photopanoramas of the destroyed city of Hiroshima.

Here is the book description:

ATOMIC BOMB DOCUMENTS HIROSHIMA

collected from A-Bomb Case Materials returned from the United States of America

Shiun Miyaki, Chief Editor, The Chugoku Shimbun,

Published on August 6, 1973. Price 15,000 yen, Printed in Japan
Editor and Publisher Shiun Miyaki, Published by The Chugoku Shimbun,

〒733, 7-1 Dobashi-cho, Hiroshima City, Tel 91-1111 Transfer No. 57

Printed by Chugoku Printing Company, Hiroshima Design Center, Ohmura Printing Company

Copyright: The Chugoku Shimbun 1973

We are aware that there were at least three versions of this book, Japanese, English, and German. The only library we found that would loan this book was The Peace Resource Center of Wilmington College in Wilmington, Ohio.

The three photopanoramas of the destroyed city of Hiroshima are available at Amazon.com, as "Hiroshima Photopanoramas."

原爆の記録

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米国返還資料から

昭和48年8月6日発行

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この資料集の記事・写真の無断複製ならびに転載を禁じます。

Background of the Photograph Confiscation at the Time **Written by Hideji Aihara**

The photographic material returned from the U.S. Army Pathological Research Institute in Washington has an inseparable relation with the other material that was returned with it. Both were the results of atomic bomb research conducted by the United States Forces. The problem of what was the stand of the Japanese Government at the time is something that had to be solved between us and the concerned U.S. Forces authorities. Only that it was all to their own will and we had no way of refusing. It was during the days when we went to Okayama and Kyoto to collect material that we heard about a certain medical doctor Lt. Col. Averill Liebow taking some material thus abusing his authority, and another of an American Army medical doctor who went to Yamaguchi endeavouring to explain that the material he took was honorably taken.

In comparison with such statements, submitting of our photographic material was slightly different. Later Lt. Col. Liebow was to write in his book "The Encounter of a Disaster — Hiroshima's Medical Science" a reference to my name and how long our negotiations took place. Actually we never exchanged any conversation. At the time, he was an assistant to the Medical Corps' Col. Ashley W. Oughterson of the GHQ. It was at the Ujina Branch of the Hiroshima 1st Army Hospital that I first met him. It was in the room of Lt. Col. Mason I once saw him. I just went in and out of the room neither shaking hands nor exchanging words. Today when one attempts to do research on the activities of the American Research Group after the atomic bomb disaster there is often confusion because of the false reports made. Such reports were made during the period when the U.S. Forces Occupation suddenly made a change in policy. I hope to clarify some of this so we may understand how one could not completely speak the truth during this shifting period.

In the early stages, members of the research group of the United States gave the impression of being well-cultured and intellectual Americans who loved peace. Soon, however, in the Allied Council for Japan of the Allied Forces a difficult situation began developing. All issues in relation to the atomic bomb casualty research were gradually shoved back into the category of secrecy. This change came to our notice around the middle of October in 1945. In February of the following year, we were faced with an entirely new policy. All newspaper companies were ordered to submit three copies each of all atomic bomb photographic prints, and, thereafter, they were confiscated by GHQ. It was in this period that we also were ordered to burn all original negatives that were in our possession. This which happened in journalistic circles was never made known to the public. As years passed, when we made inquiries of the newspapers, the answer was "We don't have any photographs of the atomic bomb disaster because we have burned them. We have no knowledge at all".

The relationship between us and the returned photographs actually had its initial start when Dr. Yoshio Nishina and I visited the U.S. Forces authority to request the reopening of movie-taking, as the Nagasaki film shooting had been suspended suddenly. This led us to the realization that all the material being claimed by the medical department of the U.S. Forces Research Institute had been transferred to the Pathological Research Institute. I believe Mr. Masao Yamanaka and Mr. Yutaka Izumura had some connection with this because they were the ones who consulted Dr. Masao Tsuzuki for the re-making of the movie about the medical research. Dr. Nishina and I were to negotiate with the Information Bureau of the U.S. Forces Bomb Strategic Research Group about the physical, engineering, and architectural

aspects of the movie. Dr. Tsuzuki and Dr. Masao Yamanaka met Col. Oughterson to discuss about the medical aspects of the movie. Col. Oughterson wished to see our film about the medical research. We also mentioned that in all areas there were many still photographs in addition to the movie.

There were reasons for taking these still photographs. The movie shooting had been done under most terrible conditions, so we had asked Shunkichi Kikuchi to take some still photographs. In case of failure, we wanted to be able to insert camera shots into the movie scene. Our movie was shown to Col. Oughterson and Lt. Col. Liebow in December in the preview room of the Japan Movie Co. After seeing the movie, Oughterson was deeply moved and said "We would like to have one print of this movie". He did not have any intention of confiscating it at the time. But in less than ten days, on December 17th, we received a memorandum stating we were to take the film to the Medical Department of the GHQ. The U.S. Forces Medical Group wished to confiscate both the photographs and the movie but the negotiations about the photographs were conducted with the Information Department of the Bomb Strategic Research Group, so they were beyond the Medical Department's authority. I will extract part of my diary regarding the photographs:

Dec. 1 Photographs regarding the atomic bomb were cabinet size, two each, totaling 1,500 pieces. For this, 4,500 print paper was prepared. The developing was also to be prepared by the U.S. Army. For this Major Taylor of the Information Department was to send an order to the United States. I consulted with Major Taylor about the working expense. (His answer was it would be met somehow or other).

Dec. 3 The print paper for photographs and the developing agent arrives. Handed over to Ihei Kimura and Shunkichi Kikuchi. A 1st Lt. who was recruited from Eastman Kodak was in charge. The total volume of print paper was 1,440 sheets in 20 packages.

Dec. 4 Handed over memorandum to Major Taylor on the printing work plan. Total number of prints 3,992 sheets (breakdown 900 sheets x 4 and others of Domei News Co.) Working days 20. Negotiated for the rental of atomic bomb related photographic negatives with Sadao Matsuda (Nichi Ei Production Dept.), Hitoshi Tsuchiya (Head of the Dept.) and Domei News Agency.

Note: When we delivered the printing paper and the developing agency to Bunka Sha, Ihei Kimura asked whether hypo used for fixation was available or not.

Dec. 19 The printing work plan does not follow the schedule. Decided to ask about the delay. The drying machine goes out of order.

The basic reason for the work delay was not because the drying machine went out of order. The print paper sent from the United States were soft and, therefore, inadequate for printing. So again another type of print paper was to be transported. Also, the number of both the printings and the size of enlargements had increased. The drying machine that was being used at the U.S. Force had to be borrowed. Major Taylor who was in charge at the Information Department was ordered to return to the United States. Instead of the U.S. Forces Bomb Strategy Research Group, the Navy Technical Group (NVTECJAP) was our new negotiator. It was during the end of November that severe restrictions were made on academic research, and, the new negotiator being the NVTECJAP, meant conversation with the U.S. Forces became more difficult than ever. The commitment made by Major Taylor that the working

expense could be worked out, did not become a realization at all. In February of the following year, NVTECJAP suddenly contacted me asking to give comments on each photographs. I declined right on the spot. The reason was I was still in the midst of research and I could not make comment with full responsibility. However, since NVTECJAP only wanted me to write titles such as "Aioi-Bridge" for a photograph I undertook to write what I knew of each photograph. Upon seeing the list of photographic material I discovered that it was not at all the way I had placed the commentary. There were some titles that were not correct. There were some listed that I had not recorded at all. For example, in the pathological section, where I had taken a photo of the intestines, the name of the patient was not clear so I omitted it, but here a name was listed. Also, there are some photographs that have not been returned. The "Nishina material" which is mentioned in Lt. Col. Liebow's Diary, has not been returned. Some of Shigeo Hayashi and Shunkichi Kikuchi's photographs are missing. Some other returned photographic material which had been taken were not returned either. Just those which were involved in the atomic bomb research were returned. In addition, many of the negatives returned are not the original negatives. If one wishes to evaluate this photographic material, he must first of all be aware of how this material has been treated. These photographs which record the disaster have been rearranged by the U.S. medical doctors' atomic bomb research group. This indicates that the material may have been treated exactly the opposite of the way we intended. Or, perhaps, the real seriousness of the atomic bomb disaster may have been overlooked as the years have passed.

How to Observe the Returned Photographs

It cannot be said that the recently returned photographs have never been seen by anyone. But on the other hand, it is certain that there are many who are seeing them for the first time. The more there are who are seeing them for the first time stresses the fact that since the atomic bomb dropping time has passed and a new generation has come. In a publication by Hiroshima City some of these photographs were introduced in 1949. Ever since the San Francisco Peace Treaty came into effect in 1952, these photographs have often been introduced but because they are so specific they seldom are used in regular publications. To probe into the atomic bomb matter in its true sense is indeed a difficult task. For instance, the majority of the returned material is cool in mood, as most pictures are of a devastated site with hardly any people walking about. Why is this so? The time of the photo-taking was two months later in October, and people would say "Why were the pictures taken so late?"

On September 17th, Hiroshima was hit by the Makurazaki Typhoon. Until then, there were many people who lived here and there in the scorched site, in half destroyed houses, in air-raid shelters or in temporary shacks but all these were lost by the water disaster brought by the typhoon. All food provisions were washed out. People who had come to help from the suburbs stopped coming because so many bridges were washed out. It was after the Makurazaki Typhoon that Hiroshima started to look like a totally uninhabited desolated land, one most difficult in which to live. If one stood at the hypocenter site, not one thing would have prevented his seeing as far west as Koi-machi. In the surrounding hilly mountains, the smoke from the cremation of human beings was floating in mid-air. Wherever people were living, funerals continued every day.

As we walked around the devastated land to take photos, we tried to find the atomic bomb affected places that had not changed regardless of the typhoon disaster that followed the bomb. A few examples will be given to illustrate the situation. There is one photo that shows a wooden house 3 km from the hypocenter destroyed by the windblast. The wooden boards of the wall are swollen outward

from the inside. This phenomenon is seen on the opposite side of the wall from the hypocenter. The wind blast coming into the interior of the house is slower than the one on the outside. This difference in atmospheric pressure caused the destruction of the building. From the interior of the building one can see the ceilings blown upward. The paper sliding doors of closets are all torn to pieces. The floor boards and the wall boards are all stripped off, and no one could possibly have escaped.

As for the heat, there is the shadow on the Yorozyo Bridge. A picture of it was taken by the U.S. Forces. Col. Oughterson asked me whether there was any information about this shadow of a walking man, but I did not have anything special to tell him. There was also the shadow of this man's cart. The cart was torn by the wind blast, and must have been thrown off somewhere. There should have been some marks made on the railing or on the asphalt road but no marks were found. What happened to the man? There is a record telling about one man who was pulling a cart. He fell into the river and died. Nothing is recorded about the pull-cart. The shadow of the man and his cart appears almost white on the asphalt road because the part hit by the direct rays became darker. On the other hand, the shadow of a ladder on a gas-tank in Minami-machi was black. The gas-tank paint which received direct rays glittered white and dissolved. If at Minami-machi, about 2 km off, the paint dissolved how must it have been near the hypocenter? On the chimney at Prefectural Hospital about 900 meters away, the paint dissolved and left no shadows. I believe this photograph was attached to the report made out by the research group, but it was not included with the returned photographs.

Next, in relation with radio-activity, there were the interiors of the Japan Bank, Central Telephone Bureau, Chugoku Electric Supply photographed by the U.S. Forces. This was a joint research with the United States proposed by Koichi Muraji of the Riken Institute. Their report is in the Atomic Bomb Disaster Research Reports under the title of the Muraji and Murai Co-ordinated Research. The interior scenes are not of special interest to the layman but as one learns that the concrete walls prevented radio-activity then one realizes the significance of these photographs.

Preservation of the Photographs

Among the returned photographic materials, those taken by the Japanese were almost all by Shunkichi Kikuchi and Shigeo Hayashi. There were a few others who did take photographs but most of their originals are preserved in our country despite confiscation orders. About four years ago the Nishina Memorial Foundation began thinking about publishing these photographs and began undertaking research about them. Throughout the years until today, the majority of the atomic bomb documentary photographs taken by the Japanese have been preciousy preserved by the photographers themselves or by their bereaved families. Quite recently, we often hear reports of collecting all these atomic bomb documentary photographs at one certain place. This is an important project. But one wonders whether there is any government or any other institution experienced in preserving photographs for thirty years. What kind of technique is required for the preservation and control of such atomic bomb materials? One must know this very simple but basic fact. If the returned photographic materials had been printed from the negative plates retained in our country, it would have related the circumstances of the time with far better distinction. On the contrary, the returned photographs that were used for academic research in the United States cannot be said to be carefully preserved judging from the damage observed in the returned photographs.

Why is this so? It is because the so-called scholars are devoid of the seriousness with which the documentary photographers treated them. I sincerely believe that they should learn from and reflect upon the preserving attitude possessed by the documentary photographers.

A few years ago, the documentary film of the atomic bomb was returned to Japan. This film treated as an "object" was presented to the Japanese Government by the United States Government therefore it is to be preserved by the Ministry of Education. In the same manner, it seems that the returned photographs, those confiscated by the occupation force, are now being received by the Japanese Government simply as "objects", disregarding the hearts of the photographers. If this is so, it is no exaggeration to say that the Japanese Government is now following in the same steps of the Occupation Forces of twenty eight years ago. This is a grave problem to which we should all pay our keenest attention.

PUBLISHER'S NOTE

The materials of the Hiroshima and Nagasaki disasters was returned from the United States after 28 years of absence. They are all quite valuable. The huge volume of over eleven thousand pieces or more, just for the Hiroshima materials, is very valuable and significant. Especially the photographs describing the human casualties, in "a picture of hell" stand out as irreplaceable evidence of a catastrophic human disaster brought about by a nuclear weapon.

This book hopes to bequeath the collected documents of Hiroshima atomic bomb incident to the coming generation and to relate the still not well known "truth of Hiroshima" to the world.

There are in this book 394 photographs with 3 in the supplement. Together with the photos on the disaster, the pathological specimens are included. To serve the purpose of academic research and utilization abroad the explanation and comments are prepared in both Japanese and English. All photographs used are presented in the condition in which the United States returned them to Japan.

The atomic bomb, 28 years later, still continues to affect the lives of the survivors. Our deepest condolence goes to these so affected. We sincerely hope for the abolition of all nuclear weapons and the establishment of world peace.

Atomic Bomb Documents, Hiroshima, (Hiroshima Genbaku no kiroku Hiroshima : beikoku henkan shiryō kara), collected from A-bomb case materials returned from United States of America, Publisher: Chugoku Shinbunsha (Chugoku Shinbun), Hiroshima, 1973. 310 p., ill. (some col.); *Shodo no zenkei "Panoramic view of the scorched land"* published as suppl. (3 leaves) and issued with the main work in a case. (The Peace Resource Center of Wilmington College, Ohio, is the only source I know of that would loan this book.) (Published in English, German, ...?) (The *Shodo no zenkei "Panoramic view of the scorched land,"* the three photopanoramas are likely not to accompany the book)

The three photopanoramas are available here.

http://www.amazon.com/HIROSHIMA-Three-Photo-panoramas-Destroyed-October/dp/B00B4CZGZ2/ref=sr_1_1?ie=UTF8&qid=1375320683&sr=8-1&keywords=hiroshima+photopanoramas

Appendix 3

Radioactivity Decay Charts of the four naturally occurring* radioactive series, and some notes on Depleted Uranium

*The Neptunium series has no extremely long-lived isotopes. Though it begins with plutonium-241 (Pu-241) with a half-life of 14.7 years, the series name comes from neptunium-237 (Np-237), the longest-lived isotope of the chain of radioactive decays. Np-237 has a half-life of 2.14×10^6 years; this is a very short half-life when compared to the “date” when these series were created, the formation of the earth, some 4.6×10^9 years ago (4.6 billion years). Thus, if any radioactive member of this series remains on earth, it will be only in trace amounts. Of course, the termination of the series, the last element in the series, bismuth-209 (Bi-209), is not radioactive and it can be found on earth. You may have heard or learned that all naturally occurring radioactive series end with an isotope of lead (Pb); the three other series do, but this series ends in bismuth. Perhaps this series from primordial times should be called “virtual.”

The Thorium (Th) series begins with Th-232 with a half-life of 1.4×10^{10} years and ends with the isotope Pb-208. With such a long half-life not even one half-life has passed since the original formation of our Th-232; more than half of all Th-232 that was created when the earth was formed is still with us. (Plutonium-244 is naturally occurring in trace amounts. It starts a chain of radioactivity which leads to the parent of the Thorium series, Th-232, however, none of the daughters of Pu-244 (down to Th-232) are designated “naturally occurring”. Their short half-lives would not allow their “natural” presence, with the possible exception of longer-lived U-236 which one source says is created by the capture of a slow neutron, supposedly meaning capture of a slow neutron by U-235. Hence one might expect U-236 to be found in trace amounts anywhere uranium ore is found, with its 0.7% content of U-235, slow neutrons being provided by the spontaneous fission of U-238. Thus we wonder if the series starting with Th-232 really begins with Pu-244. It might still remain named for the longest-live isotope, Th-232. We could continue these conjectures tracing backwards from Pu-244 through short-lived Curium-248, Californium-252, to Fermium-256 and beyond (?).) The U.S. Nuclear Regulatory Commission says, “Plutonium-244, which occurs naturally [where?], has the longest half-life of 80,000,000 years.” [among plutonium isotopes]. See: <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/plutonium.html>

The Uranium series begins with U-238 with a half-life of 4.5×10^9 years and ends with the isotope Pb-206. U-238’s half-life is about the age of the earth, so about one half of all the originally created primordial U-238 is still with us. On all the charts there are “branch points” at which the nucleus can decay in either of two ways. In the Uranium series, what Madame Curie labeled RaA, because it came from radium, was later named Polonium-218. Statistically this specific isotope of polonium decays by alpha emission 99.978% of the time, and by beta emission 0.022% of the time, hence a branch point.

Polonium was discovered in 1897 by Pierre and Marie Curie and named after her native land, Poland, which was at that time not an independent country. “It was Curie's hope that naming the element after her native land would publicize its lack of independence. Polonium may be the first element named to highlight a political controversy.” Kabzinska, K. (1998). “Chemical and Polish aspects of polonium and radium discovery”. *Przemysl Chemiczny* 77 (3): 104–107. (Wikipedia: see Polonium)

“Polonium has more isotopes than any other element, all of which are radioactive. Weight for weight it is about 2.5×10^{11} times as toxic as hydrocyanic acid (HCN). Isotopes of Polonium have been found in tobacco as a contaminant and in uranium ores.” <http://www.webelements.com/polonium/>

The Actinium (Ac) series begins with U-235, at one time referred to as actino-uranium and labeled AcU. The series ends with the isotope Pb-207. Nuclear bombs can be made from U-235. But the half-life of U-235 is only 7×10^8 years, so that over the 4.6×10^9 years since its original creation most U-235 has decayed into other members along the chain of decays. Almost none of the original U-235 is left with us. It is usually found accompanying U-238 in ores dug from the earth; but only 0.7% of the uranium is the 235 isotope. (A lesser percentage accompanies uranium ores mined from areas in which there was (are) underground natural nuclear reactions, e.g., at Oklo and Bangombé in Gabon, Africa.) Google search for “natural nuclear reactors”, e.g. <http://blogs.scientificamerican.com/guest-blog/2011/07/13/natures-nuclear-reactors-the-2-billion-year-old-natural-fission-reactors-in-gabon-western-africa/>

The four naturally occurring series can also be referred to as the: $4n$, $4n+1$, $4n+2$, $4n+3$ series. In the Neptunium series, the $4n+1$ series, the mass of every isotope in the series can be expressed as (4 times an integer) plus 1. For example, the Th-**229** of this series can be written as $(4 \times 57) + 1 = \mathbf{229}$, the integer, n , here being 57. It would be interesting to investigate whether there were any natural primordial progenitors for any of the series. For instance, in the thorium series could there have been primordial U-236 that gave rise to Th-232 by short-lived alpha decay? (I’m getting beyond the scope of this book.)

There may be some newer revisions in the four charts; they were created in the 1990s by software no longer available to the author. The Internet has more recent data.

Since bombs can be made from U-235, factories were built to separate U-235 from U-238, like the Oak Ridge National Laboratory. This created tons of mainly leftover U-238, commonly called **Depleted Uranium (DU)**, depleted in the sense that “all” the U-235 had been removed. U-238 made into a cannon projectile has great penetrating power. It also has great shielding power as armor on military vehicles. A DU shell does not need explosive in its head; at high velocity it goes right through standard armor or concrete, glowing red hot, designed to shatter into small fragments and scatter within the target and into personnel within the target. It is so hot it burns, the vapors contaminating the environment and people’s lungs and kids who later come to play on the disabled armored vehicles. DU is bad stuff. Googling “DU” or “depleted uranium” images will generate photos of children and people believed to have been contaminated with DU. Not pleasant viewing. Veterans of war in the Middle East have been victims, as well as their children conceived after the veteran’s return to the US. It is doubtful that DU made into cannon projectiles is in any way “purified” U-238, thus the projectiles can contain other heavy metal radioactive “impurities” to further contaminate victims.

You may have noticed that the isotope plutonium-239, used in bombs, occurs nowhere in any of the four series. Plutonium-239 does not occur naturally. Pu-239 is the trigger material of most, if not all, of our nuclear weapons. Thousands of tons of the stuff have been created in nuclear reactors specifically designed to produce this material for our weapons programs. (I tried to make a joke earlier in this book: “Can I interest you in buying some stock in a plutonium mine?”)

Here is a source of a Chart of the Nuclides (often referred to as the GE Chart of the Nuclides):

<http://www.nuclidechart.com/>

and

Karlsruhe Nuclide Chart

<http://www.nucleonica.net/wiki/index.php?title=Category%3AKNC>

and

<http://www.nucleonica.net/wiki/index.php?title=Category:KNC>

Following are some notes about the use of DU in war:

"Short-term effects of high doses can result in death, while long-term effects of low doses have been implicated in cancer." "Aerosol DU exposures to soldiers on the battlefield could be significant with potential radiological and toxicological effects." From the Science Applications International Corporation (SAIC) report, included as Appendix D of AMMCOM's *Kinetic Energy Penetrator Long Term Strategy Study*, Danesi, **July 1990**. This report was completed six months before Desert Storm.

"Inhaled insoluble [uranium] oxides stay in the lungs longer and pose a potential cancer risk due to radiation. Ingested DU dust can also pose both a radioactive and a toxicity risk." Operation Desert Storm: Army Not Adequately Prepared to Deal With Depleted Uranium Contamination, United States General Accounting Office (GAO/NSIAD-93-90), **January 1993**, pp. 17-18.

What the Government Is Telling Us:

"The Committee concludes that it is *unlikely* that health effects reports by Gulf War Veterans today are the result of exposure to depleted uranium during the Gulf war." *From the Final Report: Presidential Advisory Committee of Gulf War Veterans Illnesses*, **December 1996**.

30 March 2003 *Depleted Uranium Weapons Used in War against Iraq*

According to the *Scottish Sunday Herald*, British and American coalition forces are using depleted uranium (DU) shells in the current war against Iraq. DU has been linked to contamination of land, causing ill-health and cancers among the soldiers using the weapons, the armies they target and civilians. ... On 28 March a DU shell was involved in a friendly fire incident that killed one British soldier and injured three others. *Source: Sunday Herald (NAPF)*

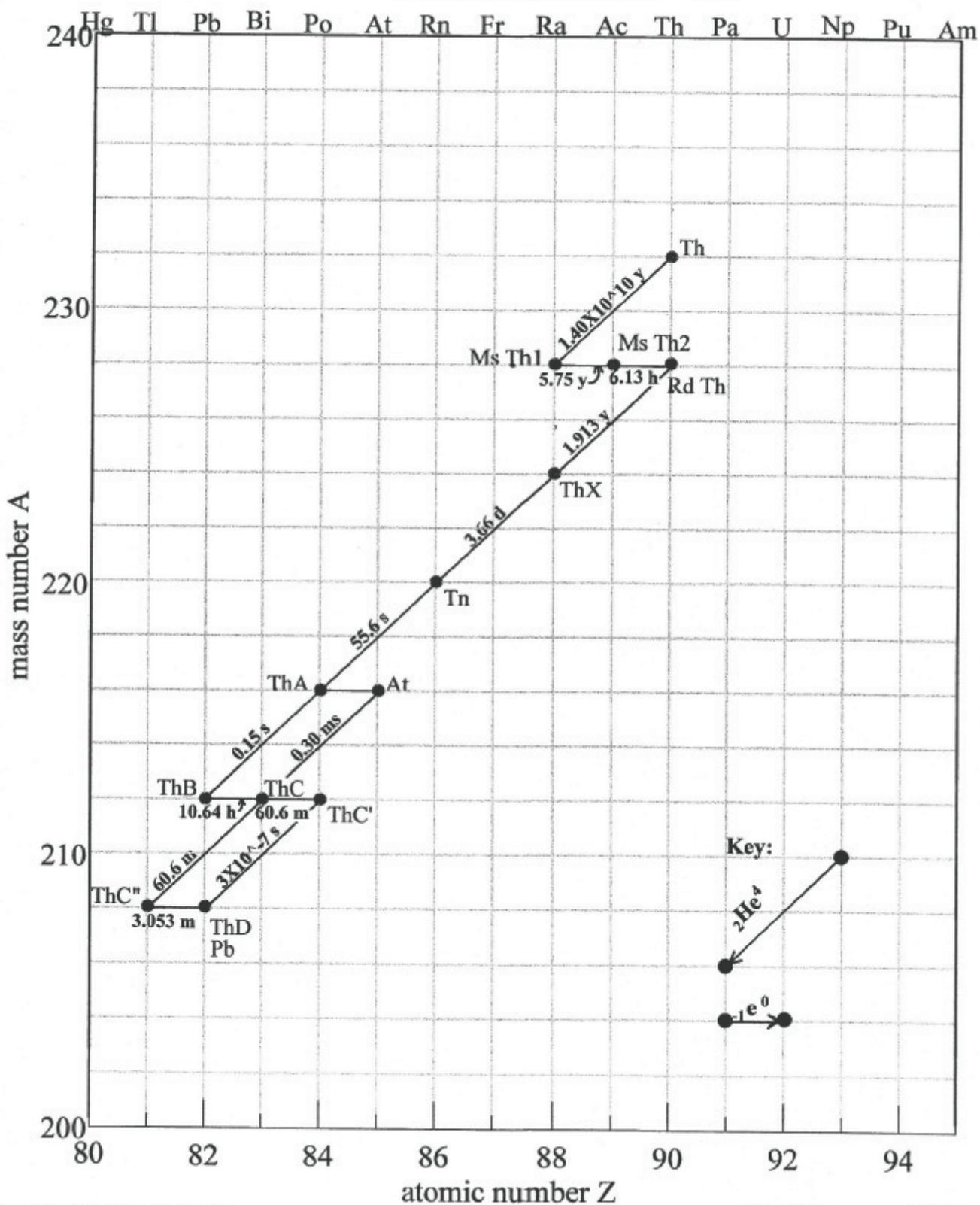
METAL OF DISHONOR: DEPLETED URANIUM - How the Pentagon Radiates Soldiers & Civilians with DU Weapons, Second Edition. Selections compiled and edited by Depleted Uranium Education Project, International Action Center, New York City.

<http://www.iacenter.org/depleted/mettoc.htm> (Chapter summaries)

<http://www.who.int/mediacentre/factsheets/fs257/en/> (World Health Organization)

http://www.notinkansas.us/du_3.html

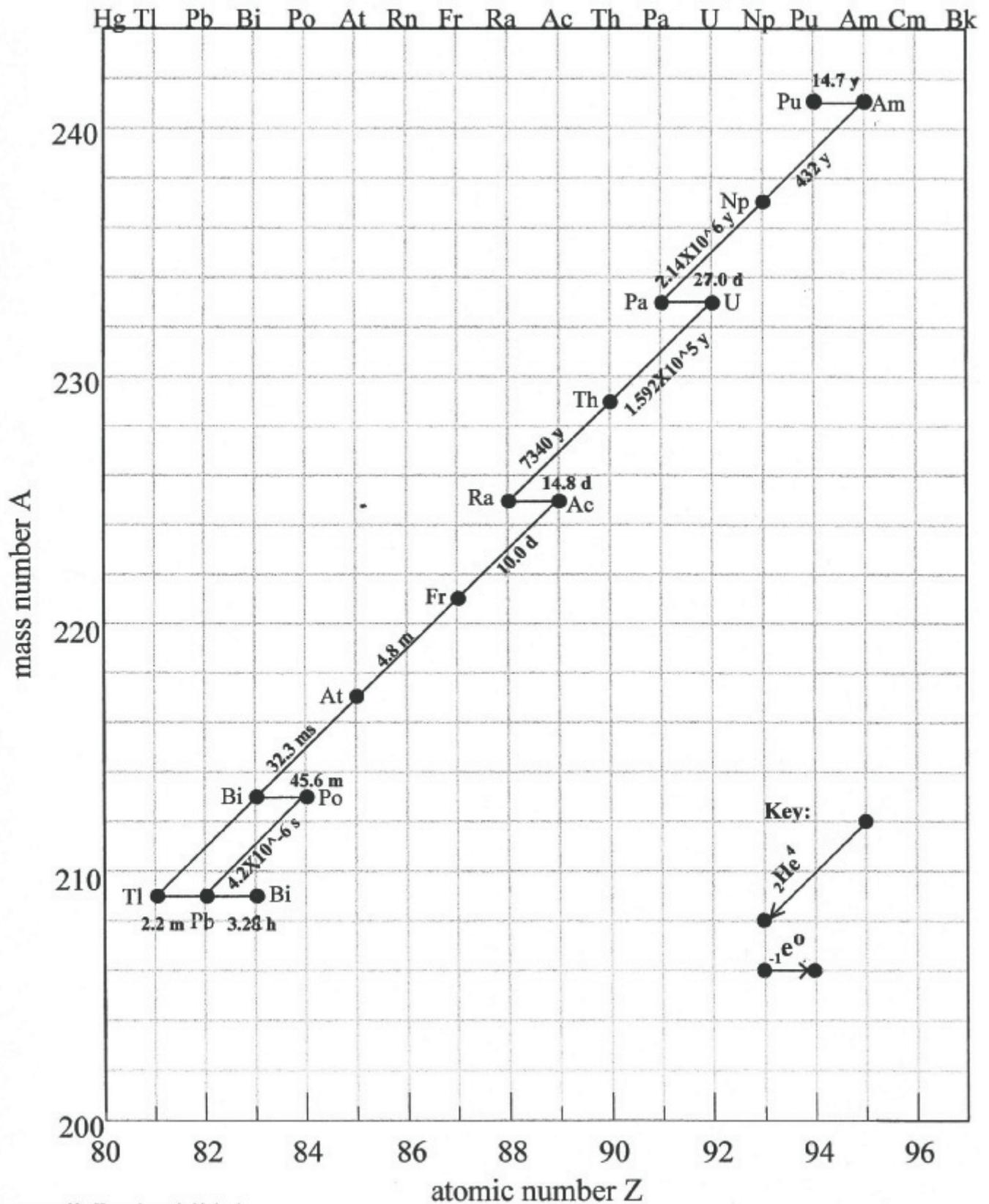
Thorium series (4n)



Plot suggested by Henry Semat in his book Introduction to Atomic and Nuclear Physics, 1962, and the GE Chart of the Nuclides.

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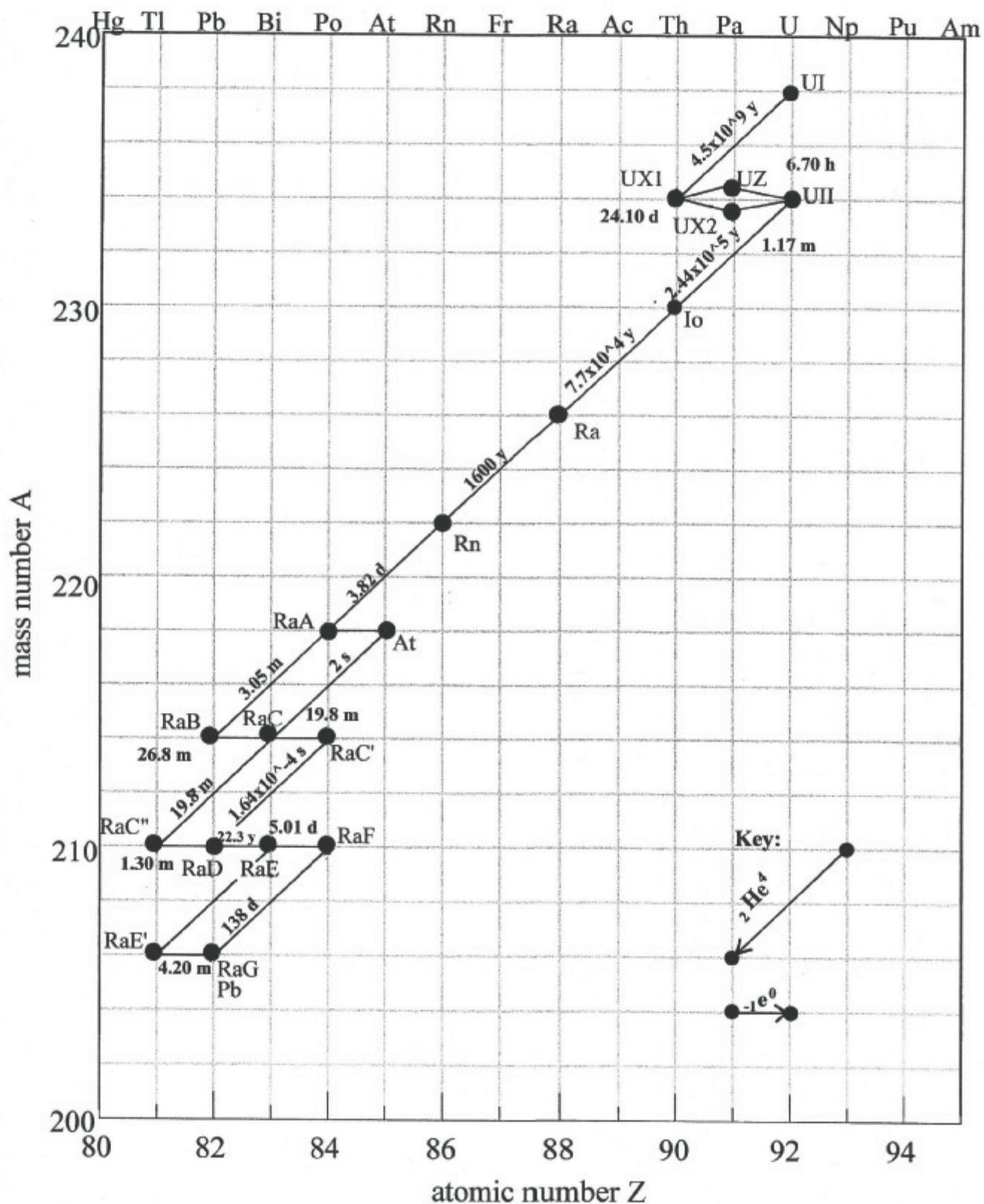
Neptunium series (4n + 1)



Plot suggested by Henry Semat in his book
Introduction to Atomic and Nuclear Physics, 1962,
and the GE Chart of the Nuclides.

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Illinois Wesleyan University

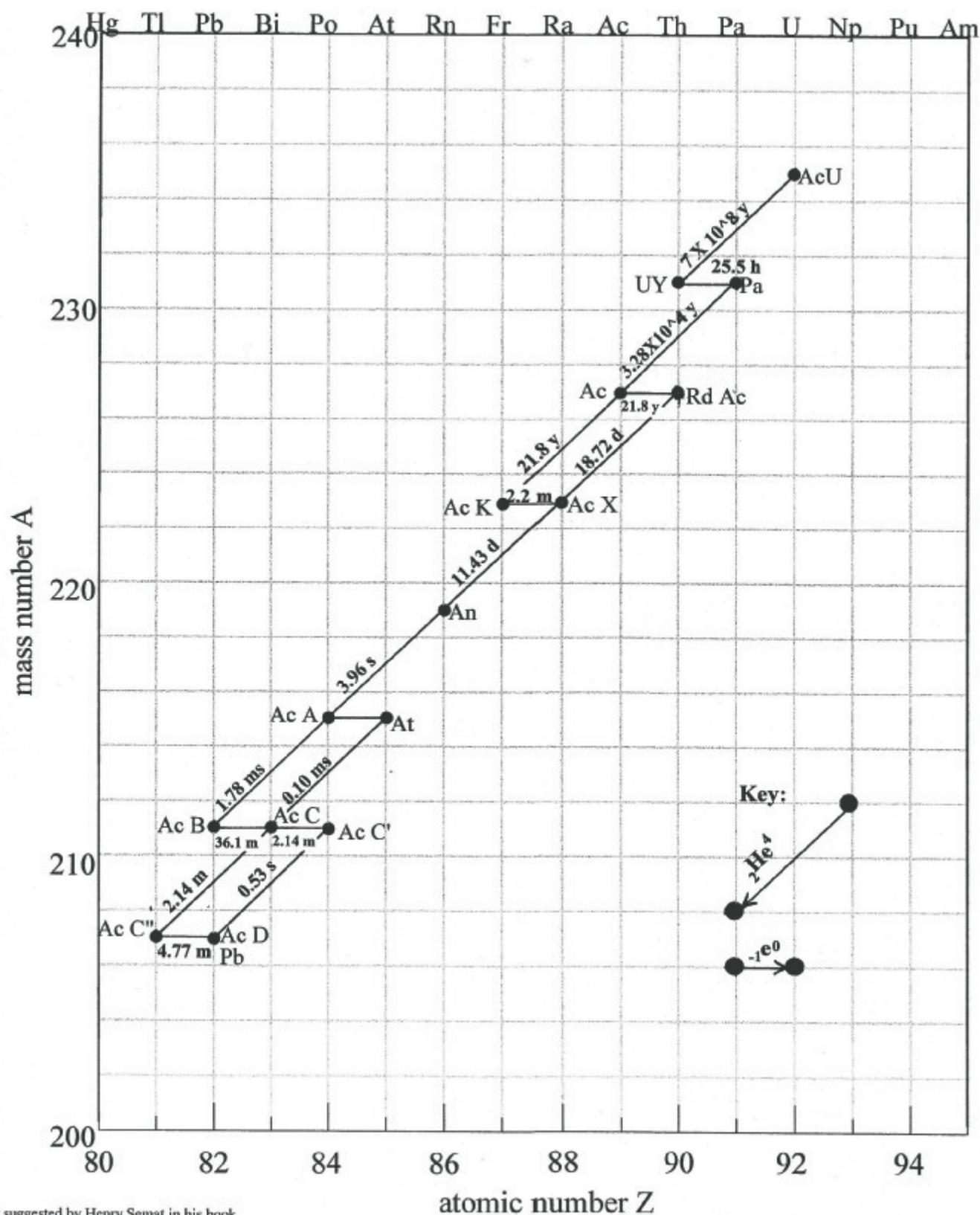
Uranium series (4n + 2)



Plot suggested by Henry Semat in his book
 Introduction to Atomic and Nuclear Physics, 1962,
 and the GE Chart of the Nuclides.

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 Illinois Wesleyan University

Actinium series ($4n + 3$)



Plot suggested by Henry Semat in his book
Introduction to Atomic and Nuclear Physics, 1962,
and the GE Chart of the Nuclides.

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Illinois Wesleyan University

Appendix 4

World Friendship Center
<http://homepage2.nifty.com/wfchiroshima/>
and

http://www.tripadvisor.com/Hotel_Review-g298561-d557960-Reviews-World_Friendship_Center-Hiroshima_Hiroshima_Prefecture_Chugoku.html

If you make a brief visit to Hiroshima you might wish to stay at the
World Friendship Center

World Friendship Center.
8-10 Higashi Kannon machi, Nishi-ku,
Hiroshima 733-0032, Japan
<http://www.wfchiroshima.net/>

Or just do a Google search for “world friendship center Hiroshima”. It is convenient, friendly, relatively inexpensive; and within walking distance to the Hiroshima Peace Museum, Peace Park, and the center of Hiroshima.



email: E-mail:

wfchiroshima@nifty.com

TEL: (082)503-3191

FAX: (082)503-3179

WFC offers the following services to guests:

- Japanese-style rooms with Japanese bedding
- Western breakfast
- Air-conditioned rooms
- Library with peace-related books (Japanese & English)
- Peace Park Guide Service by appointment on request
- A-bomb survivor's story by appointment on request

Rates (2013) as follow include breakfast:

3900 Yen per guest per night (1/2 price for children 2 to 11 years old; under 2-free); Includes Western-style Breakfast and High Speed Internet. Cash only in Yen. (But check current cost.)

All proceeds go towards funding the continuing operation of the Center.

Because WFC is not a large place and can accommodate only small groups, it is suggested that you make reservations as early as possible.

Other hostel possibilities:

<http://www.hostelworld.com/findabed.php/ChosenCity.Hiroshima/ChosenCountry.Japan>

ASTER PLAZA: HIROSHIMA INTERNATIONAL YOUTH HOUSE/"HOTEL"

Written by [heywinks](#) on October 21, 2002.

Excellent location close to the Peace Memorial Museum & Park and the Atomic Bomb Dome. Fees for foreigners: 3620yen/single room. 3130 yen/double room. You must show your passport to get the discount. No travelers checks or credit cards accepted. Japanese yen only.

The rooms are like hotel-style rooms. Very nice, very clean! You have your own bathroom and cable TV (English CNN is shown!). You are given *yukata* (Japanese cotton robe) & slippers to wear around the room. They have Japanese and western style rooms. We stayed in the western style rooms as we wanted to sleep on a bed (beds are twin size). Meals are not included, but you can choose to have breakfast or dinner at the hotel if you want for an extra charge (prices vary). This is a 10 story bldg and we stayed on the 8th floor if I remember correctly. The view of Hiroshima city from my room was amazing!



Theme: Hostel

Comparison: least expensive

Address: 4-17 Kako-machi, Naka-ku,
Hiroshima, 730-0812

Japan

Phone: 082-247-8700

Directions: Located about a 5 min walk to the
PEACE MEMORIAL PARK.

Roaming around Japan we have found good hotel rates using the Jalan booking website; you must be a member;

http://www.jalan.net/en/japan_hotels_ryokan/

There are others: rakuten, agoda, japanican, etc.

Appendix 5, next page, is used with permission of the Bulletin of the Atomic Scientists.

Global Nuclear Stockpiles, 1945–2000

Year	U.S.	Russia	U.K.	FR	CH	Total
1945	2	0	0	0	0	2
1946	9	0	0	0	0	9
1947	13	0	0	0	0	13
1948	56	0	0	0	0	56
1949	169	1	0	0	0	170
1950	298	5	0	0	0	303
1951	438	25	0	0	0	463
1952	832	50	0	0	0	882
1953	1,161	120	1	0	0	1,282
1954	1,630	150	5	0	0	1,785
1955	2,280	200	10	0	0	2,490
1956	3,620	400	15	0	0	4,035
1957	5,828	650	20	0	0	6,498
1958	7,402	900	22	0	0	8,324
1959	12,305	1,050	25	0	0	13,380
1960	18,638	1,700	30	0	0	20,368
1961	22,229	2,450	50	0	0	24,729
1962	27,100	3,100	205	0	0	30,405
1963	29,800	4,000	280	0	0	34,080
1964	31,600	5,100	310	4	1	37,015
1965	32,400	6,300	310	32	5	39,047
1966	32,450	7,550	270	36	20	40,326
1967	32,500	8,850	270	36	25	41,681
1968	30,700	10,000	280	36	35	41,051
1969	28,200	11,000	308	36	50	39,594
1970	26,600	12,700	280	36	75	39,691
1971	26,500	14,500	220	45	100	41,365
1972	27,000	16,600	220	70	130	44,020
1973	28,400	18,800	275	116	150	47,741
1974	29,100	21,100	325	145	170	50,840
1975	28,100	23,500	350	188	185	52,323
1976	26,700	25,800	350	212	190	53,252
1977	25,800	28,400	350	228	200	54,978
1978	24,600	31,400	350	235	220	56,805
1979	24,300	34,000	350	235	235	59,120
1980	24,300	36,300	350	250	280	61,480
1981	23,400	38,700	350	274	330	63,054
1982	23,000	40,800	335	274	360	64,769
1983	23,400	42,600	320	279	380	66,979
1984	23,600	43,300	270	280	414	67,864
1985	23,500	44,000	300	359	426	68,585
1986*	23,400	45,000	300	355	423	69,478
1987*	23,700	44,000	300	420	415	68,835
1988*	23,400	42,500	300	411	430	67,041
1989*	22,500	40,000	300	412	433	63,645
1990*	21,000	38,000	300	504	432	60,236
1991*	19,500	35,000	300	538	434	55,772
1992*	18,200	33,500	300	538	434	52,972
1993*	16,750	32,000	300	524	434	50,008
1994*	15,380	30,000	250	512	400	46,542
1995*	14,000	28,000	300	500	400	43,200
1996*	12,900	26,000	300	500	400	40,000
1997*	12,425	24,000	260	450	400	37,525
1998*	11,425	22,000	260	450	400	34,535
1999*	10,925	20,000	185	450	400	31,960
2000*	10,500	20,000	185	450	400	31,535

* U.S. (from 1988) and Soviet/Russian (from 1986) warheads include those in active, operational forces; retired, non-deployed warheads awaiting dismantlement; and weapons in reserve. For recent years, the estimate for the former Soviet Union/Russia is 50 percent active, 50 percent retired/reserve.

THE FIVE ACKNOWLEDGED NUCLEAR POWERS STILL POSSESS more than 30,000 nuclear weapons. (Three other countries—Israel, India, and Pakistan—possess an unknown number of nuclear weapons.) The table provides estimates of each country's stockpile by year. We estimate that more than 128,000 nuclear weapons have been built. Global stockpiles peaked in 1986 at nearly 70,000 warheads. Ninety-eight percent of the world's nuclear weapons were produced by the United States (55 percent) and the Soviet Union/Russia (43 percent). As more information becomes available, these figures may be refined. (Only the U.S. numbers for 1945–1961 and 1986 are official.)

Total warheads built 1945–2000

United States	70,000
Soviet Union	55,000
Britain	1,200
France	1,260
China	600
Total	128,060

The U.S. stockpile is divided into four categories—active, "hedge" (or augmentation), inactive reserve, and retired (awaiting dismantlement). By the end of 2000, the dismantlement work at Pantex will be almost complete, leaving approximately 10,500 weapons in the active, inactive reserve, and hedge categories.

Much more information is needed to determine the composition and categories of the Soviet/Russian stockpile. It is unclear, for example, what then-Atomic Energy Minister Victor Mikhailov meant in 1993 when he said that the Soviet stockpile had peaked in 1986 at 45,000 warheads. This figure could include active, inactive, and retired warheads, which would mean that some very old warheads had been retained—and counted—long after the weapon systems for which they were built were withdrawn from operational service.

In the United States before 1990 the "retired" category was a limited and temporary designation, because obsolete warheads were routinely dismantled and their nuclear material reused in new warheads. The stockpile's turnover rate was fast, with several new generations of weapons systems having been introduced since 1945. As a result, the same highly enriched uranium and/or plutonium may have ended up in a bomb in the 1950s, in an ICBM warhead in the 1960s and 1970s, and in a cruise missile warhead in the 1980s.

The Soviet Union does not appear to have had a comparable *modus operandi*. There seems to have been little recycling of fissile material, and the weapons program lacked efficiency and accountability. If more plutonium or highly enriched uranium was needed, more was produced. ■

Nuclear Notebook is prepared by Robert S. Norris and William M. Arkin of the Natural Resources Defense Council. Inquiries should be directed to NRDC, 1200 New York Avenue, N.W., Suite 400, Washington, D.C., 20005; 202-289-6868.

Appendix 6

DARWIN'S MISTAKE

Three monkeys sat in a coconut tree

Discussing things as they're said to be,

Said one to the others, "Now listen, you two,

There's a certain rumor that can't be true,

That Man descended from our noble race.

That very idea is a disgrace,

No monkey ever deserted his wife,

Starved her babies or ruined her life,

And you've never known a mother monk

To leave her babies with others to bunk,

Or pass them on from one to another

'Til they scarcely know who is their mother;

And another thing you'll never see--

A monk build a fence around a coconut tree

And let the coconuts go to waste,

Forbidding all other monks to taste,

If I'd put a fence around this tree,

Starvation would force you to steal from me.

Here's another thing a monk won't do,

Go out at night and get on a stew,

And use a gun or club or knife

To take some other monkey's life.

Yes, Man descended, the ornery cuss--

But, brother, he didn't descend from us."

Anon.



Monkey Holding Skull (*Affe mit Schadel*, 1892-93): Wolfgang Hugo Rheinhold (1853-1900)
The small, bronze sculpture 'Monkey with skull' or also known as 'Philosophizing Monkey' attracted a great deal of attention at the Berlin Art Exhibition in 1893. It was Rheinhold's first sculpture as a professional sculptor and was an immediate commercial success. The Berlin bronze foundry H. Gladenbeck & Sohn marketed various versions of the adorable monkey. A copy even graced Nikolai Lenin's desk at the Kremlin from 1922 onwards. One of the books the monkey is seated on bears the Biblical quote: Eritis Sicut Deus (Genesis III, 5). 'Thou shalt be as God' which paraphrases the words the serpent spoke to Eve to entice her to taste the apple. Another of the books has the name Darwin, presumably referencing the legendary study by Charles Darwin "On the Origins of Species".
http://www.emuseumstore.com/Monkey-with-Skull-1892-93-by-Rheinhold-Parastone_p_2881.html

About the author/editor

After two years of military service, 1952-54, Raymond G. Wilson entered the University of Illinois as a student of physics, graduating in 1958, and taking a Masters teaching degree in 1960. He taught at the Mid-Pacific Institute, Honolulu, 1960-62 and then joined the physics department of Illinois Wesleyan University. In 1971 he earned a Ph.D. from the University of Arizona's Optical Sciences Center, now the College of Optical Sciences, and returned to Illinois Wesleyan until retirement from full-time teaching in 1997; he then continued as an adjunct professor through 2012. In addition to teaching about nuclear war and peace issues for 53 years, Professor Wilson was a somewhat regular visiting scholar to a Hiroshima University which lost 352 women students and 20 faculty and staff to the atomic bomb on August 6, 1945. With Akiko Wilson he is co-director of the Hiroshima Panorama Project in the United States (at Amazon.com see, "HIROSHIMA: Three Photo-panoramas of the Destroyed City, October 1945"). He is associated with the Atomic Bomb Museum Web site. The IWU Magazine (Winter 2005) has a highly readable article "Nuclear Options" that presents Professor Wilson's work in this area,

http://www.iwu.edu/iwunews/magazine/pastissues/Winter_2005/nuclear_winter05.shtml

He is also the author of the 1995 Wiley book, *Fourier Series and Optical Transform Techniques in Contemporary Optics: An Introduction*.



**At the Memorial Cenotaph
for the A-Bomb Victims in
Hiroshima Peace Park, 1992**

Nuclear War: Hiroshima, Nagasaki, and A Workable Moral Strategy for Achieving and Preserving World Peace

Raymond G. Wilson



"The real truth of the matter is, as you and I know, that a financial element in the large centers has owned the government of the United States since the days of Andrew Jackson." —Franklin D. Roosevelt



There is considerable reason to believe President Roosevelt's statement is quite true, thus the "financial element in the large centers" shares responsibility and blame for the tens, if not hundreds, of thousands of war deaths in the last two decades. The people of the world need protection from those responsible for provoking nations to war. In the United States this responsibility lies with all elements in the highest levels of government, the decision makers. It lies with those who tinker with political and economic machinations, most likely for the advantage of "a financial element in the large centers." These are probably people young enough and sufficiently uninformed to have *no conception* of the atrocity of the nuclear confrontations and conflagrations to which they are quite possibly leading the world. This group of people may include most people serving in the U.S. Congress and from personal experience many in the U.S. Military. I have my doubts whether Presidents have seen all of the results of the world's first nuclear war; they are probably shielded from this. Photographs of the victims were confiscated and held confidential for more than 22 years after 1945. There were well more than 210,000 victims; not many photographs were made and survived. You can learn from this book a tiny fraction of the truth about what happens to people caught in nuclear war. (Although the truth from more than 210,000 will never be heard.) In a future war there would be hundreds of thousands, more likely hundreds of millions, of victims. The United States government has not revealed *this kind* of truth about its first nuclear war. As of early 2014 no sitting president has ever visited Hiroshima or Nagasaki. In Chapter 5 a solution is suggested to save us all from our "nuclear madness".



"I hate war as only a soldier who has lived it can, only as one who has seen its brutality, its futility, its stupidity." —Dwight D. Eisenhower



"...we also possess the seeds of goodness and justice that humankind was given by nature and has fostered over the ages. We have the ability to cultivate self-control and consideration for others and to strive to live together in a humane and harmonious manner with others. The revival of such true humanity—not only between individuals, but also between nations—is an absolute necessity today, for the age has come when one nation's self-centered behavior could lead all humanity to annihilation."

—Naomi Shohno, 1986

"America can do whatever we set our mind to." —Barack Obama

