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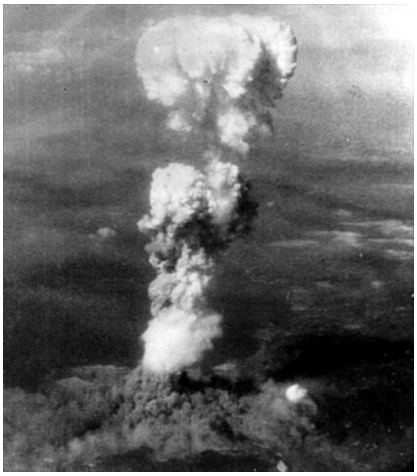
Building a Better Bomb: Reflections on the Atomic Bomb, the Hydrogen Bomb, and the Neutron Bomb [Japanese translation available]

Daniel Ellsberg

It was a hot August day in Detroit. I was standing on a street corner downtown, looking at the front page of The Detroit News in a news rack. I remember a streetcar rattling by on the tracks as I read the headline: A single American bomb had destroyed a Japanese city. My first thought was that I knew exactly what that bomb was. It was the U-235 bomb we had discussed in school and written papers about, the previous fall.



The Hiroshima mushroom cloud presented to the world, August 8, 1945

I thought: "We got it first. And we used it. On a city."

I had a sense of dread, a feeling that something very ominous for humanity had just happened. A feeling, new to me as an American, at 14, that my country might have made a terrible mistake. I was glad when the war ended nine days later, but it didn't make me think that my first reaction on Aug. 6 was wrong.

Unlike nearly everyone else outside the Manhattan Project, my first awareness of the challenges of the nuclear era had occurred—and my attitudes toward the advent of nuclear weaponry had formed—some nine months earlier than those headlines, and in a crucially different context.

It was in a ninth-grade social studies class in the fall of 1944. I was 13, a boarding student on full scholarship at Cranbrook, a private school in Bloomfield Hills, Mich. Our teacher, Bradley Patterson, was discussing a concept that was familiar then in sociology, William F. Ogburn's notion of "cultural lag."

The idea was that the development of technology regularly moved much further and faster in human social-historical evolution than other aspects of culture: our institutions of government, our values, habits, our understanding of society and ourselves. Indeed, the very notion of "progress" referred mainly to technology. What "lagged" behind, what developed more slowly or not at all in social adaptation to new technology was everything that bore on our ability to control and direct technology and the use of technology to dominate other humans.

To illustrate this, Mr. Patterson posed a potential advance in technology that might be realized soon. It was possible now, he told us, to conceive of a bomb made of U-235, an isotope of uranium, which would have an explosive power 1,000 times greater than the largest bombs being used in the war that was then going on. German scientists in late 1938 had discovered that uranium could be split by nuclear fission, in a way that would release immense amounts of energy.

Several popular articles about the possibility of atomic bombs and specifically U-235 bombs appeared during the war in magazines like The Saturday Evening Post. None of these represented leaks from the Manhattan Project, whose very existence was top-secret. In every case they had been inspired by earlier articles on the subject that had been published freely in 1939 and 1940, before scientific self-censorship and then formal classification had set in. Patterson had come across one of these wartime articles. He brought the potential development to us as an example of one more possible leap by science and technology ahead of our social institutions.

Suppose, then, that one nation, or several, chose to explore the possibility of making this into a bomb, and succeeded. What would be the probable implications of this for humanity? How would it be used, by humans and states as they were today? Would it be, on balance, bad or good for the world? Would it be a force for peace, for example, or for destruction? We were to write a short essay on this, within a week.

I recall the conclusions I came to in my paper after thinking about it for a few days. As I remember, everyone in the class had arrived at much the same judgment. It seemed pretty obvious.

The existence of such a bomb—we each concluded—would be bad news for humanity. Mankind could not handle such a destructive force. It could not control it, safely, appropriately. The power would be "abused": used dangerously and destructively, with terrible consequences. Many cities would be destroyed entirely, just as the Allies were doing their best to destroy German cities without

atomic bombs at that very time, just as the Germans earlier had attempted to do to Rotterdam and London. Civilization, perhaps our species, would be in danger of destruction.

It was just too powerful. Bad enough that bombs already existed that could destroy a whole city block. They were called "block-busters": 10 tons of high explosive. Humanity didn't need the prospect of bombs a thousand times more powerful, bombs that could destroy whole cities.

Hiroshima in the aftermath of the bomb

As I recall, this conclusion didn't depend mainly on who had the Bomb, or how many had it, or who got it first. And to the best of my memory, we in the class weren't addressing it as something that might come so soon as to bear on the outcome of the ongoing war. It seemed likely, the way the case was presented to us, that the Germans would get it first, since they had done the original science. But we didn't base our negative assessment on the idea that this would necessarily be a Nazi or German bomb. It would be a bad development, on balance, even if democratic countries got it first.

After we turned in our papers and discussed them in class, it was months before I thought of the issues again. I remember the moment when I did, on a street corner in Detroit. I can still see and feel the scene and recall my thoughts, described above, as I read the headline on Aug. 6.

I remember that I was uneasy, on that first day and in the days ahead, about the tone in President Harry Truman's voice on the radio as he exulted over our success in the race for the Bomb and its effectiveness against Japan. I generally admired Truman, then and later, but in hearing his announcements I was put off by the lack of concern in his voice, the absence of a sense of tragedy, of desperation or fear for the future. It seemed to me that this was a decision best made in anguish; and both Truman's manner and the tone of the official communiqués made unmistakably clear that this hadn't been the case.

Which meant for me that our leaders didn't have the picture, didn't grasp the significance of the precedent they had set and the sinister implications for the future. And that evident unawareness was itself scary. I believed that something ominous had happened; that it was bad for humanity that the Bomb was feasible, and that its use would have bad long-term consequences, whether or not those negatives were balanced or even outweighed by short-run benefits.

Hiroshima, corpse of a boy

Looking back, it seems clear to me my reactions then were right.

Moreover, reflecting on two related themes that have run through my life since then—intense abhorrence of nuclear weapons, and more generally of killing women and children—I've come to suspect that I've conflated in my emotional memory two events less than a year apart: Hiroshima and a catastrophe that visited my own family 11 months later.

On the Fourth of July, 1946, driving on a hot afternoon on a flat, straight road through the cornfields of Iowa—on the way from Detroit to visit our relatives in Denver—my father fell asleep at the wheel and went off the road long enough to hit a sidewall over a culvert that sheared off the right side of the car, killing my mother and sister.

My father's nose was broken and his forehead was cut. When a highway patrol car came by, he was wandering by the wreckage, bleeding and dazed. I was inside, in a coma from a concussion, with a large gash on the left side of my forehead. I had been sitting on the floor next to the back seat, on a suitcase covered with a blanket, with my head just behind the driver's seat. When the car hit the wall, my head was thrown against a metal fixture on the back of the driver's seat, knocking me out and opening up a large triangular flap of flesh on my forehead. I was in coma for 36 hours. My legs had been stretched out in front of me across the car and my right leg was broken just above the knee.

My father had been a highway engineer in Nebraska. He said that highway walls should never have been flush with the road like that, and later laws tended to ban that placement. This one took off the side of the car where my mother and sister were sitting, my sister looking forward and my mother facing left with her back to the side of the car. My brother, who came to the scene from Detroit, said later that when he saw what was left of the car in a junkyard, the right side looked like steel wool. It was amazing that anyone had survived.

My understanding of how that event came about—it wasn't entirely an accident, as I heard from my father, that he had kept driving when he was exhausted—and how it affected my life is a story for another time. But looking back now, at what I drew from reading the Pentagon Papers later and on my citizen's activism since then, I think I saw in the events of August 1945 and July 1946, unconsciously, a common message. I loved my father, and I respected Truman. But you couldn't rely entirely on a trusted authority—no matter how well-intentioned he was, however much you admired him—to protect you, and your family, from disaster. You couldn't safely leave events entirely to the care of authorities. Some vigilance was called for, to awaken them if need be or warn others. They could be asleep at the wheel, heading for a wall or a cliff. I saw that later in Lyndon Johnson and in his successor, and I've seen it since.

But I sensed almost right away, in August 1945 as Hiroshima and Nagasaki were incinerated, that such feelings—about our president, and our Bomb—separated me from nearly everyone around me, from my parents and friends and from most other Americans. They were not to be mentioned. They could only sound unpatriotic. And in World War II, that was about the last way one wanted to sound. These were thoughts to be kept to myself.

Unlikely thoughts for a 14-year-old American boy to have had the week the war ended? Yes, if he hadn't been in Mr. Patterson's social studies class the previous fall. Every member of that class must have had the same flash of recognition of the Bomb, as they read the August headlines during our summer vacation. Beyond that, I don't know whether they responded as I did, in the terms of our earlier discussion.

But neither our conclusions then or reactions like mine on Aug. 6 stamped us as gifted prophets. Before that day perhaps no one in the public outside our class—no one else outside the Manhattan Project (and very few inside it)—had spent a week, as we had, or even a day thinking about the impact of such a weapon on the long-run prospects for humanity.

And we were set apart from our fellow Americans in another important way. Perhaps no others outside the project or our class ever had occasion to think about the Bomb without the strongly biasing positive associations that accompanied their first awareness in August 1945 of its very possibility: that it was "our" weapon, an instrument of American democracy developed to deter a Nazi Bomb, pursued by two presidents, a war-winning weapon and a necessary one—so it was claimed and almost universally believed—to end the war without a costly invasion of Japan.

Unlike nearly all the others who started thinking about the new nuclear era after Aug. 6, our attitudes of the previous fall had not been shaped, or warped, by the claim and appearance that such a weapon had just won a war for the forces of justice, a feat that supposedly would otherwise have cost a million American lives (and as many or more Japanese).

For nearly all other Americans, whatever dread they may have felt about the long-run future of the Bomb (and there was more expression of this in elite media than most people remembered later) was offset at the time and ever afterward by a powerful aura of its legitimacy, and its almost miraculous potential for good which had already been realized. For a great many Americans still, the Hiroshima and Nagasaki bombs are regarded above all with gratitude, for having saved their own lives or the lives of their husbands, brothers, fathers or grandfathers, which would otherwise have been at risk in the invasion of Japan. For these Americans and many others, the Bomb was not so much an instrument of massacre as a kind of savior, a protector of precious lives.

Most Americans ever since have seen the destruction of the populations of Hiroshima and Nagasaki as necessary and effective—as constituting just means, in effect just terrorism, under the supposed circumstances—thus legitimating, in their eyes, the second and third largest single-day massacres in history. (The largest, also by the U.S. Army Air Corps, was the firebombing of Tokyo five months before on the night of March 9, which burned alive or suffocated 80,000 to 120,000 civilians. Most of the very few Americans who are aware of this event at all accept it, too, as appropriate in wartime.

Tokyo after the firebombing on the night of March 9-10, 1945

To regard those acts as definitely other than criminal and immoral—as most Americans do—is to believe that anything—anything—can be legitimate means: at worst, a necessary, lesser, evil. At least, if done by Americans, on the order of a president, during wartime. Indeed, we are the only country in the world that believes it won a war by bombing—specifically by bombing cities with weapons of mass destruction—and believes that it was fully rightful in doing so. It is a dangerous state of mind.

Even if the premises of these justifications had been realistic (after years of study I'm convinced, along with many scholars, that they were not; but I'm not addressing that here), the consequences of such beliefs for subsequent policymaking were bound to be fateful. They underlie the American government and public's ready acceptance ever since of basing our security on readiness to carry out threats of mass annihilation by nuclear weapons, and the belief by many officials and elites still today that abolition of these weapons is not only infeasible but undesirable.

By contrast, given a few days' reflection in the summer of 1945 before a presidential fait accompli was framed in that fashion, you didn't have to be a moral prodigy to arrive at the sense of foreboding we all had in Mr. Patterson's class. It was as easily available to 13-year-old ninth-graders as it was to many Manhattan Project scientists, who also had the opportunity to form their judgments before the Bomb was used.

But the scientists knew something else that was unknown to the public and even to most high-level decision-makers. They knew that the atomic bombs, the uranium and plutonium fission bombs they were preparing, were only the precursors to far more powerful explosives, almost surely including a thermonuclear fusion bomb, later called the hydrogen bomb, or H-bomb. That weapon—of which we eventually came to have tens of thousands—could have an explosive yield much greater than the fission bombs needed to trigger it. A thousand times greater.

Moreover, most of the scientists who focused on the long-run implications of nuclear weapons, belatedly, after the surrender of Germany in May 1945 believed that using the Bomb against Japan would make international control of the weapon very unlikely. In turn that would make inevitable a desperate arms race, which would soon expose the United States to adversaries' uncontrolled possession of thermonuclear weapons, so that, as the scientists said in a pre-attack petition to the president, "the cities of the United States as well as the cities of other nations will be in continuous danger of sudden annihilation." (In this they were proved correct.) They cautioned the president—on both moral grounds and considerations of long-run survival of civilization—against beginning this process by using the Bomb against Japan even if its use might shorten the war.

But their petition was sent "through channels" and was deliberately held back by Gen. Leslie Groves, director of the Manhattan Project. It never got to the president, or even to Secretary of War Henry Stimson until after the Bomb had been dropped. There is no record that the scientists' concerns about the future and their judgment of a nuclear attack's impact on it were ever made known to President Truman before or after his decisions. Still less, made known to the American public.

At the end of the war the scientists' petition and their reasoning were reclassified secret to keep it from public knowledge, and its existence was unknown for more than a decade. Several Manhattan Project scientists later expressed regret that they had earlier deferred to the demands of the secrecy managers—for fear of losing their clearances and positions, and perhaps facing prosecution—and had collaborated in maintaining public ignorance on this most vital of issues.

One of them—Eugene Rabinowitch, who after the war founded and edited the Bulletin of the Atomic Scientists (with its Doomsday Clock)—had in fact, after the German surrender in May, actively considered breaking ranks and alerting the American public to the existence of the Bomb, the plans for using it against Japan, and the scientists' views both of the moral issues and the long-term dangers of doing so.

He first reported this in a letter to The New York Times published on June 28, 1971. It was the day I submitted to arrest at the federal courthouse in Boston; for 13 days previous, my wife and I had been underground, eluding the FBI while distributing the Pentagon Papers to 17 newspapers after injunctions had halted publication in the Times and The Washington Post. The Rabinowitch letter began by saying it was "the revelation by The Times of the Pentagon history of U.S. intervention in Vietnam, despite its classification as 'secret' " that led him now to reveal:

"Before the atom bomb-drops on Hiroshima and Nagasaki, I had spent sleepless nights thinking that I should reveal to the American people, perhaps through a reputable news organ, the fateful act—the first introduction of atomic weapons—which the U.S. Government planned to carry out without consultation with its people. Twenty-five years later, I feel I would have been right if I had done so."

I didn't see this the morning it was published, because I was getting myself arrested and arraigned, for doing what Rabinowitch wishes he had done in 1945, and I wish I had done in 1964. I first came across this extraordinary confession by a would-be whistle-blower (I don't know another like it) in "Hiroshima in America: Fifty Years of Denial" by Robert Jay Lifton and Greg Mitchell (New York, 1995, p. 249).

Rereading Rabinowitch's statement, still with some astonishment, I agree with him. He was right to consider it, and he would have been right if he had done it. He would have faced prosecution and prison then (as I did at the time his letter was published), but he would have been more than justified, as a citizen and as a human being, in informing the American public and burdening them with shared responsibility for the fateful decision.

Some of the same scientists faced a comparable challenge four years after Hiroshima, addressing the possible development of an even more terrible weapon, more fraught with possible danger to human survival: the hydrogen bomb. This time some who had urged use of the atom bomb against Japan (dissenting from the petitioners above) recommended against even development and testing of the new proposal, in view of its "extreme dangers to mankind." "Let it be clearly realized," they said, "that this is a super weapon; it is in a totally different category from an atomic bomb" (Herbert York, "The Advisors" [California, 1976], p. 156).

Once more, as I learned much later, knowledge of the secret possibility was not completely limited to government scientists. A few others—my father, it turns out, was one—knew of this prospect before it had received the stamp of presidential approval and had become an American government project. And once again, under those conditions of prior knowledge (denied as before to the public), to grasp the moral and long-run dangers you didn't have to be a nuclear physicist. My father was not.

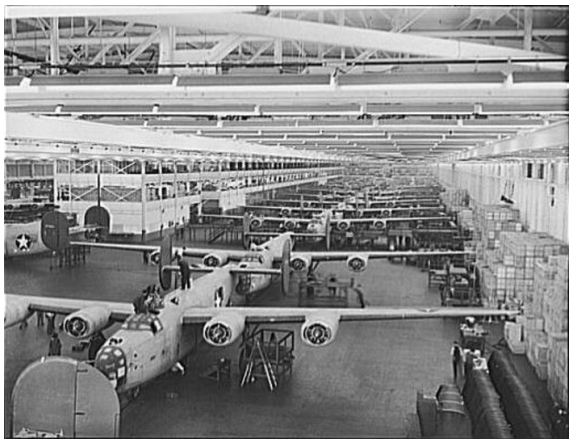
Some background is needed here. My father, Harry Ellsberg, was a structural engineer. He worked for Albert Kahn in Detroit, the "Arsenal of Democracy." At the start of the Second World War, he was the chief structural engineer in charge of designing the Ford Willow Run plant, a factory to make B-24 Liberator bombers for the Air Corps. (On June 1 this year, GM, now owner, announced it would close the plant as part of its bankruptcy proceedings.)

Dad was proud of the fact that it was the world's largest industrial building under one roof. It put together bombers the way Ford produced cars, on an assembly line. The assembly line was a mile and a quarter long.

The first B-24 Liberator Bomber unveiled, October 1, 1942

My father told me that it had ended up L-shaped, instead of in a straight line as he had originally designed it. When the site was being prepared, Ford comptrollers noted that the factory would run over a county line, into an adjacent county where the company had less control and local taxes were higher. So the design, for the assembly line and the factory housing it, had to be bent at right angles to stay inside Ford country.

Once, my father took me out to Willow Run to see the line in operation. For as far as I could see, the huge metal bodies of planes were moving along tracks as workers riveted and installed parts. It was like pictures I had seen of steer carcasses in a Chicago slaughterhouse. But as Dad had explained to me, three-quarters of a mile along, the bodies were moved off the tracks onto a circular turntable that rotated them 90 degrees; then they were moved back on track for the last half mile of the L. Finally, the planes were rolled out the hangar doors at the end of the factory—one every hour: It took 59 minutes on the line to build a plane with its 100,000 parts from start to finish—filled with gas and flown out to war. (Click here and here for sources and photographs.)



B-24 Liberator Bombers roll off the assembly line

It was an exciting sight for a 13-year-old. I was proud of my father. His next wartime job had been to design a still larger airplane engine factory—again the world's largest plant under one roof—the Dodge Chicago plant, which made all the engines for B-29s.

When the war ended, Dad accepted an offer to oversee the buildup of the plutonium production facilities at Hanford, Wash. That project was being run by General Electric under contract with the Atomic Energy Commission. To take the job of chief structural engineer on the project, Dad moved from the engineering firm of Albert Kahn, where he had worked for years, to what became Giffels & Rossetti. Later he told me that engineering firm had the largest volume of construction contracts in the world at that time, and his project was the world's largest. I grew up hearing these superlatives.

The Hanford project gave my father his first really good salary. But while I was away as a sophomore at Harvard, he left his job with Giffels & Rossetti, for reasons I never learned at the time. He was out of work for almost a year. Then he went back as chief structural engineer for the whole firm. Almost 30 years later, in 1978, when my father was 89, I happened to ask him why he had left Giffels & Rossetti. His answer startled me.

He said, "Because they wanted me to help build the H-bomb."

This was a breathtaking statement for me to hear in 1978. I was in full-time active opposition to the deployment of the neutron bomb—which was a small H-bomb—that President Jimmy Carter was proposing to send to Europe. The N-bomb had a killing radius from its output of neutrons that was much wider than its radius of destruction by blast. Optimally, an airburst N-bomb would have little fallout nor would it destroy structures, equipment or vehicles, but its neutrons would kill the humans either outside or within buildings or tanks. The Soviets mocked it as "a capitalist weapon" that destroyed people but not property; but they tested such a weapon too, as did other countries.

I had opposed developing or testing that concept for almost 20 years, since it was first described to me by my friend and colleague at the RAND Corp., Sam Cohen, who liked to be known as the "father of the neutron bomb." I feared that, as a "small" weapon with limited and seemingly controllable lethal effects, it would be seen as usable in warfare, making U.S. first use and "limited nuclear war" more likely. It would be the match that would set off an exchange of the much larger, dirty weapons which were the bulk of our arsenal and were all that the Soviets then had.

In the year of this conversation with Dad, I was arrested four times blocking the railroad tracks at the Rocky Flats Nuclear Weapons Production Facility, which produced all the plutonium triggers for H-bombs and was going to produce the plutonium cores for

neutron bombs. One of these arrests was on Nagasaki Day, Aug. 9. The "triggers" produced at Rocky Flats were, in effect, the nuclear components of A-bombs, plutonium fission bombs of the type that had destroyed Nagasaki on that date in 1945.

Every one of our many thousands of H-bombs, the thermonuclear fusion bombs that arm our strategic forces, requires a Nagasaki-type A-bomb as its detonator. (I doubt that one American in a hundred knows that simple fact, and thus has a clear understanding of the difference between A- and H-bombs, or of the reality of the thermonuclear arsenals of the last 50 years.

Our popular image of nuclear war—from the familiar pictures of the devastation of Nagasaki and Hiroshima—is grotesquely misleading. Those pictures show us only what happens to humans and buildings when they are hit by what is now just the detonating cap for a modern nuclear weapon.

The plutonium for these weapons came from Hanford and from the Savannah River Site in Georgia and was machined into weapons components at Rocky Flats, in Colorado. Allen Ginsberg and I, with many others, blockaded the entrances to the plant on Aug. 9, 1978, to interrupt business as usual on the anniversary of the day a plutonium bomb had killed 58,000 humans (about 100,000 had died by the end of 1945).

I had never heard before of any connection of my father with the H-bomb. He wasn't particularly wired in to my anti-nuclear work or to any of my activism since the Vietnam War had ended. I asked him what he meant by his comment about leaving Giffels & Rossetti.

"They wanted me to be in charge of designing a big plant that would be producing material for an H-bomb." He said that DuPont, which had built the Hanford Site, was to have the contract from the Atomic Energy Commission. That would have been for the Savannah River Site. I asked him when this was.

"Late '49."

I told him, "You must have the date wrong. You couldn't have heard about the hydrogen bomb then, it's too early." I'd just been reading about that, in Herb York's recent book, "The Advisors." The General Advisory Committee (GAC) of the AEC—chaired by Robert Oppenheimer and including James Conant, Enrico Fermi and Isidor Rabi—were considering that fall whether or not to launch a crash program for an H-bomb. That was the "super weapon" referred to earlier. They had advised strongly against it, but President Truman overruled them.

"Truman didn't make the decision to go ahead till January 1950. Meanwhile the whole thing was super-secret. You couldn't have heard about it in '49."

My father said, "Well, somebody had to design the plant if they were going to go ahead. I was the logical person. I was in charge of the structural engineering of the whole project at Hanford after the war. I had a Q clearance."

That was the first I'd ever heard that he'd had had a Q clearance—an AEC clearance for nuclear weapons design and stockpile data. I'd had that clearance myself in the Pentagon—along with close to a dozen other special clearances above top-secret—after I left the RAND Corp. for the Defense Department in 1964. It was news to me that my father had had a clearance, but it made sense that he would have needed one for Hanford.

I said, "So you're telling me that you would have been one of the only people in the country, outside the GAC, who knew we were considering building the H-bomb in 1949?"

He said, "I suppose so. Anyway, I know it was late '49, because that's when I quit."

"Why did you quit?"

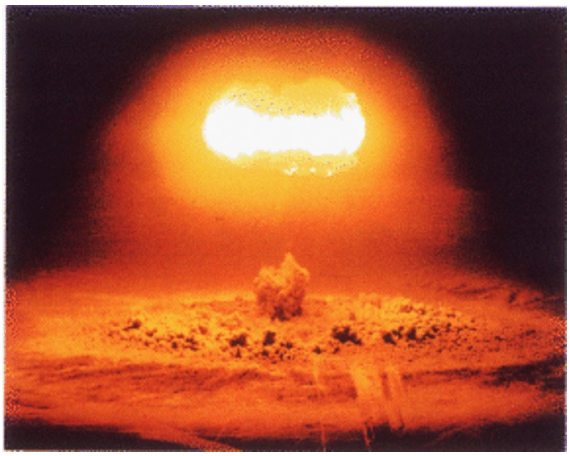
"I didn't want to make an H-bomb. Why, that thing was going to be 1,000 times more powerful than the A-bomb!"

I thought, score one for his memory at 89. He remembered the proportion correctly. That was the same factor Oppenheimer and the others predicted in their report in 1949. They were right. The first explosion of a true H-bomb, five years later, had a thousand times the explosive power of the Hiroshima blast.

At 15 megatons—the equivalent of 15 million tons of high explosive—it was over a million times more powerful than the largest conventional bombs of World War II. That one bomb had almost eight times the explosive force of all the bombs we dropped in that war: more than all the explosions in all the wars in human history. In 1961, the Soviets tested a 58-megaton H-bomb.

My father went on: "I hadn't wanted to work on the A-bomb, either. But then Einstein seemed to think that we needed it, and it made sense to me that we had to have it against the Russians. So I took the job, but I never felt good about it.

"Then when they told me they were going to build a bomb 1,000 times bigger, that was it for me. I went back to my office and I said to my deputy, 'These guys are crazy. They have an A-bomb, now they want an H-bomb. They're going to go right through the alphabet till they have a Z-bomb.' "



The hydrogen bomb mushroom cloud

I said, "Well, so far they've only gotten up to N."

He said, "There was another thing about it that I couldn't stand. Building these things generated a lot of radioactive waste. I wasn't responsible for designing the containers for the waste, but I knew they were bound to leak eventually. That stuff was deadly forever. It was radioactive for 24,000 years."

Again he had turned up a good figure. I said, "Your memory is working pretty well. It would be deadly a lot longer than that, but that's about the half-life of plutonium."

There were tears in his eyes. He said huskily, "I couldn't stand the thought that I was working on a project that was poisoning parts of my own country forever, that might make parts of it uninhabitable for thousands of years."

I thought over what he'd said; then I asked him if anyone else working with him had had misgivings. He didn't know.

"Were you the only one who quit?" He said yes. He was leaving the best job he'd ever had, and he didn't have any other to turn to. He lived on savings for a while and did some consulting.

I thought about Oppenheimer and Conant—both of whom had recommended dropping the atomic bomb on Hiroshima—and Fermi and Rabi, who had, that same month Dad was resigning, expressed internally their opposition to development of the superbomb in the most extreme terms possible: It was potentially "a weapon of genocide … carries much further than the atomic bomb itself the policy of exterminating civilian populations … whose power of destruction is essentially unlimited … a threat to the future of the human race which is intolerable … a danger to humanity as a whole … necessarily an evil thing considered in any light" (York, "The Advisor," pp. 155-159).

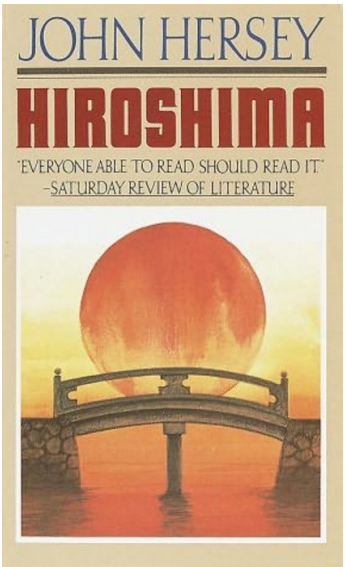
Not one of these men risked his clearance by sharing his anxieties and the basis for them with the American public. Oppenheimer and Conant considered resigning their advisory positions when the president went ahead against their advice. But they were persuaded—by Dean Acheson—not to quit at that time, lest that draw public attention to their expert judgment that the president's course fatally endangered humanity.

I asked my father what had made him feel so strongly, to act in a way that nobody else had done. He said, "You did."

That didn't make any sense. I said, "What do you mean? We didn't discuss this at all. I didn't know anything about it."

Dad said, "It was earlier. I remember you came home with a book one day, and you were crying. It was about Hiroshima. You said, 'Dad, you've got to read this. It's the worst thing I've ever read.' "

I said that must have been John Hersey's book "Hiroshima." (I read it when it came out as a book. I was in the hospital when it filled The New Yorker in August 1946.) I didn't remember giving it to him.



Hersey's Hiroshima

"Yes. Well, I read it, and you were right. That's when I started to feel bad about working on an atomic bomb project. And then when they said they wanted me to work on a hydrogen bomb, it was too much for me. I thought it was time for me to get out."

I asked if he had told his bosses why he was quitting. He said he told some people, not others. The ones he told seemed to understand his feelings. In fact, in less than a year, the head of the firm called to say that they wanted him to come back as chief structural engineer for the whole firm. They were dropping the DuPont contract (they didn't say why), so he wouldn't have to have anything to do with the AEC or bomb-making. He stayed with them till he retired.

I said, finally, "Dad, how could I not ever have heard any of this before? How come you never said anything about it?"

My father said, "Oh, I couldn't tell any of this to my family. You weren't cleared."

Well, I finally got my clearances, a decade after my father gave his up. And for some years, they were my undoing, though they turned out to be useful in the end. A decade later they allowed me to read the Pentagon Papers and to keep them in my "Top Secret" safe at the RAND Corp., from which I eventually delivered them to the Senate Foreign Relations Committee and later to 19 newspapers.

We have long needed and lacked the equivalent of the Pentagon Papers on the subject of nuclear policies and preparations, nuclear threats and decision-making: above all in the United States and Russia but also in the other nuclear-weapons states. I deeply regret

that I did not make known to Congress, the American public and the world the extensive documentation of persistent and still-unknown nuclear dangers that was available to me 40 to 50 years ago as a consultant to and official in the executive branch working on nuclear war plans, command and control and nuclear crises. Those in nuclear-weapons states who are in a position now to do more than I did then to alert their countries and the world to fatally reckless secret policies should take warning from the earlier inaction of myself and others: and do better.

That I had high-level access and played such a role in nuclear planning is, of course, deeply ironic in view of the personal history recounted above. My feelings of revulsion and foreboding about nuclear weapons had not changed an iota since 1945, and they have never left me. Since I was 14, the overriding objective of my life has been to prevent the occurrence of nuclear war.

There was a close analogy with the Manhattan Project. Its scientists—most of whom hoped the Bomb would never be used for anything but as a threat to deter Germany—were driven by a plausible but mistaken fear that the Nazis were racing them. Actually the Nazis had rejected the pursuit of the atomic bomb on practical grounds in June 1942, just as the Manhattan Project was beginning. Similarly, I was one of many in the late '50s who were misled and recruited into the nuclear arms race by exaggerated, and in this case deliberately manipulated, fears of Soviet intentions and crash efforts.

Precisely because I did receive clearances and was exposed to top-secret intelligence estimates, in particular from the Air Force, I, along with my colleagues at the RAND Corp., came to be preoccupied with the urgency of averting nuclear war by deterring a Soviet surprise attack that would exploit an alleged "missile gap." That supposed dangerous U.S. inferiority was exactly as unfounded in reality as the fear of the Nazi crash bomb program had been, or, to pick a more recent example, as concern over Saddam Hussein's supposed WMDs and nuclear pursuit in 2003.

Working conscientiously, obsessively, on a wrong problem, countering an illusory threat, I and my colleagues distracted ourselves and helped distract others from dealing with real dangers posed by the mutual and spreading possession of nuclear weapons—dangers which we were helping make worse—and from real opportunities to make the world more secure. Unintentionally, yet inexcusably, we made our country and the world less safe.

Eventually the Soviets did emulate us in creating a world-threatening nuclear capability on hair-trigger alert. That still exists; Russian nuclear posture and policies continue, along with ours, to endanger our countries, civilization and much of life itself. But the persistent reality has been that the nuclear arms race has been driven primarily by American initiatives and policies and that every major American decision in this 64-year-old nuclear era has been accompanied by unwarranted concealment, deliberate obfuscation, and official and public delusions.

I have believed for a long time that official secrecy and deceptions about our nuclear weapons posture and policies and their possible consequences have threatened the survival of the human species. To understand the urgency of radical changes in our nuclear policies that may truly move the world toward abolition of nuclear weapons, we need a new understanding of the real history of the nuclear age.

Using the new opportunities offered by the Internet—drawing attention to newly declassified documents and to some realities still concealed—I plan over the next year, before the 65th anniversary of Hiroshima, to do my part in unveiling this hidden history.

Daniel Ellsberg's article, "Hiroshima Day: America Has Been Asleep at the Wheel for 64 Years," which appeared at Truthdig on August 5, 2009, is part of a larger nuclear history in preparation. He is the author of Secrets: A Memoir of Vietnam and the Pentagon Papers.

After Labor Day, Daniel Ellsberg's website, and some other sites including Truthdig, will start regular installments of his insider's memoir of the nuclear era—"The American Doomsday Machine"—an Internet book reflecting his earlier classified work and 40 years of research.

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