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BY THE BOMB'S EARLY LIGHT

AMERICAN THOUGHT AND CULTURE AT THE DAWN OF THE ATOMIC AGE

WITH A NEW PREFACE BY THE AUTHOR

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"THE WHOLE WORLD GASPED"

Just as people recall the circumstances under which they first heard the news of the attack on Pearl Harbor, so they will remember how the atomic bomb first burst upon their consciousness.

—*Scientific Monthly*, September 1945

August 6, 1945. President Truman was aboard the U.S.S. Augusta, *steaming across the Atlantic on his way home from the Postdam conference, when he received the word: an American atomic bomb had been successfully detonated over Hiroshima, Japan. Excitedly Truman rushed to the officers' wardroom and told them the news. The navy men burst into cheers.*

At the White House, it was a slow news day and only a few reporters were on duty. In mid-morning, assistant press secretary Eben Ayres strolled into the press room and told the reporters something might be coming later. At 10:45 A.M., *Eastern War Time, Ayres released the story. At first the reporters seemed to hesitate, then they rushed for the telephones. The first bulletin went out over the Associated Press wire at 11:03.*

John Haynes Holmes, minister of the Community Church of New York City, was vacationing at his summer cottage in Kennebunk, Maine, that day. Soon after, he described his feelings on hearing the news: "Everything else seemed suddenly to become insignificant. I seemed to grow cold, as though I had been transported to the waste spaces of the moon. The summer beauty seemed to vanish, and the waves of the sea to be pounding upon the shores of an empty world. . . . For I knew that the final crisis in human history had come. What that atomic bomb had done to Japan, it could do to us."[1]

How does a people react when the entire basis of its existence is fundamentally altered? Most such changes occur gradually; they are more discernible to historians than to the individuals living through them. The

nuclear era was different. It burst upon the world with terrifying suddenness. From the earliest moments, the American people recognized that things would never be the same again.

Perhaps the best way to convey a sense of the earliest days of what almost immediately began to be called the "Atomic Age" is not to impose too much order or coherence on them retrospectively. Out of the initial confusion of emotions and welter of voices, certain cultural themes would quickly emerge. But first, the Event.

The first to hear the news that distant Monday were those who happened to be near a radio at midday—housewives, children, the elderly, war workers enjoying a vacation day at home:

> This is Don Goddard with your news at noon. A little less than an hour ago, newsmen were called to the White House down in Washington, and there they were read a special announcement written by President Truman. . . . This was the story of a new bomb, so powerful that only the imagination of a trained scientist could dream of its existence. Without qualification, the President said that Allied scientists have now harnessed the basic power of the universe. They have harnessed the atom.[2]

As the sultry August afternoon wore on, the news spread by word of mouth. The evening papers reported it in screaming headlines:

ATOMIC BOMB LOOSED ON JAPAN
ONE EQUALS 20,000 TONS OF TNT
FIRST TARGET IS ARMY BASE OF HIROSHIMA
DUST AND SMOKE OBSCURE RESULT.

On his six o'clock newscast, Lowell Thomas of CBS radio, already assuming that everyone had heard the story, began in his folksy, avuncular voice:

> That news about the atomic bomb overshadows everything else today; and the story of the dropping of the first one on Japan. The way the Japanese describe last night's raid on Hiroshima indicates that this one bomb was so destructive that the Japs thought they had been blasted by squadrons of B-29s.[3]

Meanwhile, over at NBC, the dean of radio news commentators, H. V. Kaltenborn, was preparing the script of his 7:45 P.M. broadcast. The first draft began by describing the atomic bomb as "one of the greatest scientific developments in the history of man." Hastily, Kaltenborn penciled in a punchier opening: "Anglo-Saxon science has developed a new explosive 2,000 times as destructive as any known before."[4]

Continuing in his stern, professorial voice, Kaltenborn struck a somber note: "For all we know, we have created a Frankenstein! We must assume that with the passage of only a little time, an improved form of the new weapon we use today can be turned against us."

Kaltenborn was far from alone in perceiving the nightmarish possibilities. Science may have "signed the mammalian world's death warrant," warned the *St. Louis Post-Dispatch* on August 7, "and deeded an earth in ruins to the ants." A *Milwaukee Journal* editorial on the same day speculated about "a self-perpetuating chain of atomic destruction" that, like "a forest fire sweeping before high winds," could obliterate the entire planet.

In a broadcast that evening, Don Goddard added a chilling concreteness to these ominous forebodings:

> There is reason to believe tonight that our new atomic bomb destroyed the entire Japanese city of Hiroshima in a single blast. . . . It would be the same as Denver, Colorado, with a population of 350,000 persons being there one moment, and wiped out the next.[5]

Thus in the earliest moments of the nuclear era, the fear that would be the constant companion of Americans for the rest of their lives, and of millions not yet born in 1945, had already found urgent expression.

The carefully orchestrated government press releases, illustrated with a set of officially approved photographs, only partially allayed the gathering fear and uncertainty. Hiroshima itself was enveloped in an eerie silence that the outside world only gradually penetrated. "As for the actual havoc wrought by that first atomic bomb," said Lowell Thomas on August 7, "one earlier report was that the photographic observation planes on the job shortly after the cataclysmic blast at Hiroshima had been unable to penetrate the cloud of smoke and dust that hung over that devastated area." An air force spokesman on Okinawa said Hiroshima "seemed to have been ground into dust by a giant foot."

At a hectic news conference on Guam, Col. Paul Tibbets, Jr., pilot of the *Enola Gay,* the atomic-bomb plane, compared the cloud over the city to "boiling dust." Navy captain William S. Parsons, the scientist responsible for the final bomb assembly aboard the plane, extended an open palm to represent Hiroshima and said that only the fingers—the docks jutting into Hiroshima Bay—had been visible after the blast. The news conference was continually interrupted by a cigar-chomping Gen. Curtis LeMay with a terse, "No, you better not say that."[6]

Speculation and "human interest" stories supplemented the tightly

controlled official releases. Newsmen compared the atomic bomb to the 1917 explosion of a munitions ship in the harbor of Halifax, Nova Scotia, that had killed eighteen hundred people. They interviewed the wife of Gen. Leslie R. Groves, military chief of the Manhattan Project ("I didn't know anything about it until this morning, the same as everyone else"). They sought out Eleanor Roosevelt, who gave FDR's posthumous benediction to the atomic bomb: "The President would have been much relieved had he known we had it."

Journalists strove for a local angle: "DEADLIEST WEAPONS IN WORLD'S HISTORY MADE IN SANTA FE VICINITY" was the headline carried by the *Santa Fe New Mexican* over its story about tiny Los Alamos, nerve center of the Manhattan Project. Tennessee papers played up what the *New York Times* dramatically called the "secret empire" at Oak Ridge, where work on the atomic bomb had been conducted in a vast "labryinthine concrete fortress." In Hanford, Washington, reporters found the local residents surprised to learn that the vast secret facility nearby had been making plutonium; they had assumed poison gas. The Albany newspapers noted that General Groves was the son of a Presbyterian minister who had once had a church in that city.[7]

The secret atomic-bomb test conducted at Alamogordo, New Mexico, on July 16, 1945, was now revealed. Lowell Thomas quoted a railway engineer who had been in the cab of the *Santa Fe* over 100 miles away at the moment of the predawn test: "All at once, it seemed as if the sun suddenly appeared out of the darkness. . . . The glare lasted about three minutes, then all was dark again." Newspaper stories told of Georgia Green, a blind girl in Albuquerque, 120 miles from Alamogordo, who at the moment of detonation had cried out, "What was that?"[8]

On August 9, with Hiroshima still dominating the nation's consciousness, came a further shock: a second atomic bomb had been dropped on the Japanese city of Nagasaki. "It is an awful responsibility which has come to us," intoned President Truman on nationwide radio the next day. "We thank God that it has come to us instead of to our enemies; and we pray that He may guide us to use it in His ways and for His purposes."[9]

Amid the stupefying rush of events, people could only assure each other that something momentous, almost unfathomable, had occurred. "[One] forgets the effect on Japan . . . ," said the *New York Herald Tribune*, "as one senses the foundations of one's own universe trembling." The papers were full of such observations. The bomb, commented *Christian Century* magazine, had "cast a spell of dark foreboding over the spirit of humanity." In the *New York Times*'s first letter-to-the-editor about the atomic bomb (forerunner of thousands that would appear in the years to follow), A. Garcia Diaz of New York City spoke of the "creeping feeling of apprehension" pervading the nation. (With characteristic understatement, the *Times* captioned this letter: "Atomic Bomb Poses Problem.") In the *New York Sun*, correspondent Phelps Adams described the mood in Washington: "For forty-eight hours now, the new bomb has been virtually the only topic of conversation and discussion. . . . For two days it has been an unusual thing to see a smile among the throngs that crowd the streets. The entire city is pervaded by a kind of sense of oppression." Political cartoonist D. R. Fitzpatrick of the *St. Louis Post-Dispatch* pictured a tiny human figure desperately clinging to a pair of reins attached to an awesome lightning bolt streaking across the skies. The caption was: "Little Man, Where To?"[10]

On August 10, a day after the Nagasaki bombing, the Japanese offered to surrender if Emperor Hirohito could keep his throne. The Allies agreed, and on August 14, World War II ended. The nation's cities erupted in frenzied celebration, but the underlying mood remained sober and apprehensive. In Washington, the *New Republic* reported, the war's end did nothing to mitigate the post-Hiroshima gloom or the "curious new sense of insecurity, rather incongruous in the face of military victory." Thanks to the atomic bomb, wrote an official of the Rockefeller Foundation a few weeks later, the nation's mood at the moment of victory was bleaker than in December 1941 when much of the Pacific Fleet had lain in ruins at Pearl Harbor.[11] "Seldom, if ever," agreed CBS radio commentator Edward R. Murrow on August 12, "has a war ended leaving the victors with such a sense of uncertainty and fear, with such a realization that the future is obscure and that survival is not assured."[12]

On August 17, amid stories of the surrender ceremonies in Tokyo Bay, H. V. Kaltenborn reported a sobering assessment by air force general H. H. ("Hap") Arnold of what an atomic war would be like. "As we listen to the newscast tonight, as we read our newspapers tomorrow," said Kaltenborn, "let us think of the mass murder which will come with World War III." A few days later he added, "We are like children playing with a concentrated instrument of death whose destructive potential our little minds cannot grasp."

"The knowledge of victory was as charged with sorrow and doubt as with joy and gratitude," observed *Time* in its first postwar issue.

> In what they said and did, men are still, as in the aftershock of a great wound, bemused and only semi-articulate. . . . But in the dark depths of their minds and hearts, huge forms moved and silently arrayed themselves: Titans, arranging out of the chaos an age in which victory was already only the shout of a child in the street.

The war itself had shrunk to "minor significance," *Time* added, and its outcome seemed the "most grimly Pyrrhic of victories."[13]

The best known of these early postwar editorials, Norman Cousins's

"Modern Man Is Obsolete," which appeared in the *Saturday Review* four days after the Japanese surrender, exuded this spirit of apprehension. "Whatever elation there is in the world today," wrote Cousins,

> is severely tempered by . . . a primitive fear, the fear of the unknown, the fear of forces man can neither channel nor comprehend. This fear is not new; in its classical form it is the fear of irrational death. But overnight it has become intensified, magnified. It has burst out of the subconscious and into the conscious, filling the mind with primordial apprehensions.[14]

Among book publishers, the post-Hiroshima race was won by Pocket Books, which on August 17 published *The Atomic Age Opens,* a 256-page paperback compendium of news stories, editorials, and pronouncements by world leaders intended to help those who were "grasping for solid ideas through the haze of the first excitement." The general tenor of these utterances is summed up in one chapter title: "The Whole World Gasped."[15]

Perhaps the most important print medium through which the American people formed their initial impressions of the atomic bomb was Henry Luce's photo magazine *Life,* with its five million-plus circulation. *Life* devoted much of its August 20, 1945, issue to the bomb; here, in full-page photographs of Hiroshima and Nagasaki, many Americans encountered for the first time the towering mushroom-shaped cloud that would become the quintessential visual symbol of the new era. Hiroshima, said *Life*, had literally been "blown . . . off the face of the earth." Nagasaki, it added, choosing its words carefully, had been "disemboweled."

Underscoring a point made frequently in this early postwar period, *Life* noted that the atomic bombings were simply an extension of the massive B-29 "fire-bomb missions" under General LeMay that had already "ripped the guts out of Japan's great cities." These raids, *Life* explained, relied on

> the newly developed "jelly" bombs, which were aimed at different spots in a city and calculated to merge into one huge conflagration. Airmen called them "burn jobs" and a good-sized "burn job" did almost as much damage to property as the atomic bomb did and it also killed almost as many people.

In a lengthy background feature, *Life* insisted that the most important story concerning the debut of atomic energy was the scientific one: "Even the appalling fact that some 100,000 Japanese had died seemed incidental to the fact—which touched the destiny of everyone alive—that a way had been found to release the forces which killed these 100,000." Through several pages of simplified text and drawings, *Life* introduced its readers to the mysteries of the atom, uranium, and nuclear fission.

But what did it all mean? In an editorial titled "The Atomic Age" and in an essay, "The Atom Bomb and Future War," by *New York Times* military analyst Hanson W. Baldwin, *Life* tried to place the devastating events in context. Baldwin minced no words. As soon as the long-range rockets developed by the Germans were fitted with atomic warheads capable of "destroy[ing] cities at one breath," he wrote, echoing H. V. Kaltenborn, mankind would have "unleashed a Frankenstein monster." If conventional infantrymen had any future role at all, Baldwin continued, it would be as "an army of moles, specially trained in underground fighting."

In its editorial, by contrast, *Life* strove for a hopeful note: Atomic fission was a major breakthrough in humankind's long struggle to understand and subdue nature, and the world should be grateful that "Prometheus, the subtle artificer and friend of man, is still an American citizen." The future would be different, certainly, but it need not terrify. Even Hanson Baldwin's grim predictions could be viewed in an optimistic light. After all, "consider the ant, whose social problems much resemble man's":

> Ants have lived on this planet for 50 times as many millions of years as man. In all that time they have not committed race suicide and they have not abolished warfare either. Their nations rise and fall and never wholly merge. Constructing beautiful urban palaces and galleries, many ants have long lived underground in entire satisfaction.

But whatever the long-range reassurance offered by entomology or Greek mythology, the compelling immediate fact was that atomic fission had just been used to vaporize two cities. To its credit, *Life* confronted this fact squarely. The increasing ferocity of strategic bombing since the late 1930s, it said, "led straight to Hiroshima, and Hiroshima was, and was intended to be, almost pure *Schrecklichkeit* [terror]." All the belligerents, the United States no less than Nazi Germany, had emerged from World War II "with radically different practices and standards of permissible behavior toward others."

Despite these bleak reflections, the editorial concluded on a note of moral elevation. Above all else, the atomic bomb raised "the question of power. The atomic scientists had to learn new ways to control it; so now does political man":

> Power in society has never been controlled by anything but morality. . . . Our sole safeguard against the very real danger of a reversion to

barbarism is the kind of morality which compels the individual conscience, be the group right or wrong. The individual conscience against the atomic bomb? Yes, there is no other way.

No limits are set to our Promethean ingenuity, provided we remember that we are not Jove.[16]

Many readers responded with lavish praise. The editorial was a reminder, said one, that "the simplest language is the best vehicle for the profoundest thoughts."[17] But what was *Life* actually saying? Evidently this: the same individuals who had acquiesced in the degradation of warfare into *Schrecklichkeit* were now being exhorted to confront the atomic bomb with consciences finely tuned to moral considerations. The American Prometheus who had assumed Jove's mantle and obliterated two cities with his newly discovered atomic thunderbolts was now being sternly told that he must resist the temptation ever again to play god.

After the initial shock, Americans seemingly rallied and took the atomic bomb in stride. Comedians (not all of them professionals) strained to find humor in the new weapon. A radio newscaster commented that Hiroshima "looked like Ebbetts Field after a game between the Giants and the Dodgers." Others joked that Japan was suffering from "atomic ache." Only one radio entertainer—Milton Berle—explicity refused to make jokes about the atomic bomb.[18]

Within hours of Eben Ayres's announcement, the bar at the Washington Press Club offered an "Atomic Cocktail"—a greenish blend of Pernod and gin. A letter in the *Philadelphia Inquirer* suggested that atomic vitamin pills be given to the slumping Athletics. *Time* said the Alamogordo test had "proved the bomb a smash-hit." Updating an old joke, *Life* reported that Oak Ridge workers, when asked what they were building, had replied: "We're making the fronts of horses, and shipping them to Washington for final assembly." One of the odder of the post-Hiroshima headlines appeared in the *Milwaukee Journal* on August 8: "The New Bomb Is So Staggering to the Mind, One Doesn't Dare Pun 'Up and Atom!' " *Stars and Stripes*, the military newspaper, reported one GI's comment: "Wait a minute, I got a gag for you. Just put in your paper: "Now we're cooking—with atomic bombs!' and don't forget to credit me." On August 13, the *Chicago Tribune* ran an entire column of "Atomic Anecdotes." The *New Yorker*, while taking a dim view of all this "humor," dutifully recorded some of it "for the benefit of future social historians."[19]

Nor could American business resist the bomb's commercial possibilities. Within days of the Hiroshima bombing, department stores were running "Atomic Sales" and advertisers offering "Atomic Results." Somewhat later, a jewelry company on New York's Fifth Avenue advertised:

BURSTING FURY—Atomic Inspired Pin and Earring. New fields to conquer with Atomic jewelry. The pearled bomb bursts into a fury of dazzling colors in mock rhinestones, emeralds, rubies, and sapphires. . . . As daring to wear as it was to drop the first atom bomb. Complete set $24.75.

Other enterprising entrepreneurs gathered the greenish, glass-like fused sand at the Alamogordo test site and (oblivious to the danger of radioactivity) fashioned it into costume jewelry, which they advertised nationally. The Atomic Age Publishing Company of Denver announced a new magazine, *The Atom*, with a goal of one hundred thousand subscribers. By 1947, the Manhattan telephone directory listed forty-five businesses that had appropriated the magic word, including the Atomic Undergarment Company.

In 1946 the General Mills Corporation offered an "Atomic 'Bomb' Ring" for fifteen cents and a Kix cereal boxtop. Look into the "sealed atom chamber" in "the gleaming aluminum warhead," the advertisement said, and "see genuine atoms SPLIT to smithereens!" "Based on a scientific principle used in laboratories," the ring was "perfectly safe" and "guaranteed not to blow everything sky high." It was loaded with extras, including "bombardier's insignia embossed on cylindrical bomb grip." In fact, this little promotional premium managed to anticipate several cultural themes that would obsess America in the years ahead. Behind the bomb warhead was a space for secret messages: "You can outwit enemies by concealing a message of 100 words in this strategic compartment," the cereal-box copy promised; "It's so deceptive that anyone plotting to spy against you will be thrown off guard." Some 750,000 American children deluged General Mills with orders for their very own "Atomic 'Bomb' Ring."[20]

In Hollywood, writers rushed to incorporate the atomic bomb into their movie scripts. The first film to accomplish this feat, *The House on 92nd Street*, was released in late September 1945. A spy thriller about Nazi agents operating in New York City early in World War II, it was revised at the last minute to make the object of the agents' quest be "Process 97, the secret ingredient of the atomic bomb."

The music industry was quick to cash in on the new national preoccupation as well. The Slim Gaillard Quartet recorded "Atomic Cocktail" in December 1945. The following year brought "Atom Buster" and "Atom Polka." In the interesting "Atom and Evil" by the San Francisco–based Golden Gate Quartet, a black gospel group, atomic energy is portrayed as an innocent, well-intentioned man seduced by a jaded "Miss Evil." A California company marketed a line of jazz recordings under the "Atomic" label complete with the picture of a mushroom-shaped cloud.[21]

The complex psychological link between atomic destruction and Eros (a link that at the time of America's first postwar atomic test in 1946 led a French fashion designer to christen his new bathing suit the "Bikini") was

established very early. Within days of Hiroshima, burlesque houses in Los Angeles were advertising "Atom Bomb Dancers." In early September, putting aside its pontifical robes for a moment, *Life* fulfilled a Hollywood press agent's dream with a full-page cheesecake photograph of a well-endowed MGM starlet who had been officially dubbed "The Anatomic Bomb." In "Atom Bomb Baby," a pop song of 1947, the bomb became a metaphor for sexual arousal.[22]

Despite the outpouring of post-Hiroshima atomic ephemera, it would be wrong to conclude that Americans took the bomb casually or that its impact quickly faded. Just below the surface, powerful currents of anxiety and apprehension surged through the culture. As one cultural observer noted in January 1946, the attempts to make light of the atomic bomb were simply a by-product of the more profound underlying reaction: "paralyzing fear."[23]

Some observers found this reaction rather contemptible. "Fantasy is running wild," complained Maj. Alexander de Seversky in the February 1946 *Reader's Digest*. "The hysteria with which Hiroshima was greeted . . . does not reflect credit on the United States," agreed a Yale University military strategist later that year.[24] But whatever they thought of it, contemporary social observers agreed that the news of the atomic bomb had had a devastating effect, the impact made all the more traumatic by the unexpectedness of Truman's announcement. A flurry of journalistic stories in 1939 had publicized breakthroughs in the esoteric field of nuclear fission (arousing sufficient uneasiness that physicist Enrico Fermi went on CBS radio to assure the country there was "no cause for alarm"), but then a blanket of secrecy had descended and the atom largely disappeared from the public consciousness.[25]

The spring and summer of 1945 had brought vague talk of new and terrible secret weapons, and the Postdam Declaration of July 26 had threatened the Japanese with "complete and utter destruction." Such isolated and generalized allusions, however, had prepared Americans no better than the Japanese for August 6. Except to a tiny circle of scientists and government officials, Truman's announcement came as a bolt from the blue.

To be sure, the immediate reaction was also influenced by the fact that for nearly four years Japan had been the hated, treacherous enemy. Vengeance was on many minds. "The Japanese began the war from the air at Pearl Harbor," said President Truman grimly; "They have been repaid manyfold." The moral symmetry of this equation appealed to many commentators and editorial writers. "No tears of sympathy will be shed in America for the Japanese people," said the *Omaha Morning World Herald* on August 8. "Had they possessed a comparable weapon at Pearl Harbor, would they have hesitated to use it?" The *New York Times*'s first editorial comment on the bomb, "Our Answer to Japan," was no less vindictive. The devasta-

tion of Hiroshima, it said, was "but a sample" of what lay ahead. More atomic bombs were being built and could be "dropped on Japan at any time our military leaders choose."

"We are lucky to have found The Thing and are able to speed the war against the Japanese *before the enemy can devise countermeasures*," observed the Communist Party's *New York Daily Worker*. "Nip propagandists" protesting the atomic bomb should recall who started the war, said the *Los Angeles Times* on August 8. The "whining, whimpering, complaining" Japs, agreed the *Philadelphia Inquirer* three days later, were "good at dishing it out," but with the tables turned, "they now want to quit." "The Jap Must Choose," proclaimed *Newsweek* on August 13, "between surrender and annihilation." Outweighing the bomb's "wholesale slaughter," agreed the *Nation* on August 18, was its "spectacular success" in forcing the Japanese surrender. Two billion dollars, it added, "was never better spent."

"When the Atomic Bomb Fell," a country-music song of December 1945, praised the bomb for giving the enemy just what he deserved:

> Smoke and fire it did flow,
> Through the land of Tokyo.
> There was brimstone and dust everywhere.
> When it all cleared away,
> There the cruel Jap did lay,
> The answer to our fighting boy's prayer.[26]

Many political cartoonists quickly assimilated this new motif into propagandistic anti-Japanese cartoons. A *Philadelphia Inquirer* cartoon of August 7 portrayed a grotesque, apelike brute staring up in dumb wonder as an atomic bomb exploded overhead. The cartoon in *PM*, the liberal New York City daily, was totally blank except for the words "So sorry" in a balloon at the top. The *Chicago Tribune* pictured the dove of peace flying over Japan, an atomic bomb in its beak. An *Atlanta Constitution* cartoon showing bodies flying into the air over Hiroshima was captioned: "Land of the Rising Sons."[27]

But given the heavily racist wartime climate, post-Hiroshima vindictiveness proved surprisingly short-lived and was quickly overshadowed by a growing fear of what might lie ahead. The bomb might indeed force Japan to her knees, wrote Hanson W. Baldwin in the *New York Times* on August 7, but it would also bring incalculable new dangers. "We have," he concluded bleakly, "sowed the whirlwind."[28]

Nor did the promise of a peactime atomic Utopia initially do much to diminish post-Hiroshima fear. Typically, the editor of a religious periodical noted in September 1945 that such speculations were being advanced, but confessed that "at the moment we can visualize only the unutterably shatter-

ing effect upon civilization and the wholesale destruction of millions of human beings."[29]

The darkening national mood was intensified by the reaction from abroad. While the news of Hiroshima and Nagasaki did not have as sharp and immediate an impact in Europe (itself devastated and prostrate) as it did in the United States, awareness of the bomb's ominous implications came quickly. In a statement that somehow gained force from its stilted, Latinate English, the Vatican newspaper *Osservatore Romano* declared on August 7: "The last twilight of the war is colored by mortal flames never before seen on the horizons of the universe, from its heavenly dawn to this infernal era. This war gives us a catastrophic conclusion that seems not to put an end to its apocalyptic surprises." In contrast to President Truman's gloating, Winston Churchill struck a somber note: "This revelation of the secrets of nature, long mercifully withheld from man," he declared, "should arouse the most solemn reflections in the mind and conscience of every human being capable of comprehension."[30]

Reinforced by such pronouncements from abroad, the "Great Fear" was open, palpable, and starkly literal in its expression. Newsman Don Goddard, as we have seen, quickly transmuted the devastation of Hiroshima into visions of American cities in smoldering ruins, and millions of Americans soon made the same imaginative leap. Physically untouched by the war, the United States at the moment of victory perceived itself as naked and vulnerable. Sole possessors and users of a devastating new instrument of mass destruction, Americans envisioned themselves not as a potential threat to other peoples, but as potential victims. "In that terrible flash 10,000 miles away, men here have seen not only the fate of Japan, but have glimpsed the future of America," wrote James Reston in the *New York Times.*

The *Milwaukee Journal* on August 8 published a large map of the city overlaid by concentric circles of destruction. And worse lay ahead. The primitive atomic bombs of 1945, observed the *New York Times* on August 12, were analogous to "the steam engine of James Watt, the telegraph of Morse, the flying machines of the Wrights." As soon as the atomic bomb was paired up with the guided missile, speculated the *Detroit News* on August 17, the threat to civilization would rise to "a new pitch of terror." In an interview with the *New Yorker,* John W. Campbell, Jr., the editor of *Astounding Science Fiction,* offered a similar vision of World War III: "Every major city will be wiped out in thirty minutes. . . . New York will be a slag heap. . . . Radioactive energy . . . will leave the land uninhabitable for periods ranging from ten months to five hundred years, depending on the size of the bomb." Speaking on a New York radio station days after Hiroshima, the sociologist Harvey W. Zorbaugh (a member of the wartime Committee for National Morale) predicted "an armament race such as the

world has never seen."[31] The life expectancy of the human species, said the *Washington Post* on August 26, had "dwindled immeasurably in the course of two brief weeks."

From our contemporary perspective, such fears seem so familiar as to be almost trite, but it is important to recognize how *quickly* Americans began to articulate them. Years before the world's nuclear arsenals made such a holocaust likely or even possible, the prospect of global annihilation already filled the national consciousness. This awareness and the bone-deep fear it engendered are the fundamental psychological realities underlying the broader intellectual and cultural responses of this period.

This primal fear of extinction cut across all political and ideological lines, from the staunchly conservative *Chicago Tribune,* which wrote bleakly of an atomic war that would leave Earth "a barren waste, in which the survivors of the race will hide in caves or live among ruins," to such liberal voices as the *New Republic,* which offered an almost identical vision of a conflict that would "obliterate all the great cities of the belligerents, [and] bring industry and technology to a grinding halt, . . . [leaving only] scattered remnants of humanity living on the periphery of civilization."[32]

This fear pervaded all society, from nuclear physicists and government leaders to persons who barely grasped what had happened, but who sensed that it was deeply threatening. Indeed, the more knowledgeable and highly placed the individual, it seemed, the greater the unease. The "strange disquiet" and "very great apprehension" the atomic bomb had left in its wake, wrote theologian Reinhold Niebuhr, was particularly intense among "the more sober and thoughtful sections of our nation." Eugene Rabinowitch, a Manhattan Project chemist at the University of Chicago, later recalled walking the streets of Chicago in the summer of 1945 haunted by visions of "the sky suddenly lit by a giant fireball, the steel skeletons of skyscrapers bending into grotesque shapes and their masonry raining down into the streets below, until a great cloud of dust rose and settled over the crumbling city." As the members of the U.S. Strategic Bombing Survey probed the ruins of Hiroshima and Nagasaki in September 1945, an "insistent question" formed itself in their minds: "What if the target for the bomb had been an American city?"[33]

So palpable was the depression in Washington, D.C., wrote newsman Phelps Adams, that many were admitting "they would be happier if this $2,000,000,000 gamble had failed," or if the new knowledge could be "bundled up in a sack and lost in the river like an unwanted kitten." The malaise gripping the capital, agreed the *New Republic,* was not rooted in dismay over what the atomic bomb had already done, but in "thoughts of its future use elsewhere and specifically against ourselves or our children." Even if the secret remained secure for fifteen years, said radio commentator

Elmer Davis on December 30, 1945, that was a short time "for people who are raising children."[34]

Children were on many minds in these unsettled weeks. *Life* flippantly suggested that a generation weaned on Flash Gordon would be unfazed by the atomic bomb; but within days of Hiroshima, the *New Yorker* reported this moment observed among children at play in Manhattan:

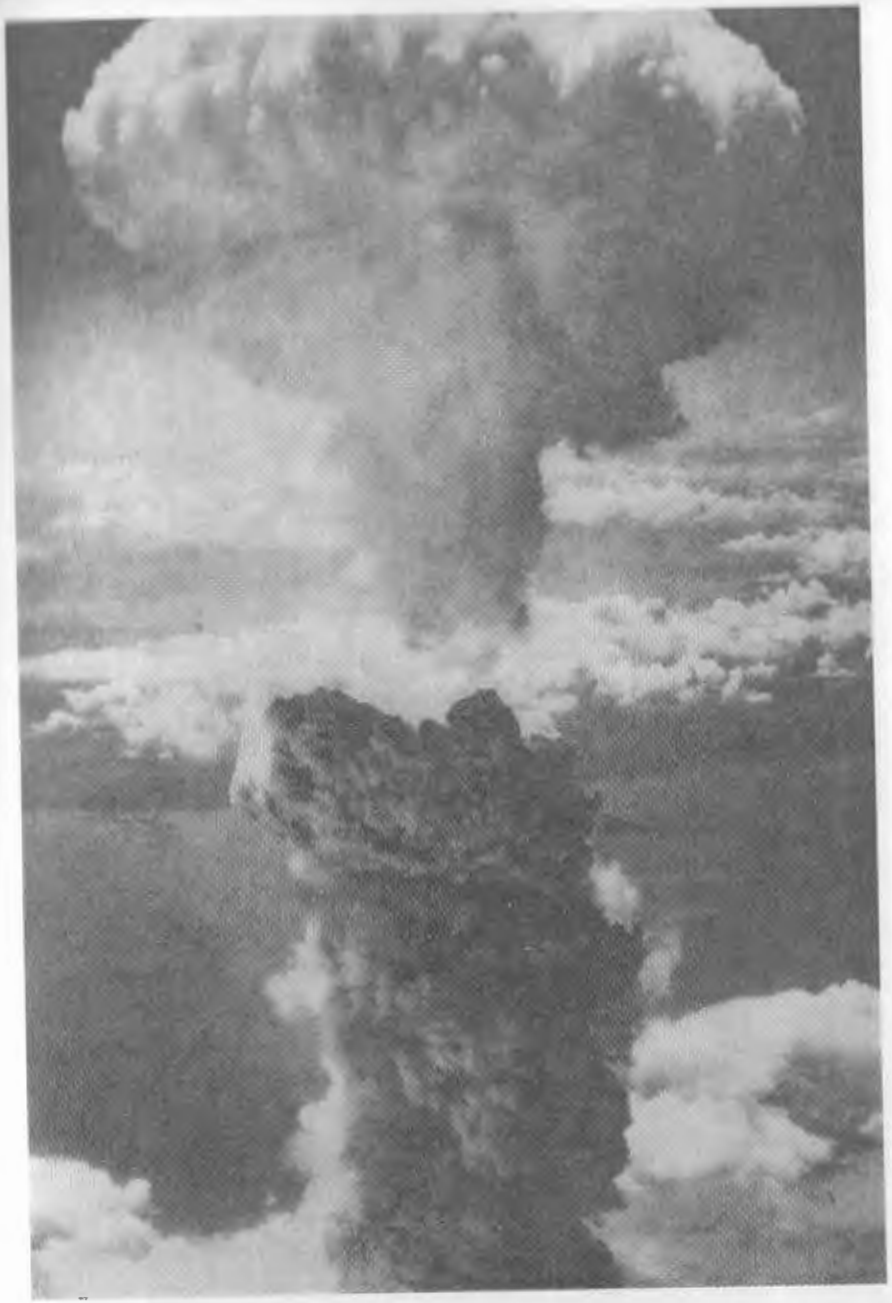
> For years the playground in Washington Square has resounded to the high-strung anh-anh-anh of machine guns and the long-drawn-out whine of high-velocity shells. Last Saturday morning a great advance was made. We watched a military man of seven or eight climb onto a seesaw, gather a number of his staff officers around him, and explain the changed situation. "Look," he said, "I'm an atomic bomb. I just go 'boom.' Once. Like this." He raised his arms, puffed out his cheeks, jumped down from the seesaw, and went "Boom!" Then he led his army away, leaving Manhattan in ruins behind him.

Some time later, another observer of juvenile life in New York City noted a change in the Broadway penny arcades: "Where during the war for a nickel you could try your luck shooting at a helpless parachutist as he drifted toward the ground, you can now try your luck at wiping out a whole city, with an atomic bomb—all for five cents."[35]

As the historian shifts focus to the level of individual experience, the evidence becomes tantalizingly fragmentary: the child who, in a prayer shortly after Hiroshima, asked God to let his family all die together; the little girl who, when asked what she wanted to be when she grew up, replied "alive"; the young mother in Pelham Manor, New York, who had just given birth to her second son when the Hiroshima news came and who three days later recorded her feelings in a letter to H. V. Kaltenborn:

> Since then I have hardly been able to smile, the future seems so utterly grim for our two little boys. Most of the time I have been in tears or near-tears, and fleeting but torturing regrets that I have brought children into the world to face such a dreadful thing as this have shivered through me. It seems that it will be for them all their lives like living on a keg of dynamite which may go off at any moment, and which undoubtedly will go off before their lives have progressed very far.[36]

Such scattered evidence gives us a glimpse into the consciousness and culture of childhood, as well as the concerns of adults trying to fathom the bomb's impact on the generation that would grow up in its shadow. It is perhaps noteworthy that John Hersey chose to conclude his influential 1946 work *Hiroshima* with the recollections of a ten-year-old survivor. The lad's



Enter the mushroom cloud. Photographs like this one taken over Nagasaki and described in *Life* as "a big mushroom of smoke and dust" were widely reprinted in newspapers and magazines in August 1945, quickly becoming the universally recognized visual symbol of atomic-age menace.


The Des Moines Register

DESTROY 60 PCT. OF CITY!

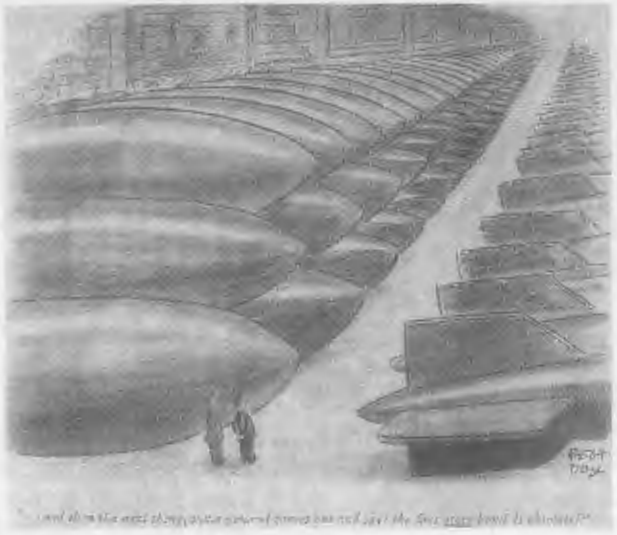
4 Sq. Miles of Hiroshima Gone; Blast Equals 2,000 B-29s

AMPLE SUPPLY OF ATOM BOMB FOR USE NOW

U.S.C. EXPERTS SPEEDED WORK ON ATOM BOMB

Lone Superfort Hit Center of City

Des Moines could be next. Newspapers brought the word in stark headlines: a single bomb could now destroy a city. In the editorial cartoon, a newly unleashed atom menaces a terrified world.



Within two weeks of Hiroshima, a *New Yorker* cartoon envisioned a nuclear arms race with weapons that would make the 1945-model atomic bomb seem antiquated.

The many faces of nuclear fear. This illustration from John W. Campbell's 1947 popularization *The Atomic Story* was captioned: "In a cave or forgotten cellar, an atomic bomb can soon be set up."

From The Herblock Book (*Beacon Press, 1952*)

For a brief, intense moment, world government or the international control of atomic energy seemed to offer an escape from terror. But as this 1947 Herblock cartoon illustrates, such hopes proved short-lived.

Dreamscapes of the nuclear future. At the end of *Life*'s "36-Hour War" (November 19, 1945), technicians measure radioactivity in the rubble of Manhattan as the marble lions of the New York Public Library direct their unblinking gaze over the devastated city.

account is terse and noncommital, but Hersey does not assume that the emotional effects of the experience were therefore negligible. "It would be impossible to say," he observes, "what horrors were embedded in the minds of the children who lived through the day of the bombing in Hiroshima."[37] Comparable fears about American children contributed to the larger uneasiness that seeped through the culture in the weeks after August 6, 1945.

Rather than diminishing, this mood deepened as weeks stretched into months. America was in the grip of a "fear psychosis," said anthropologist Robert Redfield in November 1945; atomic anxiety had become "a nightmare in the minds of men." *The First One Hundred Days of the Atomic Age*, a paperback published in late November, offered yet another potpourri of statements still "pouring forth from all sides" and reflecting "ever widening concern and alarm." Despite the passage of several months, wrote Hertha Pauli in the December *Commentary*, the bomb seemed to "weigh more and more heavily on the minds of more and more men." When *Time* named Harry Truman "Man of the Year" on December 21, 1945, the president's picture on the cover was dwarfed by a mushroom-shaped cloud and a hand gripping a lightning bolt. All the year's great events, said *Time*, including the deaths of FDR and Hitler and the surrender of Germany and Japan, paled before the awesome reality of the bomb:

> What the world would best remember of 1945 was the deadly mushroom clouds over Hiroshima and Nagasaki. Here were the force, the threat, the promise of the future. In their giant shadows . . . all men were pygmies. . . . Even Presidents, even Men of the Year, [were] mere foam flecks on the tide. . . . In such a world, who dared be optimistic?[38]

Nor did the new year bring relief. In January, a State Department official commented on the undiminished "hysteria" and "poisonous fog" of suspicion and fear still pervading the country. Talk of the bomb was continuing to "boom on unceasingly from radio, press, and platforms," wrote another observer. A mental-health writer who made a national lecture tour that spring found "general fear and confusion." Bob Hope joked about this fear. "Have you noticed the modern trend in verses this year?" he said on his radio show on Valentine's Day 1946. "No more of this 'Roses are red, violets are blue.' I picked up one and it showed an atom bomb exploding, and under it a verse that read: 'Will you be my little geranium, until we are both blown up by uranium?' " The strain in such humor was apparent.

As late as 1948, a speaker before a New York City business and professional club began:

> The atomic age is here, and we're all scared to death; you, I, and everyone else. And no wonder. We woke up one morning, and either

heard over the radio or read in big, black headlines, that an atomic bomb had been delivered, when we didn't even suspect the possibility of such a thing. Our very first contact was a shock, particularly since it told of the death of a great city.[39]

But how accurate were all these comments? Were these cultural observers perhaps simply quoting each other, parroting what had quickly become conventional wisdom? Was the culture indeed in shock, or was this simply an instant media cliché? Some at the time wondered the same thing. "We know what the atomic bombs did to Hiroshima and Nagasaki," commented *Fortune* in December 1945. "What did they do to the U.S. mind?"[40]

Conclusions must be tentative, but the evidence does suggest quite strongly that the atomic-bomb announcement was, indeed, a psychic event of almost unprecedented proportions. In the first place, the news spread with amazing rapidity. "Never before," said the American Institute of Public Opinion (the Gallup poll) in November 1945, had it found "such *continuous* public interest in one particular subject or issue." Not since opinion polling began, commented *Time* in December, 1945, had one topic evoked such "prolonged [and] intense public concern." The report of an exhaustive 1946 opinion study conducted under the auspices of the Social Science Research Council similarly emphasized the bomb's "phenomenal" impact: 98 percent of the adult population knew of it, including "even the most isolated."[41]

But did this intense preoccupation with the atomic bomb also reflect, as many cultural observers claimed, incipient dread and barely controlled terror? Here the public-opinion data become confusing and to some extent contradictory. Attitudes on the subject seem to have been remarkably volatile. Different pollsters reported different findings; the same poll sometimes produced seemingly conflicting results.

The earliest post-Hiroshima polls reveal a considerable will to think positively about the bomb. In a September 1945 Gallup poll, 69 percent of the respondents considered it "a good thing" the atomic bomb had been developed, while only 17 percent took the contrary view and 14 percent expressed no opinion. A *Fortune* survey of the same period confirmed the positive view—though less decisively—with 47 percent saying the atomic bomb had decreased the chances of world war, 16 percent asserting it had increased the chances, and 24 percent seeing no change.[42]

But in the most comprehensive early survey of public attitudes toward the bomb, the study conducted in the summer of 1946 by Leonard S. Cottrell, Jr., and Sylvia Eberhart for the Social Science Research Council, the results were far less clear-cut. A two-stage study yielding very similar results in polls taken before and after the Bikini Atoll atomic tests, it employed in each segment a general opinion survey of a representative sample of some three thousand adult Americans, and an hour-long interview with about six hundred subjects selected from the larger sample.

Some of the findings tend to confirm the hopeful spirit revealed by the early Gallup poll data. For example, when subjects in the intensive interviews were asked "How worried are you about the atomic bomb?" only about 25 percent would admit to being "greatly worried," while 65 percent claimed they were either not worried at all or not much worried. Asked to list unsettling world issues, only one in six spontaneously mentioned the atomic bomb.[43]

But other results of the 1946 study add a degree of ambiguity to the picture. For example, a strong majority agreed that America's nuclear monopoly would be short-lived. In the in-depth interviews, when asked how soon other countries would be able to make an atomic bomb, nearly 80 percent of those willing to venture an opinion thought that other nations either already *had* bomb-building capability, or would achieve it within five years or so. In the general survey, 60 percent said they believed the bomb secret was already known to other countries. More tellingly, nearly half the subjects expressed the fear that another world war was either certain or possible within twenty-five years. (Other polls of 1946 and 1947 reveal even deeper apprehensions on this score.) Nor was there much doubt that this would be a nuclear war. Sixty-four percent of those polled perceived a "real danger" that atomic bombs would someday be used against the United States.[44]

Puzzled by findings that paradoxically revealed both a widespread assumption of eventual atomic war and a low level of openly acknowledged worry about the bomb, Cottrell and Eberhart offered several explanations. They noted, for example, that a majority (56 percent) of those polled believed an effective atomic-bomb defense would soon be developed. (This confidence, Cottrell and Eberhart suggested, was rooted less in specific knowledge than in a generalized faith in "the inexhaustibility of scientific invention.") Further, they reported, many of the in-depth interviewees seemed fatalistically convinced that it was pointless to brood about such a cosmic threat. The very magnitude of the danger, in other words, led them (at least when talking with a pollster) to deny it a place among the issues they spent time consciously worrying about. "If you were living in a country where there were earthquakes," said one, "what good would it do you to go to bed every night worrying whether there would be an earthquake?"[45]

Others linked their reported lack of anxiety to a generalized confidence in the nation's leaders. "I know the bomb can wipe out cities," said one interviewee, "but I let the government worry about it." Agreed another: "I let the people who are qualified in these things do the worrying. I . . . accept circumstances as they are." This reliance on "the authorities" emerges

strongly in three representative in-depth interviews Cottrell and Eberhart reprinted verbatim. "Some people are worried, hysterically so," a young university-trained chemical engineer acknowledged, but of himself he said: "As long as our government is continuing atomic research so we won't be caught by new and more drastic developments, I'm not particularly worried. . . . Let's call it 'apprehension' rather than 'worry.' " "I feel that the government will work out some method of defense," said a fifty-six-year-old skilled worker from Pennsylvania. "I am placing my trust in these great masterminds that are working on it now."[46]

What conclusions does this public opinion data suggest? First, that generalizations about the nation's post-Hiroshima mood must be sensitive to the passage of time. A statement by a contemporary observer that accurately caught the mood of, say, October 1945 might be contradicted by a poll taken a few months later—and both could be accurate. This point is illustrated by the changing responses to the Gallup poll's query about whether development of the atomic bomb was a "good thing" or a "bad thing." By October 1947, the percentage considering it a "good thing" had dropped to 55 percent, while the "bad thing" contingent had more than doubled, to 38 percent. Confirming a significant shift in attitudes, another 1947 Gallup poll showed an almost equal division on the question whether people everywhere would in the long run be "better off because somebody learned to split the atom."[47] In the immediate post-Hiroshima period, one might speculate, relief over the war's end and the emotional high brought on by Japan's surrender inclined Americans to downplay their atomic-bomb fears and to endorse "for the record" President Truman's insistently positive view of the bomb. But as the wartime climate faded and people turned increasingly to thoughts of the future, they may have become more willing to express openly the deep anxiety that many cultural observers insisted was present from the beginning.

Even taking the passage of time into account, how much do the polls really tell us? In dealing with the cultural ramifications of so profound an event as this, are we perhaps confronting a reality to which this useful instrument of social investigation is ill-suited? Significantly, Cottrell and Eberhart themselves speculated that American culture in 1946 may have been suffused with "much more anxiety than people admit, but that it is repressed." "Listening to the people talk," concluded *Time*, in its December 1945 summary of various opinion surveys, "the pollsters found awe, fear, cynicism, confusion, hope—but mostly confused fear and hopeful confusion."[48]

Perhaps one should not try to put a finer point on such limited and ambiguous evidence. Shaken and disoriented by an awesome technological development of almost unfathomable implications, Americans grasped at

straws, searched for hopeful signs, and tried to arrange scary new facts into familiar patterns.

Somber pronouncements and opinion polls are not our only window on the nation's mood at the dawn of the atomic era. Popular culture offers a sometimes overwhelming wealth of additional evidence far removed from the world of the *American Scholar* and the American Institute of Public Opinion. In the country-music field, for example, a brief vogue of "atomic bomb" songs produced what musicologist Charles Wolfe has called "some of the most bizarre country songs ever written." Some of these simply cashed in on the "atomic" theme in their titles or carried on the vindictive wartime mood. Others, however, expressed deep fear and uncertainty about the future. Certainly this is true of the most successful song of this genre, "Atomic Power," by coutry-music star Fred Kirby. A frequent guest on CBS radio's "Carolina Calling," Kirby during the war had toured radio stations as the government's "Victory Cowboy," singing patriotic songs. He wrote "Atomic Power" on August 7, 1945, after a sleepless night brought on by the Hiroshima news. An immediate hit, the song was recorded by at least seven country-music groups, including the Buchanan Brothers, Chester and Lester, whose 1946 version on the Victor label enjoyed several weeks near the top of *Billboard*'s listing of "Most-Played Juke Box Folk Records." Kirby himself performed the song thousands of times in churches, on the radio, and at country-music festivals.[49]

"Atomic Power" is squarely in the tradition of country-music songs that for decades had both celebrated and deplored the inroads of technology; memorialized train wrecks, ship disasters, and hotel fires; and evoked the fundamentalist religious beliefs of Southern Protestantism. While the human toll at Hiroshima and Nagasaki elicits no particular regret ("they paid a big price for their sins"), the fact of two great cities literally "scorched from the face of the earth" arouses horror-struck awe. Atomic power is seen as coming from "the mighty hand of God" ("They're sending up to Heaven to get the brimstone fire,")—but as a fearsome destroyer and apocalyptic omen rather than a benevolent gift. In the concluding verse, atomic destruction is again linked to a divinely ordained ending to human history that will come as a bolt from the blue; "We will not know the minute, and will not know the hour."[50] Fear, trembling, brimstone, images of cosmic destruction: the themes of "Atomic Power" are wholly in keeping with the national mood so frequently described by cultural observers in the months after the atomic bomb burst upon the American consciousness.

Clearly, then, the weeks and months following August 6, 1945, were a time of cultural crisis when the American people confronted a new and threatening reality of almost unfathomable proportions. Equally clearly, the dominant immediate response was confusion and disorientation. But inter-

woven with all the talk of uncertainty and fear was another, more bracing theme: Americans must not surrender to fear or allow themselves to be paralyzed by anxiety; they must rally their political and cultural energies and rise to the challenge of the atomic bomb.

26

THE REASSURING MESSAGE OF CIVIL DEFENSE

Roger Babson was a Boston economic forecaster who won lasting fame when, in the summer of 1929, he predicted that a stock-market crash lay just around the corner. There was thus a flurry of media attention in 1946 when Babson announced that after a systematic effort to find the safest spot in America, he was shipping his business records to Eureka, Kansas.[1] In 1946, few had yet accepted the notion that the most constructive way to deal with atomic fear was to prepare for attack, but by the late 1940s Babson again seemed a prophet, for the end of the decade brought an intensifying drumfire of official insistence that citizens must prepare for atomic war. "Civil defense" became the kind of panacea that "international control" had represented earlier.

From the earliest days of the atomic era, some opinion-molders had called for defensive efforts against the bomb. Within months of Hiroshima, sociologist William F. Ogburn was urging a massive program of urban dispersal. In 1946, both William L. Borden's *There Will Be No Time* and the report of the United States Strategic Bombing Survey (USSBS) on the atomic bombing of Hiroshima and Nagasaki advocated a large-scale federal civil-defense program involving shelter construction, emergency-evacuation planning, and the stockpiling of medicine and other critical supplies. From the beginning, too, newspapers periodically reported some new civil-defense scheme or carried stories of well-known personages like Babson who were taking refuge in some remote spot. In 1946, a suburban New York contractor attracted brief newspaper notice when he sold his business and moved with his wife and four children to an isolated corner of Montana.[2]

But in the period just after Hiroshima, such stories were treated as isolated "human interest" items, somewhat in the category of flagpole sitters and goldfish swallowers. People could only shake their heads late in 1945 when an eccentric New York City engineer proposed giant subterranean elevators to lower the city's skyscrapers in an atomic emergency. (The Empire State Building, he calculated, could be lowered to the eighty-sixth-floor

level in fifty-eight seconds, "leaving only the tower unprotected to avoid expense of added cellar depth.") More serious proposals for defense against atomic attack, particularly those involving urban dispersal, invariably came in for sharp criticism. Only Germany was in a position to disperse its cities, observed Robert M. Hutchins, since Allied bombers had already started the process. E. B. White sarcastically parodied William Ogburn's message: "Disperse, scatter. . . . No use going underground, just go away altogether. Break up. Cities are doomed." Under the atomic threat, White reflected, city dwellers were more likely to draw close together than to disperse. Even Elmer Davis, while sympathetic to some civil-defense proposals, was intensely critical of schemes for mass urban resettlement. "We have been told . . . to rebuild our cities under the mountain ranges; or to string them out along the highways, thirty feet wide on each side of the road for hundreds of miles," observed Davis in December 1945. "Well, that is not going to be done. Either plan would be impossibly expensive; either would require impossible infringements on personal liberty—a military dictatorship telling each of us where to move to and what to do." A life spent "in perpetual fear of the atomic bomb," Davis concluded, "would not be worth living."[3]

Schemes for building vast underground facilities were ridiculed as well. Early in 1947, the *New Yorker*'s Daniel Lang offered a bemused account of a day spent with a team surveying a West Virginia cave as part of a Pentagon effort to find caves and abandoned mines suitable for emergency government use. ("This might even make a good office for the President," says one team member upon entering a particularly capacious room.) Even if an underground city survived the initial blast, argued John W. Campbell, Jr., in 1947, it would likely become "a monstrous tomb . . . , sealed from the upper world by . . . miles of broken, twisted rock." Imagining the end of such a city, Campbell wrote: "It might well be many days before the last of the entombed city's air was exhausted; lights operated by power from atomic piles might still burn for ages thereafter, but no eyes would see them."[4]

True to its tenet "There Is No Defense," the scientists' movement sharply rejected all suggestions of civil defense. The "almost unbelievable" civil-defense proposals of the USSBS, charged W. A. Higinbotham of the Federation of American Scientists, would have the American people "running for cover and burrowing like moles." Even such modest civil-defense measures as school-evacuation drills, he warned, could "poison the American way of life."[5]

But civil defense, the unwanted waif of 1945–1946, came into its own as the decade ended. Instead of *There Is No Defense*, one now heard talk—much of it officially inspired—of strategies for protecting the populace against atomic attack. Urban dispersal was proposed with new seriousness. "Before World War III, Let's Disperse," urged *Science Digest* in April 1948,

with all the heartiness of a camp counselor cajoling bored teenagers into taking a hike. Among the urban designs for reducing atomic-bomb vulnerability discussed by Ralph Lapp in *Must We Hide?* (1949) were the Rod City (fifty miles long and a mile wide), Satellite City, and Donut City, hollow at the core.

Lapp readily conceded that such radical schemes of urban dispersal would "spell the end of the metropolis as we know it," but like William Ogburn earlier, he insisted that they would also ameliorate many of the nation's most troublesome social problems:

> Indirectly, the atomic bomb offers a rare opportunity for greatly improving the living conditions of millions of our citizens. Our large cities have been growing larger, resulting in more crowded streets and tenement houses. . . . If [dispersal] is done properly, we will at the same time greatly increase our urban attractiveness.

In building his argument, Lapp subtly drew upon a deep-seated belief in American exceptionalism—the conviction that the nation's continental vastness would prove its salvation: "Within our borders . . . we have plenty of space. One of the most decisive things which we as a country can do to reduce our vulnerability to atomic attack is to use this space effectively. . . . Even atomic bombs meet their master in the invincibility of space."

Turning to other, less drastic civil-defense measures, Lapp urged the rehearsal of evacuation procedures to prevent panic when the moment came, and called for the advance training of professionals for their post-attack roles. Physicians should be equipped with Geiger counters, and special fire-fighting teams should be trained for atomic-bomb situations. (These, he noted, should be selected from public-spirited volunteers, since "for the common good, it may . . . be necessary to risk radiation sickness in a few.")

The prerequisite to all effective civil-defense planning, Lapp insisted, was abandonment of "the present defeatist attitude toward the bomb" in favor of "the feeling that something can be done about it after all." The "lurid tales of universal destruction . . . so often blared forth in the press" had to be replaced by a "well-designed program of training and indoctrination . . . to give the general public a more healthy attitude toward atomic warfare."[6]

The warmly favorable reviews of *Must We Hide?* offer a gauge of the changing cultural climate. Hanson W. Baldwin praised it in the *New York Times* as "infinitely superior" to David Bradley's *No Place to Hide*. The *Nation* found it "coolly factual" and "illuminating rather than alarming." *Newsweek* contrasted Lapp's "hopeful" message favorably with earlier works that had portrayed the horror of atomic war in prose "strongly charged with emotion."[7]

The calls for more systematic civil-defense planning and indoctrination as the decade ended reflected developments in Washington. The wartime civil-defense office (directed by Mayor Fiorello La Guardia of New York) had disbanded in 1945, but the later 1940s brought pressures for a revived program. A first step was the creation of the National Security Resources Board in 1947. Its main concern, though, was not civil defense per se, but continued industrial production after an atomic attack. Early in 1948, Defense Secretary James Forrestal set up a temporary office of civil-defense planning under Russell J. Hopley to draft proposals for a more permanent agency. Hopley's November 1948 report, "Civil Defense for National Security," argued for a local and private approach. The government should disseminate information on first aid, fire prevention, radiation detection, and the like; but beyond that "the individual . . . must, in the event of an emergency, take care of himself." Only if a local community were "completely overwhelmed" would state or federal authorities step in. The Hopley report did call for a federal civil-defense office, however, and, in 1950, after considerable foot-dragging, President Truman created the Federal Civil Defense Administration—an agency that despite numerous name changes survives to the present day.[8]

As historian Allan Winkler has written, the FCDA accomplished little of substance in the Truman years, but its activities did have significant ramifications. Under director Millard F. Caldwell, it held conferences, commissioned studies, drew up elaborate plans, and in general infused civil defense with an aura of official bustle. It also, as Winkler notes, did "a good deal of cajoling of the American public." In its early months, the FCDA flooded the country with sixteen million copies of a booklet called *Survival Under Atomic Attack*; distributed a movie of the same title narrated by Edward R. Murrow; prepared a civil-defense exhibit called Alert America that was hauled around the country by a convoy of ten tractor-trailer trucks; and, as a pilot project of a planned national program, gave every citizen of Allentown, Pennsylvania, a metal identification tag.[9]

At the local level, Milwaukee mayor Frank Zeidler had created a Civil Defense and Disaster Committee as early as 1948 to plan "what to do if a possible enemy delivered a 'Sunday punch' in the very near future." In 1950, Zeidler reported that after initial resistance, Milwaukeeans were convinced of the program's urgency. Zeidler urged all big-city mayors to prepare at once for urban dispersal and emergency evacuation, with particular attention to the "lack of harmony" that might develop between urban and rural officials "if a swarm of refugees from a stricken area should pour out into the countryside." In New York City, owners of public buildings were asked to provide space for shelters. (The "vast majority," complained a local civil-defense official, either "refused flatly" or ignored the request.) In Bedford Hills, N.Y., a civil-defense homeowners' survey inquired: "Would you be willing, in a spirit of patriotism and cooperation, to accept people for temporary shelter in the event of a real war emergency? (Every effort will be made to place people of similar interests with you.)" While there was "not the slightest reason for hysteria or fright," Governor Thomas E. Dewey told New Yorkers, there was "the most desperate and compelling reason for sane and intelligent preparation for a disaster which a ruthless enemy might bring upon us at any hour of the day or night." War would come "whenever the fourteen evil men in Moscow decide to have it break out," he said, "and it could start with . . . atom bombing of New York today, next month, or next year."[10]

An important early contribution to the literature of civil defense was *How to Survive an Atomic Bomb* (1950), by Richard Gerstell, whose comments on radiation we have already noted. A radiologist and former researcher for the Pennsylvania State Game Commission, Gerstell was a consultant with the Pentagon's office of civil defense planning, and his book came with the posthumous blessing of James Forrestal, who had committed suicide shortly before its publication.

How to Survive an Atomic Bomb was widely distributed in a cheap paperback edition, and articles based on it appeared in various popular magazines. Conveyed in simple language, its message was equally basic: "If you want a better chance of living through an atomic attack . . . , read this book." The key, Gerstell insisted, was preparation. None of the 42,000 servicemen at Bikini had been injured, he pointed out, because "those men were prepared. They knew how to take care of themselves." Time and again, Gerstell invoked Bikini. Civil defense after an atomic attack on an American city, he said, would be directed from a well-organized headquarters "not unlike the task-force command ship at Bikini." As for the emotional aftereffects, "psychoneurotic" goats from Bikini were being studied at Cornell for clues to "the human susceptibility to crack-up and panic." The evidence was encouraging: one goat on a ship near ground zero had been filmed munching his food moments after the blast "very much undisturbed. No collapse. No nervous breakdown."

Gingerly and obliquely, Gerstell acknowledged that for millions, there would be little hope: "Let's get a very important matter out of the way first. If you live in an important city or a large seaport or manufacturing town, you ought to think about sending your children away to the country if we get into a big war." But most of the book was more upbeat, with practical, homey advice: buy a first-aid kit; practice lying on the floor. ("Get off in your own room where you won't be laughed at and try it a few times.") In Gerstell's world, the responsible householder was already well on the way toward preparation for atomic war: car windows should always be rolled up

and "the car . . . kept in a closed garage"; "Trash should be put in cans and covered tightly, dry leaves should be raked away from the home." Gerstell even included tips on how to dress for the holocaust:

> In the event of an emergency, a person should always wear long trousers or slacks and loose-fitting light-colored blouses with full-length sleeves buttoned at the wrist. A hat, brim down, could help prevent many a face burn. Women should never go bare-legged. . . . During evacuation . . . , wear a hat and, if possible, rubbers.

Above all, Gerstell advised, if the big one falls, keep cool:

> Lots of people have little tricks to help steady their nerves at times like that—like reciting jingles or rhymes or the multiplication table. . . . You'll probably be frightened. But don't be ashamed of being afraid at that moment. It's perfectly normal and healthy to be afraid of danger. Just don't let it make you lose your head and forget the facts in this book. Make sure you've got hold of yourself by the time the all-clear sounds.

Gerstell also sought to prepare his readers for postwar life: "Things are probably going to look different when you get outside. If the bomb hit within a mile and a half of the place where you are, things are going to look very different." But one must function calmly: turn on the radio or TV for instructions; if you feel sick, "get to a doctor or hospital"; if not, help with the cleanup. (Gerstell vehemently denied that corpses would remain highly radioactive after an atomic bombing. The coins in their pockets might be "temporarily heated," he said, but otherwise the dead would pose no radiation danger.) In a question-and-answer section, Gerstell disposed of a variety of practical matters:

> "How about the telephone? Will that work, too?"
> "Yes. Unless, of course, the lines are broken."
>
> "What chance do my animals have of coming through a bombing?"
> "Just about the same chances you have."

In a section that must have confused readers of Lapp's *Must We Hide?*, Gerstell dismissed urban dispersal as a "silly idea." He warned, too, against rushing out of the city to escape attack: "Where are you going to end up? Who's going to take care of you? Who's going to feed and shelter you? Who's going to keep you from running into worse radioactivity than you left?" All such decisions should be left to the authorities: "Your local government may decide to evacuate some people. (That is, move them to a different place. It's pronounced 'ee-VAK-u-ate'). But if they do, they'll do it according to a plan." Shelters offered a more promising option. Every city, Gerstell pointed out, "has *lots* of tall buildings which have deep, safe cellars. . . . So you see, although there is more chance that big cities will be bombed, there is also more protection against bombings in big cities." If properly prepared, Gerstell concluded, even a major city attacked by multiple atomic bombs "should be back to fairly regular life in one or two months." "Just keep *facts* in mind, and forget the fairy stories. Follow the safety rules. Avoid panic. And you'll come through all right."[11]

The media, which now included television, reflected the new emphasis. NBC-TV in 1951 attracted an estimated twelve million viewers to a seven-part series called "Survival," whose message was summed up in its title. "If you think a falling A-bomb means the end of everything, this remarkable report may change your mind," said the *Saturday Evening Post* in introducing a Richard Gerstell article. "Here [is] . . . proof that the blast is not always so fatal and frightful as you think." Describing Washington, D.C., as a "Naked City," *Time* late in 1949 urged dispersal of federal agencies around the country. A 1950 *Collier's* article, "Hiroshima U.S.A.: Can Anything Be Done About It?" began with the kind of vivid description of a hypothetical atomic attack on New York City that had proliferated in 1945–1947, but instead of a plea for international control or political efforts to reduce world tension, *Collier's* now called for a "dependable warning signal" and "properly constructed shelters." This new concern with civil defense, the author wrote, was a "profound relief" after five years of "mysterious mumbo-jumbo" that had "been scaring common people silly . . . with long equation-studded wrangles over how radioactive you are likely to get if you come within mumble feet of the point where an A-bomb explodes." Insisting that the atomic bomb's lethal power had been "grossly exaggerated" and claiming "really hopeful" evidence that an air-raid shelter could assure survival within three hundred feet of ground zero, he called for a major federal push on civil defense. "Keep asking about shelters," he advised.[12]

Proclaiming that "You Can Live Despite A-Bomb," *U.S. News and World Report* in December 1950 downplayed the atomic danger and underscored the emerging theme—not dispersal, but protection in place:

> Forget most stories you read about atomic radioactivity, mass evacuation of cities, devastation of whole regions. If there were a 'hydrogen superbomb,' for example, 100 times as powerful as the actual modern atomic bombs, it would reach only [sic] about 9 miles from the center of the explosion—not clear across a State. The new line on atomic attack is to figure on staying and living. The whole country cannot run away and hide.

A thirty-two-inch concrete slab, the magazine claimed, would provide "assured protection from an atomic bomb blast as close as 1,000 feet away."[13]

At about the same time, *Life* published a major feature on "How U.S. Cities Can Prepare for Atomic War." Citing China's entrance into the Korean conflict as evidence of "the growing liklihood of World War III", *Life* described a proposal by three MIT professors for ringing the nation's big cities with "life belts"—circumferential express routes intersected by radial highways providing quick escape in an atomic emergency. The land between the "life belt" and the built-up area, said *Life*, could be "reserved as parks and made ready for large tent cities which could quickly be erected to shelter the refugees."[14]

As in 1945, the press was again full of atomic ephemera, this time with a civil-defense slant. Real estate ads promised "good bomb immunity." *Newsweek* reported growing corporate interest in underground facilities. In upstate New York, an enterprising entrepreneur set up vaults for corporate records deep in an abandoned iron mine. In Chicago, Col. Robert R. McCormick lined the halls of the *Tribune* tower with rolls of newsprint as bomb protection and installed a steamboat whistle as an air-raid alarm. *Science News Letter* warned of hucksters who were peddling backyard shelters, burn ointments, dog tags, flash bags, and "decontaminating agents."[15]

The impact of the civil-defense theme at the decade's end was evident even in the voice of the scientists' movement, the *Bulletin of the Atomic Scientists*. In August 1950, editor Eugene Rabinowitch devoted an entire issue to a sympathetic examination of the subject, with contributions from several well-known advocates including Ralph Lapp, Stuart Symington (chairman of the National Security Resources Board), the director of the NSRB's civil-defense office, and Mayor Zeidler of Milwaukee. In a lengthy introduction, Rabinowitch lamented the loss of "five precious years" in civil-defense planning and called for a "coordinated nationwide program" involving mass evacuation plans and the dispersal of federal agencies and military industries. The nation must be prepared to carry on an atomic war, he said, even if the ports of "New York, Boston, San Francisco, and San Diego were to be suddenly rendered unusable by radioactive contamination." With international-control negotiations "bogged down in the muddy battlefields of the Cold War" and world government no more than the dream of a "powerless *avant garde*," concluded Rabinowitch, a massive civil-defense program aimed at reducing "the damage to people, industry, and transportation [in] an atomic attack" offered the best hope of preventing such an attack.[16]

By 1950, then, the flag of "international control" had been rung down and the "civil defense" banner unfurled. As a fearful public's attention was directed to Communists, traitors, spies, and "subversives" of all kinds, related and complementary themes now emanated from Washington, from radio and television, and from the editorial offices of the great periodicals.

The effort to prevent an atomic arms race had been well-intentioned, perhaps, but naive and misguided, the bomb was not so bad after all, and in any event it was here to stay. The duty of the good citizen was to come to terms with it, and the best way to do that was to show enthusiasm for the peaceful atom and support civil defense.

Professionals of many stripes enlisted under the civil-defense banner. Like the Vicar of Bray, the nation's educators quickly adapted to the altered cultural climate. Educational journals that in 1945–1946 had proclaimed the need for international control and improved social-science education to reduce the risks of war were by the end of the decade, as Charles De Benedetti and JoAnne Brown have noted, stressing patriotism, loyalty, the evils of communism, America's Cold War aims—and civil defense. In 1951, forty educational administrators gathered at the FCDA's "Civil Defense Staff College" in Maryland to discuss means of identifying schoolchildren in high-risk target areas. After rejecting tatooing ("because of its associations and impermanence in the case of severe burns") and marked clothing (fabric was flammable, and children often traded clothes), the educators settled on metal identification tags. In a pilot program reported favorably in the National Education Association *Journal*, the New York City board of education appropriated $159,000 to provide free metal tags to all school children in the city. Professional magazines for school administrators carried ads by companies manufacturing such tags. ("See, it's . . . just like yours," says a proud school boy in one ad as he compares dog tags with a soldier.)[17]

Ever since Hiroshima, city planners had been offering advice on the subject of urban decentralization, and with civil defense now the center of attention, they advanced their claims with redoubled emphasis. Under the deepening shadow of atomic war, insisted *The American City*, a professional journal for municipal administrators, in 1950, the nation must "start to do some genuine city planning." While the older cities could not readily be modified, it said, civil-defense principles should be incorporated in the design of suburbs and expanding newer cities. This article particularly recommended "nucleation"—pockets of concentrated settlement separated by green belts. At the 1951 convention of the American Institute of Architects, a group of shopping-center designers held a news conference to publicize their value as evacuation centers.[18]

As in 1945–1946, some saw the atomic threat as a blessing in disguise that would awaken cities to the need for comprehensive planning. "Nucleation," *The American City* pointed out, would not only save lives in an atomic attack but also stop unplanned suburban sprawl. The proposal of MIT planners to ring America's cities with open spaces, radiating highways, and circumferential "life belts," said *Life*, was "long overdue, war or no war." While protecting America from atomic devastation, it would also relieve traffic congestion and slow cities' "extreme and unhealthy internal growth"

by accelerating "the current trend of many city dwellers toward the suburbs."[19]

The most comprehensive argument along these lines was that of Tracy B. Augur, a past president of the American Institute of Planners, in "Dispersal is Good Business," his contribution to the *Bulletin of the Atomic Scientists'* 1950 civil-defense issue. Even without the bomb, Augur insisted, the American city was doomed: its streets, buildings, and municipal facilities congested and decaying; its business district "unsuited to the needs of modern merchandising"; its "blighted areas . . . burdens on the public treasury." That they were also vulnerable targets was simply the final nail in the coffin. The atomic emergency, Augur concluded, merely underscored the need for decentralization. Indeed, the process was already underway, as evidenced by "the increasing number of modern, well-planned suburban shopping centers that are being built to replace congested downtown facilities."[20] The exigencies of civil defense having pushed the problem of the city to the top of the national agenda, planners and developers with shopping centers and subdivisions already on the drawing board were more than ready to do their patriotic duty.

The government's concern about the spiritual ramifications of atomic war provided a rich opportunity for experts in these matters. In 1951, the FCDA assembled a group of religious leaders to discuss the clergy's role in the post-attack period. The nation must be "spiritually as well as physically" prepared for "sudden and devastating atomic attack," declared director Caldwell in his opening remarks. The conference report, *The Clergy in Civil Defense*, stressed that churches and pastors could provide "stability and purpose for living" after atomic attack, enabling "the home front to carry on until victory is achieved." On a more down-to-earth level, ministers were urged to plan for mass burials, "counseling of the severely disturbed," and "Bible emergency classes" for upset children. Soon after, the FCDA distributed to radio stations recorded statements in support of civil defense by ten well-known Protestant, Catholic, and Jewish religious leaders.[21]

The medical profession, too, was drawn deeply into civil-defense planning and propaganda. Dr. Howard A. Rusk, a professor at New York University Medical School and a national leader of the profession, chaired the FCDA's medical advisory committee. Beginning in 1947, the American Medical Association's Council on National Emergency Medical Service met periodically to discuss a variety of post-atomic-attack problems, including the disposal of radioactive corpses. (A 1947 article in *Mortuary Science* addressed the same issue. Cremation was out, it said, since radioactive particles would be carried away by the smoke. Wearing lead-lined clothing, the article advised, undertakers should place the tightly sealed coffins in excavations floored by a thick layer of concrete and then filled in with more concrete. The graves should be isolated, with no visitors permitted. A corpse might be exhibited prior to burial "provided the visitors file quickly past the bier.") The AMA also endorsed a joint FCDA–American Red Cross program to stockpile three million pints of blood, the estimated quantity needed during the first three weeks if Hiroshima-type bombs were dropped on fifteen American cities. "With the world a-jitter over the possibility of atomic war," said *Science News Letter*, such a blood program was "essential."[22]

At a 1948 AMA conference on "clinical aspects of atomic energy," the deputy surgeon general of the army, George E. Armstrong, urged medical schools to organize minicourses on radiation disease to "alleviate the worry which pervades the profession." Armstrong also asked his audience's "assistance in 'selling' two concepts to the profession . . . which are contrary to all previous teachings." First, after the bomb fell, doctors must not rush in to aid the victims, but wait until an area had been declared free of radiation hazard. Second, they must recognize that about one-third of the survivors would soon die of radiation exposure whatever the medical steps taken to help them. "The profession must steel itself to make those persons comfortable," he said, and "concentrate every effort to save those who have some chance of survival."[23]

The medical profession's close identification with the emerging civil-defense program culminated in 1950 with the inauguration of a program jointly sponsored by the AEC, AMA, and FCDA under which physicians were brought to leading medical schools throughout the country for brief but intensive training courses in the medical aspects of an atomic attack, including "psychological factors such as mass hysteria." These trainees were then urged to cooperate with local civil-defense authorities in training and organizing the doctors, nurses, and dentists of their area.[24]

Tha AMA also supported civil defense through its popular magazine *Today's Health*. In a 1950 article, an AMA official bearing the appropriate name "Dr. Lull" urged Americans to gird themselves for atomic attack "with skill and foresight, and [to] control fear with reason instead of exaggerating it into hysteria." Certainly, he acknowledged, an atomic attack would produce horrendous medical problems and, without adequate preparation, even "complete chaos and panic." But the answer, he went on, "lies in a smooth-operating civil defense set-up within every community." The medical challenge of atomic war was "stupendous," but "free men with strong hearts and wills" could meet it.[25]

Local and state medical societies also responded with alacrity to Washington's civil-defense call. The Massachusetts Medical Society's "Suggestions for First-Aid Treatment for Casualties from Atomic Bombing," published in the *New England Journal of Medicine* in 1950, was subsequently offered in pamphlet form to the general public. In Colorado, Dr. Thad P. Sears, a professor at the University of Colorado Medical School, gave hundreds of lectures in the Rocky Mountain area trying (in the words of a colleague) to

"arouse civilians and his professional colleagues from their unrealistic complacency" about civil defense. The Pennsylvania state medical society set up an Atomic Energy Medical Steering Committee to design a program to "protect the public in event of disaster." Six subcommittees dealt with such matters as radiation measurement, epidemiology, public information, and "strengthening public morale."[26]

Hospital administrators were caught up in the civil-defense boom as well. "The mounting tension in our population makes it imperative that [hospitals] have a workable plan" for coping with atomic war, wrote New York City hospital administrator Marcus D. Kogel, M.D., in *Hospital Management* in 1950. Since most urban hospitals would be wiped out in the initial attack, Kogel urged the establishment of suburban back-up facilities and the training of mobile paramedic teams to set up emergency stations on the perimeter of the bombed-out areas. Kogel's office even offered a list of supplies to be stockpiled for such stations, including a lantern, six sheets and pillowcases, a pint of whiskey, and a bottle of sodium bicarbonate.[27]

Pervading these discussions was the belief that civilian morale required that medical professionals appear totally confident of their ability to cope with atomic attack. As a government doctor told the Florida Medical Association: "It would be impossible to exaggerate the benefits guaranteed by public confidence that prompt and skilled medical services" would be available after the attack. "What the public will believe, as soon as their physicians and health departments tell them at every opportunity," he insisted, was that with advance preparation "most of those resisting attack" would survive.[28] Professionally acculturated to appear masterful and ever-optimistic in dealing with patients, physicians did their best to sustain this manner in their approach to the atomic era.

With disruptive or immobilizing emotional reactions increasingly defined as the central hazards confronting the civilian population in an atomic attack, some psychologists and psychiatrists found themselves drawn into civil-defense planning. Among them was psychiatrist Dale C. Cameron, assistant director of the National Institute of Mental Health from 1945 to 1950. In "Psychiatric Implications of Civil Defense" (1949), a paper read before the American Psychiatric Association and later published in the *American Journal of Psychiatry*, Cameron warned of an atomic attack's potentially dangerous psychological effects on survivors, including "purposeless hyperactivity" and "apathy" characterized by "large numbers of individuals wandering about aimlessly, unable to help themselves or others, adding to the confusion and impeding rescue efforts." But these disruptive behaviors could be minimized if people were psychologically prepared. To this end, he said, Americans should be told authoritatively that the atomic bomb was not as terrible as some were claiming, that the radiation danger had been exaggerated, and that civil-defense planning was well in hand. Cameron's most

sweeping proposal was for the organization of the population into small therapy groups under psychiatrically trained leaders who would "assist the group in working through its fears and apprehensions." In the post-attack period, group members would then seek each other out and provide mutual support. Cameron warned, however, that this therapeutic program should not be launched too far in advance of the possible outbreak of atomic war, since "people lose a sense of participation when the situation for which they are preparing does not materialize."[29]

One of the most comprehensive expert contributions to the government's efforts to anticipate and minimize the psychological disruptions of atomic attack was that of Irving L. Janis, a young psychologist at Yale. In 1949, under contract with the RAND Corporation, a California research center funded by the Air Force, Janis prepared a study on "Psychological Aspects of Vulnerability to Atomic Bomb Attacks." Citing evidence of depression, emotional upset, and "an inordinately high degree of apathy" among the Hiroshima survivors, Janis concluded that "inappropriate, disorganized, and maladaptive" behavior would pose "extremely critical problems of disaster control" in any future atomic attack. The risk of catastrophic social breakdown could be reduced, he continued, through advance training and conditioning to teach people "appropriate behavior in an atomic disaster" and through "special psychological devices" to overcome the "emotional excitement" of such an event.

Here Janis demonstrated considerable ingenuity. He proposed, for example, that radio personalities be recruited to record messages for broadcast over portable public-address loudspeakers in the immediate post-attack period: "The calm, authoritative voice of a familiar radio announcer might be extremely effective in reducing confusion and emotional excitement, particularly if reassuring announcements are given about the arrival of rescue and relief teams." To condition people to develop positive associations with these voices, Janis recommended, they should be used during the prewar period to give the welcome all-clear announcement at the end of air-raid drills.

The problem of "distraught and inept performance" among civil-defense workers responsible for "handling large numbers of mutilated human beings" could similarly be minimized by advance conditioning, including service in hospital emergency wards and "increasing doses of graphic sound films (preferably in color) showing actual disasters." (Such films would also be useful, he noted, for weeding out volunteers "who become inordinately upset when exposed to disturbing stimuli."[30])

Even with the best advance preparation, Janis acknowledged, special psychiatric treatment would be necessary for many survivors, including the bereaved, the disfigured, those experiencing "jitteriness about the danger of another A-bomb attack," those "severely apprehensive . . . about the realistic possibility that within a week or two they may die from radiation

sickness," and—a catch-all category—everyone "in an extremely anxious or depressed state of mind." All such psychic casualties, he said, would "require calm, reassuring, patient handling." Among his suggestions were the advance stockpiling of "pamphlets and posters . . . containing reassuring information about treatment and the chances of recovery"; the segregation of doomed radiation victims "so that they will not have a demoralizing effect . . . on other patients"; and the preparation of "temporary rest camps" whose "therapeutic atmosphere" would give those "too disturbed to return to productive activity . . . an opportunity to recuperate." With "little likelihood that skilled psychiatric aid [would] be available for all of the temporarily maladjusted persons," Janis urged that all civil-defense workers, whatever their function, be instructed in "elementary psychotherapeutic principles."

Irving Janis was no Pollyanna. He painted a grim picture of possible conditions after an atomic attack, including "thousands of half-starved people . . . wandering about for a long period, seeking for their lost families or friends," and pitched battles between inhabitants of unbombed areas and desperate survivors grimly determined "to obtain shelter and supplies by force if necessary." But he insisted that such horrors could be avoided by careful advance planning: "If the essential needs of the survivors are well provided for, and if there is sound community leadership, there is every reason to expect that within a short period the vast majority will . . . make a fairly adequate adjustment to the deprivational situation." Psychologists could assist this planning, Janis suggested, with predictive studies designed to identify "which types of persons can be relied on and which types are most likely to be uncooperative and demoralized" after an atomic attack.

Turning to the morale problems created by the mere anticipation of atomic war, Janis again argued that careful attention to human psychology could moderate at least some of "the more extreme forms of personal disorganization and inappropriate action." He recommended, for example, that military terminology be used in all post-attack civil-defense directives, such as the ordering of survivors "to a 'battle station' in specified evacuation localities where it is one's 'duty' to be present."

On the question of atomic-bomb shelters, Janis was ambivalent. Until the development of "an effective, inexpensive radioactive-absorbent material," he suggested, they were likely to be of minimal lifesaving value. Further, a program of home-shelter construction could "arouse acute social resentments" among the poor unable to afford their own shelter. At the same time, a shelter program could have great psychological value in combating the public's "strong feelings of insecurity about impending atomic bomb attacks." The "constructive activity" of building a shelter would counteract anxiety and "contribute to the feeling that 'I am really able to do something about it.'" Further, making shelter construction a private responsibility would reduce citizens' inclination to rely on the government for protection and deflect resentment they might otherwise feel over Washington's "apparent 'neglect'" of civil defense. Finally, the mere existence of millions of family shelters could be "an important source of reassurance" as homeowners' pride in owning shelters they themselves had made would invest the shelters "with considerable symbolic value as an anxiety-reducing feature of the environment."[51]

Thus did professionals in various fields contribute their expertise to the civil-defense campaign. The cultural shift this represents is striking indeed. In the volatile months just after Hiroshima, a wide array of professional groups had stepped forward—often naïvely and perhaps self-interestedly—to help the world find its way back from the precipice. Education, psychiatry, psychology, ethics, the humanities, sociology—surely somewhere in all these specialities was the knowledge that could drive back the hovering nightmare of atomic war. As the decade ended, the level of professional involvement with the atomic issue remained high, but the focus was now very different. Experts—from city planners and media specialists to psychologists, psychiatrists, and physicians—now applied themselves to convincing the American people that the atomic threat was not as bad as it had been painted. Fear had been exaggerated: "hysteria" was uncalled for. The "sunny side of the atom" was real and exciting; the radiation scare was overblown; and even if worse came to worst, civil defense offered hope. These reassuring and interconnected messages, emanating from so many authoritative sources as the decade ended, contributed powerfully to the emergence of a decisive and unsettling new stage in America's cultural and political engagement with atomic weapons.

27

1949–1950: EMBRACING THE BOMB

We are five years away from Hiroshima. We are five years nearer—what?

—*Christian Century*, August 2, 1950

Of the many American magazines galvanized into activism by the atomic bomb, one of the most outspoken had been *Business Week*. Repeatedly in 1945–1946 it warned of the bomb's menace, publicized the scientists' movement, and campaigned for international control. Within a few short years, however, all this had changed. In April 1949, *Business Week* reported that the "technical problems" of atomic-bomb production had been solved, leaving only "such normal managerial problems as how to reduce costs [and] . . . speed lagging operations." Bomb output was "now rolling very smoothly," it said, and "by 1950 or 1951 . . . could be practically doubled."[1]

And so we have come full circle. For a fleeting moment after Hiroshima, American culture had been profoundly affected by atomic fear, by a dizzying plethora of atomic panaceas and proposals, and by endless speculation on the social and ethical implications of the new reality. By the end of the 1940s, the cultural discourse had largely stopped. Americans now seemed not only ready to accept the bomb, but to support any measures necessary to maintain atomic supremacy.

From the earliest post-Hiroshima days, demands for stockpiling atomic bombs and even using them against the new postwar enemy, Russia, emerged as a minority (but far from negligible) position in public-opinion polls and letters to the editor. "I read Hersey's report," a subscriber wrote the *New Yorker* in 1946. "It was marvelous. Now let us drop a handful on Moscow." As we have seen, the nation's atomic-weapons program had continued after the war, and while official secrecy blurred details, this fact was public knowledge. The Bikini tests made clear, commented I. F. Stone in 1946, that "the atom bomb is part of our active war equipment and an integral part of our future military strategy."[2]

At first, this program either received little public attention or, if noted at all, was cited to underscore the urgency of international control. By 1948, however, it was being much more openly and even boastfully reported. *Newsweek* described the AEC's success in transforming "a frenzied wartime patchwork . . . into an orderly permanent enterprise" that had put bomb production on "a firm and secure basis." Under the headline "HOW MANY ATOM BOMBS? ENOUGH ON HAND FOR U.S. TO FIGHT MAJOR WAR," *U.S. News and World Report* extrapolated from known figures on plutonium production to estimate the nation's atomic-bomb arsenal at 200 to 250, with a possible increase to 1,000 by 1950. (These numbers were apparently something of an overestimate at the time, if recently released figures are accurate, but the 1,000 total was, of course, soon reached and far surpassed). "What was for the most part a bluff in 1945," wrote Harry Davis in his 1948 popularization *Energy Unlimited*, "has now been replaced by a hand well backed with atomic aces."[3]

At about the same time, in public speeches and articles in *Life* and other magazines, top military leaders like Gen. George C. Kenney of the Strategic Air Command began to discuss openly the Pentagon's strategic plans for a massive atomic attack on Soviet cities and industrial centers in the event of war. Writing in September 1948, Eugene Rabinowitch expressed dismay over this "callous public discussion of plans for atomic warfare." Though part of the war of nerves with the Soviets, he said, it could also have important domestic consequences: "We do not suggest that" such speeches and articles

> arise from a deliberate desire of the military to "condition" American public opinion to the indiscriminate killing and maiming of millions of civilians; but is not their actual effect to soothe in advance all moral revulsion, and to make American people accept the possibility of atomic slaughter as something, perhaps deplorable, but natural in this imperfect world?

In short, Rabinowitch wondered, were such previews of atomic holocaust a way of "asking the American people to acquiesce in advance to the final conversion of war into genocide?" If so, he warned, "the American conscience must refuse to be pacified."[4]

But pacified it was. These same years saw an increase in Americans' expectations of war. The percentage anticipating another war "within the next twenty years or so" grew from 59 percent in October 1945 to 77 percent by late 1947. In 1948, the Gallup poll found 57 percent of Americans expecting war within ten years, and 43 percent within three or four years. "The world has virtually accepted the inevitability of another war," concluded Norman Cousins gloomily that December. But rather than generating support for a redoubled diplomatic effort to reduce the atomic threat,

these rising war fears had the reverse effect, leading to an increased reliance on the bomb as the best source of security in a threatening world. The postwar belief that fear would promote the cause of peace, wrote University of Chicago law professor Malcolm Sharp in 1948, had given way to the feeling that "if atomic energy is to be used to destroy people and their works, it had better be the Russians and their works." In a summer 1949 Gallup poll, an overwhelming 70 percent of Americans opposed any U.S. pledge not to be the first to use atomic weapons in a future war.[5] Such, then, was the national mood on the eve of the most unsettling news since August 1945.

On September 24, 1949, a terse announcement from Washington struck a largely unprepared nation: the Soviet Union had tested an atomic bomb! Leading atomic scientists had predicted a Russian bomb within three to five years of Hiroshima, but influential figures like Vannevar Bush and General Groves had dismissed the possibility. "Few atomic people are inclined to think the Russians have made much progress," *Business Week* had said in April 1949. Editorialists and opinion-molders treated the Soviet test as a momentous event. "The prospect of a two-sided atomic war," said Raymond Moley in *Newsweek*, meant a "towering change in the world outlook." "An historic bridge has been crossed," observed a chastened *Business Week*. "From here on, all the rivers run the other way." A Herblock cartoon pictured Uncle Sam as Robinson Crusoe discovering a footprint in the sand.[6]

Given the surprise and the portentous editorializing, public reaction was surprisingly muted. Raymond Moley remarked on "the apparent lack of serious concern"; a Washington journalist found nothing comparable to the "agitation and ferment" the Hiroshima news had caused. "It didn't take long for the shock to wear off," observed *Newsweek* laconically.[7]

In part, this muted response reflected government media manipulation. ("I warn you, don't overplay this," Defense Secretary Louis Johnson had told reporters.) It also reflected the fact that for four years Americans had been imagining vivid scenarios of atomic attack—scenarios that simply assumed that the U.S. atomic monopoly would be brief. Above all, this response reflected the changed political climate of the late 1940s and the shift from the goal of control to the goal of superiority. To be sure, some voices were raised in a familiar refrain, insisting that international control and Big Power agreements on atomic energy were now more urgent than ever. Harold C. Urey called for a "bold political program" to combat the worsening atomic threat. *Christian Century* urged "a new beginning" in disarmament efforts.[8]

The dominant reaction, however, was a grim determination to increase America's lead in nuclear weaponry. The Russian bomb accelerated the shift toward viewing the atomic bomb not as a terrible scourge to be eliminated as quickly as possible, but a winning weapon to be stockpiled with utmost urgency. The United States must "establish unquestioned and unmistakable leadership" in atomic weapons, David Lilienthal declared late in 1949, to "buy time for reason to prevail." The tabloid *New York Daily News* made the point succinctly in a punning headline: "U.S. HAS SUPREMACY, WILL HOLD IT: A-MEN." Rejecting "wishful thoughts . . . about atomic disarmament and control," *Newsweek* columnist Ernest K. Lindley said the Russian bomb meant U.S. nuclear weapons production must remain "as high as is necessary to maintain a great superiority in quantity for a long time to come." If Americans wanted security, said *Time*, they "would have to buy the full, costly package." The Hearst press urged the stockpiling of four atomic bombs for every Soviet one. With the bomb now in the hands of "totalitarians . . . remorselessly driven toward war," said *Life*, America must maintain a "clear, unchallenged, demonstrable" nuclear supremacy and secure its defenses. Russian atomic bombs, warned *Life*, could be delivered by many means, including even commercial freighters that could unload concealed bomb components for ground transport to secret interior sites for assembly. (The latter threat was illustrated with photographs of a Russian freighter unloading and a truck rolling along a highway.)[9]

Senator Brien McMahon, stalwart supporter of the postwar scientists' movement, was driven almost to distraction by the Russian bomb. Only a preemptive atomic attack on Russia, he insisted to David Lilienthal, could prevent an ultimate, world-destroying holocaust. Late in 1949, McMahon's Joint Committee on Atomic Energy lifted all limits on AEC spending and told it to exercise "boldness, initiative, and effort" to "maintain our preeminence in this field." As one journalist who attended the committee's hearings put it, the message boiled down to: "We don't care how or where you spend it; just keep us out in front."[10]

Behind these generalizations lay a very specific objective. Almost from the moment of Hiroshima, there had been hints of a vastly more terrible "superbomb." Edward Condon warned early in 1946 of bombs a thousand times more powerful "in the near future"; diplomat John J. McCloy made the same prediction in a December 1946 speech, specifically mentioning a hydrogen bomb. After September 24, 1949, theoretical speculation became a matter of urgent policy discussion, and on January 31, 1950, President Truman made it official: the AEC would proceed with work "on all forms of atomic weapons, including the so-called hydrogen or superbomb."[11]

The inner history of the hydrogen-bomb decision has been told in the memoirs of participants and in such books as Herbert York's *The Advisors: Oppenheimer, Teller, and the Superbomb* (1976). The conflict between scientists like Edward Teller, Ernest Lawrence, and Luis Alvarez, who favored the hydrogen bomb (who indeed were "drooling" at the prospect, according to Lilienthal), and others who opposed it—including Lilienthal and the eight scientists on the AEC's general advisory committee chaired by Oppenheimer

—is by now familiar. As for the larger cultural context of the decision, discussion has focused mainly on the fact that it was made with no involvement by the American people. "This was a secret debate with only a few participants," McGeorge Bundy has written; "no sermons pro or con, no dire public warnings from defenders of security or Cassandras of nuclear catastrophe—no public discussion at all." If only the public had been consulted, some have suggested, the outcome might have been different. This was what could happen "when decisions of far-reaching national significance are made without public scrutiny of pertinent information," wrote physicist Robert F. Bacher, a former AEC commissioner and hydrogen-bomb critic. "The superbomb issue needed to be put before the American people," agreed Eugene Rabinowitch; "Americans must be given the opportunity to decide whether they want to embark on this course." [12]

Would public participation have led to a different decision? Probably not. In a Gallup poll of early February, 69 percent favored building the hydrogen bomb, 9 percent expressed "reluctant approval," while only 14 percent disapproved. Indeed, Truman's announcement aroused little response of any sort. "Many Americans were by no means ready to think about it," observed *Life*, summing up reports from around the nation; "People wanted to talk about anything else but." [13]

In reflecting on this acquiescent public response, critics of the hydrogen-bomb decision invariably linked it to the larger political climate of 1949–1950. Americans had lost all hope "for international agreements which will have any meaning," said Robert Bacher. "Pumped full of hysteria from Red scares and aggravated by political mudslinging, the average citizen is easily convinced that he can find some security and relief from all of this in the hydrogen bomb." In his 1982 analysis of the hydrogen-bomb decision, McGeorge Bundy, too, stressed the broader political context:

> By the end of 1949 the cold war was raging, the Soviet menace was seen everywhere; . . . the Berlin blockade was a recent and instructive memory; the captive nations were not a slogan but a vivid reality, and Soviet hostility and duplicity were taken for granted. . . . "Who lost China?" was the question of the hour. Alger Hiss was convicted in early January, and [the British atomic spy] Klaus Fuchs confessed just four days before Truman's final decision. [14]

Indeed, influential periodicals trumpeted the Russian menace and soft-pedaled the threat of the hydrogen bomb itself. The bomb made little sense in the "pure economics of destruction," said *Business Week*, but its "psychological and political effects . . . would be tremendous." In a special issue on the communist menace two weeks after the hydrogen-bomb decision, *Life* put a mushroom cloud on its cover; warned that the Soviets were "preparing for war" and would use "any atomic agreement" as a pretext to promote "the victory of Communism throughout the world"; and printed alarming charts showing a supposed "Red Military Advantage." [15]

Fear of the bomb remained, but in the context of the Cold War, the Russian bomb, and repeated assertions of Soviet aggressiveness and perfidy, bigger American bombs seemed to many the only hope. The process that had begun gradually around 1947, in which the image of the bomb as a menace to be eliminated was effaced by its image as a vital asset in the intensifying struggle with the Soviet Union, vastly accelerated after September 1949. Political efforts to diminish the atomic threat were now seen as a snare and a delusion; the best hope lay in keeping ahead. In this competition, *Business Week* wrote reassuringly in July 1950, the Russians were "amateurs competing with professionals." They had built their bomb on a crash basis, and "you don't get a broad, sophisticated technique that way." *Look* reported in November 1950 that the nation's "long-hairs" (that is, scientists) were designing intercontinental ballistic missiles that would open "awesome vistas of mass death and destruction." But rather than using this frightening prospect as an argument for intensified international negotiations, as it surely would have in 1945–1947, *Look* concluded: "What we must do next is apply our vast production facilities to the ideas of our 'long-hairs.' Then we will be ready for the war of tomorrow." In a January 1951 report on the nation's atomic arsenal, *U.S. News* noted that while "city busting" bombs remained the "mainstay," an array of smaller tactical bombs and even atomic artillery had been added as well. America's "headstart in atomic development is being maintained and even extended. If Russia wants an atomic war, she'll get it in more ways than she expects." [16]

Fear of the Russians had driven fear of the bomb into the deeper recesses of consciousness. That the public did not participate in the hydrogen-bomb decision "hardly mattered," said *Business Week*, since Truman's directive so clearly reflected the general will. "In the frightened months right after the Soviet atomic explosion," it said, "the mere public intimation that a [hydrogen bomb] might be possible guaranteed the attempt." In a 1950 poll of 2,700 Cornell University students, 40 percent said "an all-out war to stop communism" would be either "Very Worthwile" (26 percent) or "Fairly Worthwhile" (14 percent). In a July 1950 Gallup poll, 77 percent of Americans said the United States should use the atomic bomb in any future world war. The following January, 66 percent said the U.S. should drop the bomb first in any full-scale war with Russia. [17]

In November 1950, President Truman asked Congress for a billion dollars for nuclear-weapons production. The Du Pont Corporation undertook to build a giant hydrogen-bomb facility for the same "dollar-a-year" fee it had received during the Manhattan Project. Research on the "Super" under Edward Teller again turned Los Alamos into a bustling center where the

mood, according to *Business Week*, was "adventurous" and "exuberant." The AEC's contract with General Electric to build a prototype atomic-power plant was terminated to free more scientists and technicians for bomb production. These developments attracted little public attention. The terrible simplifications of the Cold War had seized the American mind, and all issues, even the atomic threat, realigned themselves along the new ideological lines of force. As MIT mathematician Norbert Wiener wrote in July 1950, the probability of atomic annihilation would remain high "so long as we are dominated by a rigid propaganda which makes the destruction of Russia appear more important than our own survival."[18]

The extent to which Cold War obsessions overrode earlier atomic fears is evident in the discussions surrounding the possible use of atomic bombs in the Korean War. Some periodicals advised against it. "The best hope now of preventing the 'police action' from ballooning into a superwar," said the *Saturday Evening Post*, "may lie in a conservative attitude toward the A-bomb." Others, however, discussed the matter quite coolly, as a viable option to be carefully weighed. *Science News Letter* concluded that North Korea's few urban-industrial centers probably did not "warrant" atomic bombing. After an assessment of the tactical pros and cons that ignored any larger considerations, *U.S. News and World Report* concluded that American use of atomic weapons in Korea would probably be "sparing."[19]

"The first flash of the Communist guns," in Korea, wrote William L. Laurence, had unmasked "the Kremlin's ultimate intentions to enslave mankind" and "illuminated for us more clearly than ever before the path we must follow in our policy on atomic weapons": full speed ahead, especially on the hydrogen bomb. On a different cultural front, composer Fred Kirby's 1950 country song "When the Hell Bomb Falls" mingled images of nuclear destruction with the wish that God would "lend a helping hand" in Korea. In Roy Acuff's "Advice to Joe" (1951), the wish became explicit with the warning to the Russians that when Moscow has been obliterated, they will regret their aggressive ambitions. "When atomic bombs start falling," the song asks Stalin, "do you have a place to hide?"[20]

And what of the man in the street? In August 1950, the Gallup poll found 28 percent of Americans in favor of using the atomic bomb in Korea. When Chinese troops entered the war in November, *U.S. News* noted a "wave of demand" for atomic bombing them. By November 1951, with the war in a costly, frustrating stalemate, 51 percent supported dropping the bomb on "military targets."[21]

In this instance, mass culture and popular attitudes mirrored thinking at the highest level of government. In 1952, in two memos evidently drafted for his eyes only, President Truman contemplated a nuclear ultimatum to the Soviets and the Chinese as a way of ending the war. In 1953, President Eisenhower and the National Security Council seriously considered the direct use of atomic weapons against the Chinese and North Koreans.[22]

The shift in attitudes toward the atomic bomb that culminated in 1950 runs like a fault line through the culture, nearly as visible as the one caused by the Hiroshima bombing itself. A Manhattan Project veteran who had continued to be active in the scientists' movement observed an immediate and dramatic change in his audiences after news of the Soviet bomb. Groups that had formerly generated "spirited questions and comments regarding atomic warfare" now seemed apathetic and silent. Sales of David Bradley's *No Place to Hide* dropped precipitously after September 1949, and Bradley himself, having lectured to large audiences for a year, suddenly found there were no more invitations.[23]

In the schools, emphasis on the atomic threat gave way to Cold War ideology, the "peaceful atom," and civil defense. Among political columnists, declining attention to the menace of the bomb was matched by a sharp increase in discussion of the relative military strength of the U.S. and the Soviet Union. In political cartoons, the powerful images of atomic danger that had proliferated after Hiroshima gave way to variations on the theme of Soviet intransigence and the communist menace. The *Washington Post*'s Herblock, who in 1946–1947 had portrayed the atomic bomb as a sinister thug looking on in amused boredom as statesmen temporized, largely dropped this theme by the end of the decade because, as he explained in 1952, he didn't want his atomic-bomb warnings to get "mixed up with a carefully twisted viewpoint" of communist propaganda. In country music, Charles Wolfe writes, atomic holocaust was now seen as "an inevitable, almost natural occurrence." In fiction, George Stewart's *Earth Abides* of 1949 softened the bleak pessimism of early cataclysmic novels like Ward Moore's *Greener Than You Think* and portrayed the destruction of civilization as a rather desirable development that would restore mankind to a simpler, more harmonious existence.

Atomic fear still found expression, but now more typically in allusive and symbolic ways. At the end of the 1949 Warner Brothers movie *White Heat*, for example, the psychopathic, mother-fixated gangster Cody Jarrett (James Cagney) is trapped in the technological maze of a vast chemical plant, his plan for a master robbery foiled by the police. He climbs to the top of a huge metal cylinder, insanely shouts "Top of the world, Ma!" and fires a random shot into the cylinder, which explodes in a series of mushroom-shaped blasts. The head G-man, watching awestruck as Cody dies amidst the *Götterdämmerung* inferno he himself has created, pronounces an epitaph that echoed the endless somber warnings of 1945–1947: "He finally made it to the top of the world, and it blew up in his face."[24]

Picking up on such cultural signals, psychiatrist Franz Alexander in

"The Bomb and the Human Psyche" (1949) gave a quite literal interpretation to the familiar warning of these years that the human race could now "commit suicide." Having contrived the means of his destruction, Alexander speculated, man might find irresistible the temptation to escape forever the stresses of the atomic age and subconsciously conclude that "a painless end" was preferable to "endless pain."[25]

The events of 1949–1950 also dealt a final blow to the already badly weakened scientists' movement. The best-known scientific spokesman for the new Cold War attitude was, of course, Edward Teller. Summoning his colleagues "Back to the Laboratories" in March 1950, Teller wrote: "It is *not* the scientist's job to determine whether a hydrogen bomb should be constructed, whether it should be used, or how it should be used. This responsibility rests with the American people and with their chosen representatives." The scientist's task was not to meddle in politics, insisted this most political of all scientists, but to understand nature's laws and "find the ways in which these laws can serve the human will."[26] And in 1950, "the human will," as expressed in Harry Truman's decision and the Gallup poll, wanted the hydrogen bomb.

Teller was far from alone. The sharp drop-off in FAS membership in 1948–1950 suggests the degree to which activism was undercut by Cold War compulsions. Said Enrico Fermi somewhat cryptically after the 1949 Soviet atomic-bomb test: "If the United States maintains atomic supremacy over Russia, there will be no war for 20 years. . . . As for me, I expect to sleep as well as my insomnia permits. I am a fatalist by nature anyway." As we have seen, even Eugene Rabinowitch, a staunchly anticommunist Russian émigré, was influenced by the worsening international climate as the decade ended. In 1949 when Rabinowitch's *Bulletin of the Atomic Scientists* published an essay discussing the strategic advantages of America's atomic superiority over the Soviets, one dismayed subscriber wrote in to protest. Stop publishing such material, he urged, and "go back to the practice of printing in large black type face 'There is no defense against the atomic bomb.'" In the *Bulletin*'s "civil defense" issue in 1950, Rabinowitch not only called for more attention to civil defense, but for a vastly expanded American military effort generally, including a larger army, military aid to Western Europe and "friendly regimes elsewhere," and "increased production and improvement of our atomic weapons and of the means of their delivery." Any weakening of America's atomic arsenal, he said, would threaten "defeat of the democratic West in its power conflict with the communist totalitarianism."[27] (Rabinowitch never ceased, however, to open the *Bulletin of Atomic Scientists* to discussions of the atomic danger or proposals for new political initiatives.)

Some scientists resisted the shift from activism to Cold War acquiescence. Leo Szilard continued to speak out, warning in 1950 that the spreading radioactivity of a thermonuclear war could destroy all human life on earth. A somewhat lonely Hans Bethe sought to reawaken the activist spirit of 1945–1946: the introduction of the atomic bomb had given rise to a "general feeling" that this vast increase in destructive power "required and made possible a new approach" to international relations, he said, and "the step from atomic to hydrogen bombs is just as great again, so we have again an equally strong reason to seek a new approach. We have to think how we can save humanity from this last disaster." That the effort to control the atomic bomb had so far failed, Bethe insisted, was "no reason to introduce a bomb which is a thousand times worse."[28]

As the scientists' movement faded, the new field of nuclear strategy emerged. In the early postwar period, as Gregg Herken has shown, "strategic thinking" in the Pentagon consisted mainly of doomsday scenarios for hitting Russian cities with as many atomic bombs as were available at the moment. As the decade ended, though, nuclear strategy increasingly became the domain of civilian specialists, many of them drawn from the social sciences. The bright hopes of social-science publicists in 1945–1947 that with sufficient funding these disciplines could help man achieve a more harmonious and peaceful world were quickly transformed into something quite different. Bernard Brodie of Yale's Institute of International Studies signaled the shift in an October 1948 article in *Foreign Affairs*. Nuclear strategy, he said, was "much too important to be left to the generals—or to the politicians either for that matter." In dealing with the atomic bomb, he went on, it was time to move beyond "high moral protestation" and the "frenetic pursuit" of international control. Policymakers and the public alike must "develop the habit of living with the atomic bomb" and view it not as "a visitation of a wrathful deity" but "as an instrument of war—and hence of international politics." Even after the Soviets developed the bomb, he said, American atomic superiority would continue for many years, and policymakers must take that fact into account in all their calculations. In 1951, Brodie joined the staff of the RAND Corporation, where he and other political scientists, mathematicians, and logicians systematically pursued strategic analysis of an increasingly sophisticated and arcane variety.[29]

The waning of activism and cultural attention directed to the atomic threat also resulted in a distinct muting of, and subtle shifts of emphasis in, discussions of the bomb's moral implications. Again, the change was not absolute, but one of degree. One still finds explorations of these issues in 1949–1950. In *Some Quaker Proposals for Peace* (1949), the American Friends Service Committee restated the moral case against nuclear weapons and offered concrete ideas for slowing the arms race. An editor of the Jesuit journal *America* in September 1949 described the U.S. strategy of massive atomic attacks on Soviet cities as "utterly reprehensible" and "against all fundamental moralities."[30]

The moral case against America's atomic strategy gained support from an unlikely quarter in October 1949 when Rear Adm. Ralph A. Ofstie, the navy's liaison officer with the AEC, in testimony before the House Armed Services Committee, denounced as "morally wrong" air force plans for the atomic destruction of Russia's civilian population in the event of war. Such a "ruthless and barbaric policy," said Ofstie, would lead directly to "the breakdown of those standards of morality which have been a guiding force in this democracy since its inception." *Christian Century* welcomed "The Moral Revolt of the Admirals." The issues raised in Ofstie's testimony, it declared, were ones "the Christian Churches of the United States, and American citizens who are striving to be Christians, must face with a profound seriousness."[31]

Truman's hydrogen-bomb announcement aroused isolated moral protest. "We prepare to make this wanton decision with no readiness to accept moral responsibility for our act," declared *Christian Century*. "Worse than that, we are not willing to admit that we *have* any moral responsibility. We are about to act as gods in a world from which we insist that moral responsibility has departed. And so we become devil-gods." The response of the Federal Council of Churches' Executive Committee was another of the carefully balanced tripartite pronouncements with which Protestants were becoming familiar:

> Some of us feel deeply that the hydrogen bomb does not present a new and different moral issue, but sheds vivid light on the wickedness of war itself. Some of us oppose the construction of hydrogen bombs, which could be used only for the mass destruction of populations. Some of us, on the other hand, believing that our people and the other free societies should not be left without the means of defense through the threat of retaliation, support the attempt to construct the new weapon. All of us unite in the prayer that it may never be used.[32]

In a February 1950 manifesto, twelve prominent physicists, all Manhattan Project veterans, declared: "No nation has the right to use such a bomb, no matter how righteous its cause. This bomb is no longer a weapon of war, but a means of extermination of whole populations. Its use would be a betrayal of all standards of morality." The organizer of this protest, Hans Bethe, poured forth his forebodings in an anguished essay. "Can we, who have always insisted on morality and human decency between nations as well as inside our own country, introduce this weapon of total annihilation into the world?" A war fought with such weapons, Bethe went on, would be both a physical and a moral catastrophe of unfathomable proportions. Even if the United States "won" such a conflict, history would remember "*not* the ideals we were fighting for, but the method we used to accomplish them."[33]

The leadership of American Judaism wrestled with the issue of the bomb in the aftermath of the Russian test and President Truman's H-Bomb decision. In 1950, the Central Conference of American Rabbis adopted a bleak and somewhat contradictory resolution drafted by a committee on atomic energy chaired by Rabbi Julius Mark of New York's Temple Emanu-El, the world's largest Reform congregation. Only those who placed "their confidence in superior and more diabolic armaments," it said, could find reason for hope in Truman's decision. But, like earlier pronouncements, this resolution did not address the ethics of thermonuclear weapons or of mass and indiscriminate destruction through such weapons. The central moral issue, it said (echoing a point often made by military leaders in these years) was not any particular category of weapons, but war itself:

> Why is an instrument that destroys a thousand or ten thousand human beings more immoral than a gun which snuffs out the life of a single individual? The immorality lies not in the weapon, but in the killing. The attempt to outlaw the means of war is useless so long as war itself remains a legal means to settle international disputes.

Nevertheless (and despite a preamble noting that hopes for achieving peace through the United Nations "appear to have vanished"), this resolution ended with yet another call for United Nations control of atomic energy.[34]

But, though such moral discourse continued, it was much muted. "The churches have been nibbliing at the problem of the morality of atomic warfare at intervals ever since Hiroshima, and so far they have gotten exactly nowhere," said *Christian Century* in October 1949. "Perplexed by doubt and divided in mind, . . . they have reached a tacit understanding among themselves to blanket in silence this most crucial of all the political issues affecting the fate of mankind."[35]

Those who did raise the ethical issues were often, for one reason or another, treated dismissively. The "Moral Revolt of the Admirals" was widely ridiculed as merely reflecting navy resentment at the air force's dominant role in atomic strategy. To the navy, some cynics observed, an immoral weapon was one they couldn't use. The 1949 peace proposals of the American Friends Service Committee were generally ignored because of their pacifist origins. As *Christian Century* summed up a prevailing response: "The Quakers? Oh yes; fine people, but so naïve. Of course, if the men around Stalin were all Quakers. . . ."[36]

One finds, too, in the ethical writings of this early Cold War period, an increasing inclination to defend the moral legitimacy, under certain circumstances, of using atomic bombs. An American first strike would be morally justified if the government had "sound reason to believe" an enemy attack was imminent, argued Jesuit theologian Edmund A. Walsh of

Georgetown University in 1950. "Neither reason nor theology nor morals requires men or nations to commit suicide by requiring that we must await the first blow." That same year, the dean of theology at Catholic University, Francis J. Connell, similarly defended the use of the atomic bomb under certain conditions. Ethically, he asserted, the atomic bomb was "not essentially different from a TNT bomb, a cannon, a hand grenade, or a rifle."[37]

Father Connell's argument was vigorously challenged by Gordon C. Zahn, a Catholic pacifist and World War II conscientious objector who insisted that the bomb was, indeed, "essentially different," and that unless the Church adopted the total-war philosophy "which treats of whole cities and their inhabitants as an impersonal mass, this essential distinction between the A-Bomb and the rifle must be recognized and our moral judgments revised accordingly." In a testy and defensive reply, Father Connell again insisted that morally the rifle and the atomic bomb were "essentially" the same: both could kill. Rejecting Zahn's characterization of the atomic bomb as an "indiscriminate" weapon, Connell asserted that like the rifle it could be directed at legitimate targets whose "destruction would involve the death of no civilians, such as a fleet at sea." Catholic theology offered no basis, Connell concluded, for a categorical condemnation of the bomb.[38]

The somewhat greater tolerance for atomic war in the ethical discourse at the end of the decade is illustrated in *The Christian Conscience and Weapons of Mass Destruction*, the 1950 report of a Federal Council of Churches commission set up to resolve the disarray so blatantly evident in its hydrogen-bomb statements. In both its makeup and the substance of its report, this commission provides a benchmark for the cultural and political changes between 1946 and 1950. The membership, while overlapping with that of the earlier Calhoun Commission was subtly shifted to reflect a position more sympathetic to the stockpiling and possible use of atomic weapons. Among those dropped were Douglas Steere, a Quaker, and Ernest Fremont Tittle, the Illinois Methodist leader who had taken an uncompromising stand against the bomb in 1946. Replacing them were several prominent laymen identified with the government's nuclear program, including physicist Arthur Compton and William W. Waymack of the U.S. Atomic Energy Commission, and the theologian Reinhold Niebuhr, who was at this time emerging as a militant Cold Warrior.[39] The chairman was Bishop Angus Dun of the Washington Diocese of the Protestant Episcopal Church.

The Christian Conscience and Weapons of Mass Destruction contained many strong and unambiguous passages deploring war, the moral effects of advancing military technology, and wanton civilian destruction unjustified by legitimate military objectives; and it warned against any first use of atomic weapons by the United States since this would almost surely be met by retaliation in kind. In contrast to the Calhoun Commission, however, the Dun Commission offered no explicit expression of guilt for the atomic bombing of Hiroshima and Nagasaki, and issued no call for repentance. On the general question of future use, it temporized. While atomic weapons raised ethical issues of "terrible dimensions," it said, these could not be isolated "as belonging to an absolutely different moral category." The essential moral question, it said (echoing Father Connell), was not the weapon, but the motive, and one could not "draw this moral line in advance, apart from all the actual circumstances": "What can and cannot be done under God can be known only in relation to the whole concrete situation by those responsibly involved in it. We can find no moral hiding place in legalistic definitions." In its key passages, the commission implicitly endorsed current American strategic policy:

> For the United States to abandon its atomic weapons, or to give the impression that they would not be used, would leave the non-Communist world with totally inadequate defense. For Christians to advocate such a policy would be for them to share responsibility for the worldwide tyranny that might result. We believe that American military strength, which must include atomic weapons as long as any other nation may possess them, is an essential factor in the possibility of preventing both world war and tyranny. If atomic weapons or other weapons of parallel destructiveness are used against us or our friends in Europe or Asia, we believe that it could be justifiable for our government to use them in retaliation with all possible restraint.[40]

Two of the commission's nineteen members dissented: Robert L. Calhoun of Yale and the sole woman, Georgia Harkness, professor of theology at Garrett Biblical Institute, a Methodist seminary in Chicago. The majority's insistence that "if 'we' are attacked 'we' must do whatever is needed to win," while defensible on "political and cultural grounds," said Calhoun, could "scarcely be regarded as distinctively Christian." In Harkness's view, the majority report neither did justice to the pacifist position nor provided any "distinctive moral guidance from the Christian gospel." Further, she suggested, when one was speaking of thermonuclear war, "retaliation with all possible restraint" was a contradiction in terms.[41] In the 1946 Calhoun Commission report, the "pro-bomb" position had been relegated to an uneasy footnote. In the FCC's 1950 report it was far more explicitly and vigorously articulated, with the two lonely dissenters consigned to a footnote.

In May 1950, a small group of pacifists gathered in Detroit to form a Church Peace Mission to promote a dialogue between pacifists and nonpacifists. The delegates included representatives of the so-called "historic peace churches" (Quaker, Mennonite, Brethren); A. J. Muste's Fellowship of Reconciliation; and individual pacifists from the mainstream Protestant denom-

inations. Their report, *The Christian Conscience and War*, drafted in large part by Muste and Edward L. Long, Jr., challenged not only the "cultural jingoism and conventional patriotism" with which secular opinion-molders were approaching atomic-weapons questions, but also the muffled and tentative response of the churches, as symbolized by the Dun Commission report. The Dun report was explicitly criticized for its reliance on arguments of military expediency and American national interest in justifying the possible future use of atomic weapons, and for its failure to recognize that the United States' decision to drop the atomic bomb in 1945 was a critical determinant of postwar world politics; one that helped explain, for example, the unwillingness of a large part of the world "to attach much credence to American protestations that we shall never be first to use atomic weapons again."

The prospect of atomic war, this report went on, gave a "new and terrible urgency" to a rethinking of war as part of a larger social pathology. "War is not a neutral or aseptic tool," it insisted, "but a symptom of sickness, . . . the outer expression of inner conflict in society." Social disintegration and injustice led to war, which in turn produced further disintegration and injustice, and so on in an endless and now potentially catastrophic spiral. In an age of thermonuclear weapons, war could no longer be viewed as a value-free instrument for achieving other "objectives" or protecting other "interests." The nuclear arms race, supposedly undertaken to protect American cultural and political values, was in fact perverting those values: "War *is* the culture of our age and the culture *is* war." Only an "amiable optimism," it said, could see in atomic war "not the maniac who will destroy democracy but the slave who will obediently serve it."

The doctrines of love and redemption, *The Christian Conscience and War* went on, must be the essential beginning point for any religious engagement with the issue of the atomic bomb. "No political or cultural achievement of man should lure Christians into the belief that history no longer needs redemption," it said. "No historic catastrophe should cause them to despair and believe that history cannot be redeemed." It ended with a plea to nonpacifist Christians to "consider whether the hour has not struck for the Church to issue a condemnation of war as an instrument of policy."[42]

This appeal went largely unnoticed and unanswered. *The Christian Conscience and War* represented the statement of a tiny minority resisting a powerful tide. As the 1950s began and the Cold War deepened, such religious or ethically based resistance to the nuclear arms race increasingly became the domain of a distinct group that could be easily encapsulated and dismissed as "pacifist" and thus by definition out of touch with hard political realities. The sometimes anguished documents this minority produced served at the time primarily to reveal how unrepresentative they were of the prevailing cultural and political drift.

The dread destroyer of 1945 had become the shield of the Republic by 1950; America must have as many nuclear weapons as possible, and the bigger the better, for the death struggle with communism that lay ahead. Early in 1950, in a mood of deep despair that he continued to keep out of his public utterances, David Lilienthal resigned from the AEC. The agency, he confessed to an aide, had become "nothing more than a major contractor to the Department of Defense." The new pattern of thought was nowhere better illustrated than in *The Hell Bomb* (1950) by William L. Laurence, chronicler of the Manhattan Project and the leading journalistic authority on atomic weapons. After a simplified introduction to the physics of the hydrogen bomb, Laurence turned to his real theme: an impassioned plea for a vastly expanded atomic-weapons program, and a dire warning against any efforts to restrain that program. International control, he said, had been a "noble ideal" but was now "completely out of tune with the times." In a world "threatened by a savage dictatorship," all schemes for outlawing, restricting, or controlling atomic weapons posed an "extreme danger." Proposals such as Hans Bethe's for an American no-first-use pledge would deny the military access to "the principal weapon standing between us and possible defeat." The awe at the atomic bomb's vast force, which in Laurence's account of the Alamogordo test had taken an almost poetic and even quasi-religious turn, became little more than sheer bloodlust as he contemplated the still greater power of the hydrogen bomb:

> As a blast weapon . . . it can cause total destruction of everything within an area of more than 300 square miles. As an incinerator it would severely burn everything within an area of more than 1200 square miles. It is thus the tactical weapon par excellence. No army in the field or on the march could stand up against it. Had we possessed it at the Battle of the Bulge, just one could have wiped out the entire Bulge.

Cease the "futile debate" and "flood of verbiage" about atomic weapons, exhorted Laurence, and "be done with all visionary plans for destroying the shield that now protects civilization as we know it."[43]

At some level, though, Americans did seem to understand and shudder at what was happening. "We are less complacent than we seem," said Edward L. Long, Jr. "We live in a crisis, and it runs deeper than we commonly suppose. . . . Despair lies close to the surface." Cultural observers vied in the bleakness of their imagery. "We find ourselves more and more in the position of the hanged man who leaps and contorts his body in a desperate effort to escape," wrote Robert Payne in 1949, "but . . . all his contortions only make his death more certain."[44]

"Like the shadow of an eclipse of the sun," wrote *Christian Century* early

in 1950, "atomic darkness is racing across the world. . . . The nations are proceeding as though caught in the vicious closed cycle of an inescapable atomic arms race—weapon, counterweapon; threat, counterthreat—the end whereof is horror." Even *Life* magazine, in its February 1950 special issue on the forthcoming showdown with world communism, gave the last word to a fourteen-year-old Los Angeles schoolboy who in a class assignment on the hydrogen-bomb decision had written in a compulsively reiterative outburst:

> The hydrogen bomb reeks with death. Death, death to thousands. A burning, searing death, a death that is horrible, lasting death. The most horrible death man has invented; the destroying annihilating death of atomic energy. The poisoning, killing, destroying death. Death of the ages, of man, the lasting death.[45]

Images of dreaming and nightmares drift through the writings of those who sought to capture the national mood in these years. "We fear terribly that what we do in a new war will be as wrong and stupid as much of what we did in the last one," editorialized the *Saturday Evening Post* in November 1949, "but like a man in a dream, we see no way to reverse the field." Like the compulsions of the alcoholic, wrote David Bradley in 1951, the quest for ever more potent atomic weapons "promises only to bring the nightmares, the hallucinations, the convulsions of a final global dementia."[46]

Only a few years earlier, opinion-molders of all kinds had insisted that an informed citizenry, sensitized to the magnitude of the danger, could play a decisive role in banishing the atomic threat. And, indeed, many Americans had responded to that message with desperate eagerness. Hope had been the frail child of terror. By the end of the decade, all had changed. In its discouragement, *Christian Century* concluded that the entire post-Hiroshima surge of cultural engagement and political activism had been ephemeral and illusory; "From the beginning," it declared in 1949, "the American people . . . reacted to the atomic threat as a sleepwalker would react to the edge of a roof toward which he was walking." Certainly in 1949–1950 the evidence for such a conclusion seemed overwhelming—as it would be more than thirty years later to George Kennan when he described Americans' response to the bomb in almost identical terms.[47] In the brutal and strident climate of the early Cold War, hope shriveled. What remained was fear—muted, throbbing, only half acknowledged—and a dull sense of grim inevitability as humankind stumbled toward the nothingness that almost surely lay somewhere down the road—no one knew how far.

While Billy Graham exploited this half-submerged atomic fear to bring sinners to repentence, Norman Vincent Peale chose a different approach. The world was full of "worried, anxious people," Peale acknowledged in his best-selling *A Guide to Confident Living* (1948)—people were "afraid of the future." But there was a "cure for fear," he insisted: "Say confidently to yourself: 'Through God's help and the application of simple techniques, I will be free from fear.' Believe that—practice it, and it will be so." We should "develop the habit of not talking about our anxieties and worries," he added in *Faith is the Answer* (1950); "Get your anxiety out of your general conversation, and it will tend to drop out of your mind." Millions took Peale's message to heart. The prevailing cultural mood, concluded I. I. Rabi in 1955, was best characterized as "the complacency of despair."[48]

A few lonely voices of muted hope remained. Lewis Mumford, writing in 1950, conceded the picture was bleak: the nation's leaders were "living in a one-dimension world of the immediate present." Seeking "security," they were fashioning a world "of total insecurity"; worse, the American people, sealed in their delusions, supported these policies.[49] But one must still struggle, against all odds, to reverse the downward drift. "Our first obligation," he wrote, "is the restoration of our own capacity to be human: to think and feel as whole men, not as specialists." To achieve this restoration would be to "challenge the automisms we have submitted to and evaluate both the near and the remote consequences of the forces that we have helped to set in motion. Above all, we must conquer our moral numbness and inertia." Was it a dream to expect such a transformation? he asked, falling into the prevailing imagery. "Naturally it is a dream," he answered "for all challenges to animal lethargy and inertia begin in a dream. . . . But it is better to sink one's last hopes in such a dream than to be destroyed by a nightmare."

in 1950, "atomic darkness is racing across the world. . . . The nations are proceeding as though caught in the vicious closed cycle of an inescapable atomic arms race—weapon, counterweapon; threat, counterthreat—the end whereof is horror." Even *Life* magazine, in its February 1950 special issue on the forthcoming showdown with world communism, gave the last word to a fourteen-year-old Los Angeles schoolboy who in a class assignment on the hydrogen-bomb decision had written in a compulsively reiterative outburst:

> The hydrogen bomb reeks with death. Death, death to thousands. A burning, searing death, a death that is horrible, lasting death. The most horrible death man has invented; the destroying annihilating death of atomic energy. The poisoning, killing, destroying death. Death of the ages, of man, the lasting death.[45]

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EPILOGUE

FROM THE H-BOMB TO STAR WARS: THE CONTINUING CYCLES OF ACTIVISM AND APATHY

Histories end; history goes on. This study closes in the early 1950s, a moment in our forty-year encounter with the bomb dramatically different from the immediate postwar period. By 1950, the obsessive post-Hiroshima awareness of the horror of the atomic bomb had given way to an interval of diminished cultural attention and uneasy acquiescence in the goal of maintaining atomic superiority over the Russians.

But the story of this cultural shift is only the prelude to a much longer one. In the decades that followed, two more such cycles of activism and apathy would play themselves out. To tell that longer story would require another book; but in order to place the developments of 1945–1950 in perspective and suggest how an understanding of that five-year period can contribute to a deeper understanding of our present situation, one must at least sketch in the contours of what followed.

The early 1950s mood of diminished awareness and acquiescence in the developing nuclear arms race soon gave way to a new and very different stage. In the mid-1950s the issue of nuclear weapons again surged dramatically to the forefront, once more becoming a central cultural theme. As in 1945–1946, the reason was fear—this time, fear of radioactive fallout. As we have seen, such fears had surfaced after the Bikini test of 1946, but when the United States in 1952 and the Russians soon after began atmospheric testing of multimegaton thermonuclear bombs, they increased dramatically. It was the United States' 1954 test series that really aroused alarm, spreading radioactive ash over seven thousand square miles of the Pacific, forcing the emergency evacuation of nearby islanders, and bringing illness and death to Japanese fishermen eighty miles away. In 1955, radioactive rain fell on Chicago. In 1959, deadly strontium-90 began to show up in milk. The *Saturday Evening Post* ran a feature called "Fallout: The Silent Killer." A new group of scientists and physicians warned of the health hazards of fallout, including leukemia, bone cancer, and long-term genetic damage. A full-blown fallout scare gripped the nation.[1]

This in turn spawned a national movement against nuclear testing. Adlai Stevenson raised the issue in the 1956 presidential campaign. Soon it was taken up by such groups as Leo Szilard's Council for a Liveable World; Bernard Lown's Physicians for Social Responsibility; and SANE, the National Committe for a Sane Nuclear Policy, founded in 1957. One memorable SANE ad in the *New York Times* featured the famed pediatrician Benjamin Spock gazing with furrowed brow at a young girl under the caption: DR. SPOCK IS WORRIED.[2]

The revived nuclear anxieties of these years were also fed by a renewed emphasis on civil defense, including radio alerts (remember "CONELRAD"?) and wailing warning sirens. In a practice test in 1956, ten thousand Washington government workers scattered to secret relocation centers and President Eisenhower was helicoptered to an underground command post in Maryland. Civil defense hit the big time in 1961 as part of President Kennedy's sparring with the Russians over Berlin. With little advance preparation Kennedy went on television, warned of the danger of nuclear war, and called for a massive fallout-shelter program. Soon, black-and-yellow "Fallout Shelter" signs were adorning schools and public buildings across America. Few homeowners actually built shelters, but a lot of publicity was given to those who did. Schoolchildren hid under their desks in air-raid drills. In one civil-defense film, Bert the Turtle taught schoolchildren to "Duck and Cover."[3]

Not surprisingly, American culture in these years was once again pervaded by the nuclear theme. Books, essays, sermons, and symposia explored the medical, psychological, and ethical implications of nuclear weapons. Novels like Nevil Shute's *On the Beach* (1957), Helen Clarkson's *The Last Day* (1959), Walter Miller's *A Canticle for Leibowitz* (1959), Eugene Burdick and Harvey Wheeler's *Fail-Safe* (1962), and Kurt Vonnegut's *Cat's Cradle* (1963) imagined scenarios of nuclear war and human extinction. The film versions of *On the Beach* and *Fail-Safe*—not to mention the Stanley Kubrick classic *Dr. Strangelove*—were highly successful. In Frank and Eleanor Perry's *Ladybug, Ladybug* (1963), a terrified little girl sent home from school in an air-raid drill becomes so frightened she hides in an abandoned refrigerator and asphyxiates.[4]

This revived nuclear awareness surfaced at all cultural levels. Tom Lehrer's satirical song about a nuclear-age cowboy roaming the test sites of the Southwest in his lead BVDs was a hit on college campuses. *Mad* magazine published a nuclear war "Hit Parade" featuring post-holocaust parodies of current popular songs. If nuclear testing continued, said *Mad,* these were the songs "young lovers of future generations will be singing as they walk down moonlit lanes arm in arm in arm in arm . . . "[5]

A spate of mutant movies—*The H-Man*, *The Blob*, *It*, *Attack of the Crab Monsters*, *The Incredible Shrinking Man*, *Them!*—had obvious psychological roots in the fear of genetic damage from radiation. This is quite explicit in *Them!* (1954), in which mutant ants big enough to ruin any picnic emerge from an atomic-bomb test site in New Mexico. At the end, the scientist-hero draws the moral: in the atomic age, this sort of thing must be expected.[6]

Science fiction as usual mirrored the preoccupations of the larger culture. In Isaac Asimov's "The Gentle Vultures" (1957), representatives of a sophisticated alien civilization, observing earth from their base on the far side of the moon, patiently await the nuclear war that has enabled them to establish their rule over numerous other technologically advanced civilizations throughout the galaxy. In Mordecai Roshwald's *Level 7* (1959), the inhabitants of a vast seven-level underground shelter die, level by level, as the radiation from a nuclear war penetrates deeper into the earth. As the longest-lived survivors, in Level Seven, await their end they invent a new religion in which strontium represents the elemental force of evil.[7]

TV science-fiction series like *The Outer Limits* and Rod Serling's *Twilight Zone* frequently dealt with nuclear war, radioactivity, and the psychological effect of atomic fears. In a 1961 *Twilight Zone* episode called "The Shelter," the warning sirens go off and the people of a typical suburban neighborhood rush to the home of the one man who has built a shelter. He barricades himself and his family inside, refusing their pleas. As panic mounts, the neighbors turn on each other. What had been a tranquil community disintegrates into a screaming mob. Eventually the all-clear signal sounds, but the shaken neighbors recognize they have been destroyed as a community almost as surely as if the bomb had actually fallen.[8]

Like the mutant movies, these TV science-fiction shows also reflected the culture's fear of genetic damage from radiation. In a 1962 *Outer Limits* episode, genetically enhanced bees bent on world domination transform their queen into a beautiful young female humanoid. She insinuates herself into the home of a cozy suburban couple and nearly seduces the weak-willed husband. But the wife becomes suspicious when she sees the newcomer in the garden one night, pollinating flowers. A swarm of bees stings the wife to death and the bee-girl seductively offers herself to the grieving husband. In a surge of revulsion he kills her, and the bees' master plan is foiled—for the moment.

In these years, too, the nation's imaginative writers and poets began to find their voice. Thomas Merton's *Original Child Bomb* (1962), subtitled *Points for Meditation to be Scratched on the Walls of a Cave*, offered a series of terse and sardonic observations on America's development and use of the atomic bomb in World War II. In "Fall 1961," Robert Lowell conveyed his mood in a series of images and impressions:

All autumn, the chafe and jar
of nuclear war;
We have talked our extinction to death.
I swim like a minnow
behind my studio window.

Our end drifts nearer,
the moon lifts,
radiant with terror
The state
is a diver under a glass bell.

A father's no shield
for his child.
We are like a lot of wild
spiders crying together
but without tears.[9]

This second period of nuclear fear and activism ended abruptly in 1963. After the Cuban missile crisis of 1962, when the United States and the Soviets went to the nuclear brink and pulled back, it was widely hoped that they would cooperate to avoid such confrontations in the future. Then in 1963 the United States, the Soviet Union, and Great Britain signed a treaty banning atmospheric nuclear testing. A mood of euphoria swept the country. Almost overnight, the nuclear fear that had been building since the mid-1950s seemed to dissipate. "Writers rarely write about this subject anymore, and people hardly ever talk about it," the columnist Stewart Alsop observed in 1967. "In recent years there has been something like a conspiracy of silence about the threat of nuclear holocaust."[10]

This is not to suggest that nuclear fear ceased to be a significant cultural force in these years. Robert Jay Lifton may well be right in his speculation that the denial of nuclear awareness—like the massive underwater mountain chains that influence ocean currents, marine life, and weather patterns in all kinds of hidden ways—affects a culture as profoundly as acknowledging it does. Psychiatrist John Mack may be correct in suggesting that deep-seated fear of nuclear war is a pervasive constant in children.[11]

What one does see after 1963, however, as in 1947–1954, is a sharp decline in culturally expressed engagement with the issue. With apologies to Raymond Chandler, one might call this the Era of the Big Sleep. Public-opinion data reflect the shift. In 1959, 64 percent of Americans listed nuclear war as the nation's most urgent problem. By 1964, the figure had dropped to 16 percent. Soon it vanished entirely from the surveys. An early 1970s study of the treatment of the nuclear arms race in American educational journals found the subject almost totally ignored. "The atom bomb is

a dead issue," concluded a sociologist studying student attitudes in 1973. Soon after, the editor of the *Bulletin of Atomic Scientists* lamented the ubiquitous "public apathy" on the issue. In 1976 a political journalist observed: "Any politician who would now speak, as President Kennedy once did, about the 'nuclear sword of Damocles' poised above our collective head, would be dismissed out of hand as an anachronism. The fear of nuclear war, once so great, has steadily receded."[12]

In the later 1960s, it is true, Pentagon proposals to build a city-based antiballistic missile system aroused a flurry of activism and media attention. Like the atomic obliteration of two cities in 1945 and the fallout of 1954–1963, such talk forced the nuclear danger unavoidably to the forefront of public awareness, as citizens contemplated the prospect of defensive missile systems practically in their backyards.[13] But apart from this issue (which faded with the signing of the ABM Treaty in 1972), the prevailing American stance toward the nuclear war threat from 1963 until well into the 1970s was one of apathy and neglect.

After 1963, the nuclear theme largely disappeared from TV and the movies, emerging only fleetingly in fiction and popular music—little subsurface tremors, one might say: the 1965 rock hit "Eve of Destruction"; Randy Newman's song "Political Science" with its insinuating refrain, "Let's drop the big one and see what happens"; the young man in Ann Beattie's novel *Falling in Place,* who won't let his girlfriend use the bug killer Raid in their apartment because it gives him nightmares of nuclear tests and radioactive fallout; the middle-aged man in Charles McCarry's *The Tears of Autumn,* who recalls growing up "thinking uranium was good for curing cancer"; the minor character in Stephen Greenleaf's mystery *Death Bed,* a garrulous ex-jockey, who fantasizes about how the computers of the United States and the Soviet Union could begin a nuclear war without human intervention: "Two of those babies are going to get mad at each other one of these days, one of ours and one of theirs, and before they're through we'll all be dead."[14]

Why this sharp decline in cultural attention to the bomb? Why this Big Sleep? The most reassuring explanation would be that the complacency was justified—that the nuclear threat did diminish in these years. Unfortunately, this was not the case. Taking advantage of a gaping loophole in the 1963 test-ban treaty, both sides developed sophisticated techniques of underground testing. The United States tested more nuclear weapons in the five years after the "test ban" treaty than in the five years before. And despite various arms-control agreements culminating in SALT I (1972), the nation's nuclear weapons program went forward at a rapid rate. Despite minor fluctuations as new systems were introduced and old ones retired, the United States' stockpile of nuclear warheads and bombs never fell below twenty-four thousand during the years of the Big Sleep (1963–1980). Indeed, these years brought a number of highly dangerous innovations in nuclear technology, most notably MIRV, the American technological breakout of the 1970s, by which a single missile could carry up to sixteen independently targeted nuclear warheads.[15]

If this long period of nuclear apathy and cultural neglect had so little basis in objective facts, why did it happen? Several reasons might be at least briefly suggested.

First, the *illusion of diminished risk.* The 1963 treaty did not stop nuclear tests, but it did put them underground, out of sight. The various arms-limitation negotiations and treaties of these years did not stop the nuclear arms race, but they gave the appearance that something was being done about the hazard of nuclear war, reassuring a public only too ready to grasp at hopeful straws suggesting that the experts had the problem in hand.

Second, the *loss of immediacy.* With atmospheric tests no longer dominating newspapers and TV screens, the world's massive nuclear arsenals seemed increasingly unreal. As one journalist wrote in 1966: "Familiarity takes the sting out of practically anything, even Armageddon." Nuclear weapons "constitute a danger so theoretical, so remote, as to be almost nonexistent."[16] This loss of immediacy was furthered by an increasingly sanitized, impersonal strategic vocabulary and by the names of doomsday missile systems that evoked comfortable associations with the stars, classical mythology, American history, even popular slang: Polaris, Poseidon, Tomahawk, Pershing, David Crockett, Honest John, Hound Dog. As George Orwell wrote in another context: "The revolution will be complete when the language is perfect." The nuclear arms race—theoretical, remote, largely invisible—was ill-suited to the insatiable visual demands of television. After 1963, the mushroom-shaped cloud, the corporate logo of the nuclear age, became a tired visual cliché, embalmed in the pages of history textbooks where it had little more emotional impact than the lithographs of shivering soldiers at Valley Forge.

Third, in the 1960s and early 1970s, *the promise of a world transformed by atomic energy.* Once again, as in the late 1940s, this helped mute concern about nuclear weapons. This time the utopian dream was focused on nuclear power, reinforced by the reality of power plants springing up from Maine to California. By the mid-1970s these plants would become the focus of demonstrations and protest, but initially, thanks to heavy promotion by the nuclear power industry, they were viewed in a hopeful light. Indeed, a kind of psychological balancing act seems to have occurred, with images of the peaceful atom once again counteracting and to a degree neutralizing images of the destroying atom. As nuclear strategist Albert Wohlstetter observed in 1967, "bright hopes for civilian nuclear energy" offered "an emotional counterweight to . . . nuclear destruction." Implicitly, the policy issue was often posed as a kind of zero-sum game: support peaceful development

enthusiastically enough, and the destroying atom would somehow wither away. In a 1967 speech entitled "Need We Fear Our Nuclear Future?" the chairman of the Atomic Energy Commission, Glenn T. Seaborg, managed a resounding "no" by the simple expedient of never once mentioning nuclear weapons.[17]

Of course, it was not a zero-sum game. Military and civilian uses of atomic energy were deeply interwoven, as the Reagan administration would later remind the nation with its proposals to recycle plutonium from nuclear power plants for weapons production. But for a time, the delicate psychological balancing act seemed to have worked.

Fourth, the Big Sleep was linked to the *complexity and comfort of deterrence theory*. In the immediate postwar years, American nuclear strategy, such as it was, involved a simple if chilling premise: if war came, the United States would simply rain all its available atomic bombs upon Russia's urban and military centers. By the 1960s, nuclear strategy had become an esoteric, complex pursuit involving computers, game theory, and a specialized technical vocabulary. This had a chilling effect on public engagement with the issue. It all seemed—and was clearly meant to seem—too arcane for the average citizen. It also seemed, at least superficially, reassuring. As promulgated by Secretary of Defense Robert McNamara in 1967–1968, the basic logic of deterrence theory was seductive: in a nuclear world, security lay in maintaining a retaliatory capacity so powerful and so invulnerable that no nation would dare attack us or our allies. To tinker carelessly with this arsenal, even to diminish it, could heighten rather than reduce the risk of nuclear war.[18]

A fifth and final explanation for the nuclear apathy of these years is perhaps the most obvious of all: in the later 1960s, *the Vietnam War* absorbed nearly every available drop of antiwar energy. From the major escalation of February 1965 to the final helicopter evacuation from Saigon a little over ten years later, Vietnam obsessed the national consciousness. From the first "teach-in" at the University of Michigan in March 1965 through successive "mobilizations" and "moratoriums" to the final convulsive demonstration against the Cambodian invasion of May 1970, the war was *the* focus of activist energy. For radicals, peace activists, many religious leaders, college students facing the draft, and ultimately countless Americans of no strong ideological bent, opposition to a war that was claiming thousands of lives, devastating entire regions, turning hundreds of thousands of peasants into refugees, and draining the national treasury with no sign of "victory" in sight had an urgency that could not be denied.

Even as media events and as the source of powerful television images, the war and the domestic turmoil it engendered had an immediacy the more abstract nuclear weapons issue could not begin to match. "The second round of Strategic Arms Limitation Talks have started in Geneva," the *Wall Street Journal* could report as late as 1973, "though even an attentive newspaper reader would scarcely have noticed amid the distractions of Vietnam hopes and fears."[19]

From this perspective, the nuclear issue seems not so much to have been set aside as forcibly pushed to the background. The bomb was a potential menace; Vietnam was actuality. This is vividly illustrated in the history of SANE, the major voice against the nuclear arms race in the late 1950s and early 1960s. In the mid-1960s some SANE directors, including co-chairman Benjamin Spock, shifted their energies entirely to opposing the Vietnam War, while a minority tried to keep the nuclear weapons issue paramount. At a SANE executive board meeting in 1966, a catch-all entry called "Disarmament—Nuclear Tests—Non-Proliferation" appeared far down on a long agenda otherwise given over to Vietnam and related issues. The minutes for this item are revealing: "The Board discussed these issues briefly, recognizing the necessity for continued attention and action, but noted that the Vietnam issue must receive the major emphasis until the war is ended." Torn by resignations and dissension, SANE in 1969 even dropped the word "Nuclear" from its name.[20]

As for the New Left—the most dynamic political force in America in the late 1960s—it was not well positioned ideologically to deal with the nuclear arms race. Pointing to Vietnam, to Third World revolutions, and to America's exploited poor, oppressed minorities, and masses of alienated workers numbed by media-induced "false consciousness," New Left ideologues argued that there lay the future arena of a revolutionary struggle that would be pursued through liberation conflicts abroad and mobilization of the masses at home. Impressed by the cool managerial style of Robert McNamara and his computer experts, New Left ideologues shared with the deterrence theorists the tacit assumption that the technocrats could be counted on to "manage" the nuclear arms competition while radicals turned their energies elsewhere. One finds many rhetorical allusions to "the Bomb" in New Left literature, but not much hard analysis of the nuclear arms race as a complex and immensely threatening global phenomenon.[21]

By the later 1970s, however, the nexus of circumstances that had sustained the Big Sleep for some fifteen years was beginning to break up. India's explosion of a "nuclear device" in 1974, after a decade when the "nuclear club" had held steady at five, revived concerns about proliferation. The arms-control process—never notably successful at best—lost momentum after 1972 and ground to a halt in 1979 when President Carter withdrew the SALT II treaty from the Senate after the Soviet invasion of Afghanistan. The Vietnam War faded at last from the spotlight, as did Watergate, OPEC, the Iranian hostage crisis, and the grinding inflation of the Carter years.

Two further developments—one originating abroad and the other in

the American heartland—also played a decisive role in the late-1970s revival of nuclear awareness. A vigorous anti-nuclear-weapons movement in Western Europe, focused on the planned NATO deployment of Pershing and cruise missiles, provided both a stimulus and model for Americans growing increasingly uneasy about the bomb.

Simultaneously, without much media attention, opposition to nuclear power had been spreading in grass-roots America. This movement gained massive visibility in 1979 with the release of the Jane Fonda movie *China Syndrome* and the accident at Three Mile Island, but in fact it had been building for several years at the local level. For decades government officials had urged Americans to focus on the peacetime promise of atomic energy as a reassuring alternative to worrying about nuclear war. In the 1970s they succeeded beyond their wildest dreams, but with results far different than they had anticipated. For when people at last did begin to think seriously about the "peaceful" atom—now symbolized by the nuclear power industry—they concluded that it was not reassuring at all, but deeply alarming. Local activists, students, church groups, and concerned citizens began to focus heavy publicity on nuclear power plants that not only were failing in their economic promise but also raising grave doubts about public health and safety.[22]

Unconsciously influenced by the long-standing official insistence that nuclear weapons and nuclear power were two totally distinct realms, these "Anti-Nuke" activists of the 1970s initially paid little attention to the remote and theoretical issue of nuclear war and focused instead on the local, immediate, and highly visible issue of nuclear power. But by the end of the decade, as other developments forced the nuclear weapons issue once again into public awareness, the always unstable distinction between the "peaceful" atom and the "destroying" atom rapidly collapsed, and activists who had been focusing only on nuclear power began to confront the entire issue in its full and disturbing interconnectedness.

By 1980, then, the stage was already set for a return to the oldest item on the agenda: the threat of nuclear war. The accession of Ronald Reagan, with his bellicose rhetoric, his vast military buildup, his elaborate and heavily publicized civil-defense programs, his proposals to push the nuclear arms race into space, and the barely concealed contempt of powerful administration figures for the whole concept of arms control provided the final decisive push back toward antinuclear activism and revived cultural awareness.

By late 1981, a dramatic shift in the nation's political consciousness was beginning to be felt. Town meetings in rural New England passed resolutions calling for a halt to nuclear weapons production. On November 11—Veterans' Day—students on college campuses turned out in unexpectedly large numbers for speeches and panel discussions on the nuclear threat.

"After several decades in which scarcely anyone but a few indestructible peaceniks and the limited fraternity of arms-control specialists gave any sustained attention to the peril of nuclear destruction in war," observed the president of the Rockefeller Foundation in March 1982, "it is being written about and talked about on every side." That April, towns and colleges across America observed Ground Zero Week with films, lectures, and such consciousness-raising events as a Race for Life, in which runners set out from the center of a hypothetical nuclear blast and ran out of town, passing successive mile markers describing the destruction at that point. That same month, historian Barbara Tuchman wrote in the *New York Times Magazine* of "the remarkable change in this country from the recent indifference to the new deep and widespread concern."[23] On June 12, 1982, over seven hundred thousand antinuclear demonstrators—the largest such assembly in American history—marched in New York City. In November, voters in eight states overwhelmingly approved a referendum calling for a mutual and verifiable freeze on the production and deployment of nuclear weapons. Moribund organizations dating from the days of the test-ban movement—SANE, Physicians for Social Responsibility, the Council for a Liveable World, the Union of Concerned Scientists—dusted off their mailing lists and reemerged with new vigor and visibility. Aging veterans of the Manhattan Project and the postwar scientists' movement found themselves once more in demand.

As in the earlier cycles of activism, this Reagan-induced wave of nuclear awareness found dramatic expression not only in the political arena but also in the mass media and the cultural realm. On March 29, 1982, *Time* presented its 4.5 million readers with a particularly sinister mushroom cloud on its cover. Ann Landers devoted one of her popular advice columns to the nuclear threat and wrote at the end: "I implore every person to sign his or her name across this column and mail it to President Reagan." The comic strip *Bloom County* pictured Norma the Nuke as a jaded but alluring prostitute at the bedside of a sorely tempted man. In Gary Trudeau's ever-topical *Doonesbury*, a trendy young minister pondered the ethical issues of nuclear deterrence with the aid of his new home computer. In a popular newspaper cartoon series, an irritated bartender asked a gloomy patron to stop talking about nuclear war until Happy Hour was over.[24]

After years of neglect, the movies and television rediscovered nuclear war in the early 1980s, dramatizing the ways such a conflict might begin—*World War III*, *War Games*, *Countdown to Looking Glass*—and its effect on specific communities ranging from Sheffield, England (*Threads*) to Boston (*The Apocalypse Game*) to Kansas City (*The Day After*) to northern California (*Testament*). An episode of the NBC dramatic series *Lou Grant* challenged the administration's vision of orderly urban dispersal in a nuclear crisis by portraying the confusion and panic that even the rumor of a nuclear attack

would create in a city like Los Angeles. (The administration struck back. One official criticized the media's "appeal to emotionalism" and its obsession with "the pornography of violence." Television, complained Senator Barry Goldwater, was showing only "the negative side of nuclear weapons.")[25]

Having for years been ignored, the issue of nuclear war suddenly seemed in danger of trivialization. Theodore Gesell produced a Dr. Seuss book comparing the Cold War and the nuclear arms race to a quarrel over how bread should be buttered. A small book of drawings of balloons, bicycle riders, and animal tracks in snow was entitled *Fifty-Seven Reasons Not to Have a Nuclear War*. *The Little Black Book of Atomic War* answered such pressing questions as which actor starred as the atomic scientist in *Them!* (James Arness). A poster at the University of Wisconsin invited students to "Boogie Against Nuclear War"; the Nuclear Polka Band of Denton, Texas, appeared on public radio's *Prairie Home Companion*. In "Be in My Video" (1984), a song satirizing the TV promotional films that in the early 1980s became a major marketing force on the pop-music scene, Frank Zappa wrote:

> There's a cheesy atom bomb explosion
> all the big groups use—
> atomic light will shine
> through an old venetian blind
> making patterns on your face,
> then it cuts to outer space.[26]

"Be in My Video," by Frank Zappa,
© 1984. Munchkin Music, ASCAP.

Nuclear fear, it seemed, was becoming simply another advertising gimmick, helping sell the latest songs of Van Halen and Iron Maiden. As Vartan Gregorian put it in December 1984, the apocalypse was becoming a "bland cliché." Even serious and well-intentioned TV productions like *The Day After* had less impact than predicted, as viewers long since inured to the tube's make-believe violence and faked disasters of the *Towering Inferno* variety readily took them in stride.[27] Perhaps the only adequate television treatment of nuclear war would be two hours of a totally blank screen in prime time. But who would sponsor it?

Yet, this was far from the whole story. At a very different point on the cultural landscape, journals of opinion as politically diverse as *Dissent*, the *Nation*, the *New York Review of Books*, the *New Republic*, *Commentary*, and the *National Review* all published major essays in 1981–1983 on nuclear-related issues. The American Psychiatric Association, whose last major pronouncement on the subject, *Psychiatric Aspects of the Prevention of Nuclear War*, had come in 1964, published a volume warning of the unsettling *Psychosocial Aspects of Nuclear Developments*. A Washington conference of higher-education

leaders in March 1982 considered "The Role of the Academy in Addressing the Issues of Nuclear War." On college and university campuses across the country, courses were introduced, and public-affairs symposia conducted, on the nuclear issue. Emulating the physicians, concerned teachers formed Educators for Social Responsibility.[28]

The nuclear theme also found increasing expression in the realm of imaginative literature. In Russell Hoban's *Riddley Walker* (1980), the inhabitants of a post-nuclear-war England try to make sense of the vanished civilization whose ruins clutter the landscape and whose culture survives in garbled and fragmentary oral traditions. Bernard Malamud's *God's Grace* (1982) is set on a remote Pacific island after civilization has destroyed itself in a nuclear war.

From all across the cultural landscape came a babble of voices as Americans—in novels, in letters to the editor, in classrooms, at dinner parties—began to unlock the closed door of nuclear memory. In Mary Gordon's *The Company of Women* (1982), a character recalls the time she spent in fallout shelters in the 1950s. In Leslie Epstein's *Regina* (1982), the heroine remembers the air-raid drills of her school days, her activism in SANE, and a friend's skepticism about the 1963 test-ban treaty: "'Watch' he'd said during the debate on the test ban treaty. 'They'll push everything underground, which means under the rug, and go right on testing. Better to keep the filth exposed so we have to taste it.' He'd been right, she imagined. The treaty *had* made the difference. They'd all buried the bomb blasts inside themselves. She had to drag even these thoughts from herself, against the force of repression."[29]

Poets, too, began to write of the nuclear threat—or wrestle with their inability to do so. Introducing the Summer 1983 *New England Review and Bread Loaf Quarterly*, an issue devoted to Writers in the Nuclear Age, the editor noted the wave of nuclear awareness sweeping the nation and went on: "It is clear that writers struggle to reconcile political necessities with artistic forms, and sometimes feel blocked when turning their minds to 'subjects' such as the threat of global annihilation—as though our hard-won skills were unsuited for travel on this rough ground." Carolyn Forché put the matter succinctly in the October 1984 issue of *Mother Jones*: "We are the poets of the Nuclear Age, perhaps the last poets, and some of us fear what the Muse is telling us. Some of are finding it harder to write. . . . There is no metaphor for the end of the world and it is horrible to search for one."[30]

The resurgence of cultural attention to the nuclear threat also brought a renewed effort to confront the ethical issues posed by the bomb. The major Protestant denominations appointed commissions and drafted statements, while individual congregations wrestled with the question at the grass-roots level. Even on the Protestant evangelical front, stamping ground of Jerry Falwell, Armageddon prophet Hal Lindsay, and the flag-waving National

Association of Evangelicals (to which President Reagan delivered his speech branding the Soviet Union as "the focus of evil" in the world), a moral critique of American nuclear policy could be heard. Through an organization called Evangelicals for Social Action and such books as *Nuclear Holocaust and Christian Hope* (written with Richard K. Taylor), the Rev. Ronald Sider, an evangelical of unimpeachable credentials, called those who shared his beliefs to a radical rejection of nuclear weapons on biblical principles. In May 1985 a Washington-based evangelical group called Sojourners organized a major demonstration involving nonviolent civil disobedience reminiscent of the early civil-rights movement, to protest the administration's nuclear weapons policy. Within the Roman Catholic Church, the renewed engagement with this issue culminated in *The Challenge of Peace* (1983), the powerful pastoral letter of the National Conference of Catholic Bishops calling on Catholics and non-Catholics alike, both ordinary citizens and those in power, to rethink the morality of American nuclear-weapons policies in the light of Christian teaching and the natural law.[31]

Nor was this ethical discourse confined to the churches. With Jonathan Schell's enormously influential *The Fate of the Earth* leading the way, such diverse books as *Nuclear Culture* by Paul Loeb, *Weapons and Hope* by physicist Freeman Dyson, *The Nuclear Delusion* by diplomat George Kennan, and *Late Night Thoughts on Listening to Mahler's Ninth Symphony* by biologist Lewis Thomas were linked by a common thread of moral concern about the nuclear arms competition and its effect on our lives.

To the historian immersed in studying the bomb's cultural and intellectual impact in the earliest postwar years, this latest upsurge of awareness brings a powerful sense of *déjà vu*. Once again the possibility of nuclear annihilation looms large in the national consciousness, and once again the agencies of culture and the media both resonate to and amplify that awareness. Indeed, the parallels are striking. Except for a post-holocaust "Nuclear Winter," every theme and image by which we express our nuclear fear today has its counterpart in the immediate post-Hiroshima period. The concentric circles of hypothetical destruction we superimpose upon maps of our cities appeared in American newspapers within hours of August 6, 1945. (On today's maps, of course, there are a great many more circles.) Jonathan Schell's graphic description of what a nuclear attack would do to New York City would have been familiar to any reader of *Life*, *Collier's*, or *Reader's Digest* in the late 1940s. Even images like Schell's arresting "Republic of Insects and Grass" appeared in newspaper editorials within days of the atomic-bomb announcement. Those critics of the Reagan Strategic Defense Initiative who point out that even if it worked the United States would still be vulnerable to nuclear weapons smuggled into the country are resurrecting one of the major themes of the scientists' campaign of 1945–1947.

And again, as in the later 1940s, voices of reassurance are to be heard. Once more we hear of security through civil defense (crisis relocation in rural hamlets now, rather than fallout shelters or redesigned cities), new missile systems, new modes of defense, new technological marvels. (Just as one turns from the more bizarre civil-defense schemes of the late 1940s, congratulating oneself that at least we're not *that* naïve anymore, NASA scientists seriously consider research on putting large quantities of human bone marrow into orbit, for retrieval after a nuclear war for the treatment of radiation victims![32])

But for all the similarities, there is also a major, and depressing, difference between the current wave of nuclear awareness and that of the late 1940s. The first time around, the images of mass destruction were anticipatory. By a remarkable leap, Americans in the earliest days of the atomic era summoned up vivid scenes of their great cities in smouldering ruins—scenes that would not, in fact, become real possibilities for another twenty years. The holocaust scenarios of the 1980s, by contrast, are only too plausible. Indeed, our stabs at imagining possible nuclear futures are continually outdistanced by actual developments. In the 1940s, imagination raced ahead of reality; in the 1980s, reality races ahead of imagination.

A further discouraging dimension to one's sense of *déjà vu* is the fact that today's activists have so little awareness of the long history to which they are contributing the latest chapter. We extemporize everything, from strategy and tactics to metaphors and images, as though it had not all been done before—several times, in fact. We debate the wisdom of the scare tactics of a Helen Caldicott with little apparent awareness that this very issue was the subject of massive discussion—and some bitter lessons—a generation ago.

Certainly there is in all this ample reason for pessimism. Viewed in historical perspective, this latest upsurge of activism could easily be seen as simply the latest convolution of a long cyclical process—the most recent swing of a pendulum that since 1945 has oscillated several times between political activism and cultural attention on the one hand and political apathy and cultural neglect on the other. More depressing still is the realization that after each of those earlier periods of activism, the nuclear arms race in fact entered a new and more deadly upward spiral. Will the same be true this time? Certainly by mid-decade, activism seemed already distinctly on the wane, and it was not at all clear that a new cycle of nuclear competition, burdening the earth and perhaps even the heavens above with still more horrible instruments of mass death, would not be our long-term fate.

But it would be wrong to conclude that this cyclical pattern must inexorably shape the trajectory of the future. This fallacy could be as potentially dangerous as its opposite: the comforting assumption that since forty years have now passed without a nuclear war, such a war can be avoided

indefinitely in the future. Such a view of historical inevitability, based on a projection of past trends into the future, reckons without the factor of human unpredictability. History never repeats itself mechanically, like a stuck record. There are always novel twists, in the interstices of which one may sometimes find reason for hope. Our breathing space may be perilously small, and diminishing day by day, but it still remains. Those who warn of the danger of nuclear war rightly point out how readily unpredictable human factors—whether individual miscalculation or some surge of collective madness—could propel us down the road to holocaust despite all efforts to rationalize the technology of decision-making. Yet this same unpredictable human factor can work in the opposite way as well, introducing new forces for sanity and survival in a situation that seems increasingly structured toward a catastrophic denouement.

Of course the past influences the future, even if it does not determine it absolutely; yet even this fact offers cause for hope as well as pessimism. To some, each successive cycle of nuclear awareness has seemed unique and *sui generis*—"like an abrupt, unexpected change in the weather," as one observer characterized the early 1980s surge of activism.[33] In reality, despite our obliviousness, this current wave of political activism and cultural attention is intimately linked to the earlier periods of heightened sensitivity to the nuclear threat. From one vantage point, of course, the cultural world of 1945–1950 has vanished irretrievably. The great media outlets of those days —*Life*, *Collier's*, the *Saturday Evening Post*, the radio networks with their vast national audiences—have fallen by the wayside, victims of that brash upstart, television. Most of the opinion-molders who figure so prominently in this book—Oppenheimer, Rabinowitch, Compton, Muste, Hutchins, Swing, Laurence, Lilienthal, and the others—are long since dead. But there are continuities as well as discontinuities. John Hersey still visits college campuses, still warning that what happened to Hiroshima could happen to us. George F. Kennan, who opposed the hydrogen-bomb decision as a policy-maker in 1949, now publicly summons Americans to resist the spiraling nuclear arms race. The *Bulletin of the Atomic Scientists*, that idealistic product of the postwar scientists' movement, remains an influential forum.

At a more fundamental level, the continuity is not a matter of specific individuals or publications, but of themes and concerns. Even when the intensity of an activist cycle fades, a residuum remains, working itself out in the culture in ways no one can predict. Like the heroine of *Regina*, many Americans who were stirred into protest in 1981 gradually recalled dim memories or historical accounts of the test-ban campaign, or even the international-control activism of 1945–1946. If each upward spiral of the nuclear arms race has spawned its progeny of ever more terrible weapons, so has each cycle of antinuclear activism bequeathed to the future its legacy of cultural documents and political experience. Books like *Hiroshima* and *A Canticle for Leibowitz* remain powerful today; the somber 1945 pronouncements of Einstein, Oppenheimer, and the others have not lost their resonance after the passage of many years. Philip Morrison's haunting 1946 description of what an atomic bomb would do to New York City can still chill the blood. Movies like *Dr. Strangelove* possess the same quality; at the first or the fifth viewing, one still watched in hypnotized fascination as the steps toward Armageddon unfold.

Such products of the past remain part of the culture. The moral eloquence of A. J. Muste in 1947 flows into and blends with that of the Catholic bishops in 1983. The somber reflections of Lewis Mumford on the psychological and social effects of nuclear fear remain part of an ongoing cultural discourse to which Robert Jay Lifton, Jonathan Schell, and many others continue to contribute. The poets and writers of the 1980s struggling to find a voice adequate to the nuclear danger do so in the knowledge that the same challenge was faced by the Agees, Berrymans, Jarrells, and Lowells of an earlier generation.

This is why I have explored in such detail the "vanished" cultural moment of 1945–1950, the years when Americans first confronted the prospect of atomic annihilation. This has not been an exercise in antiquarianism—and certainly not a venture in nostalgia—but an effort to deepen our understanding of the world in which we live. For it was in that era which now seems so distant that the fundamental perceptions which continue to influence our response to the nuclear menace were first articulated, discussed, and absorbed into the living tissue of the culture.

Will the political energies of the antinuclear cause once again be dissipated, and cultural awareness muted, as in the late 1940s, as in 1963? Or this time, will there be genuine progress, as opposed to mere cosmetic tinkering, toward driving back the shadow of global death? Can the destroyer be destroyed?

The historian has no crystal ball. As he approaches the cresting edge of history's wave, he must fall silent. It is up to all of us caught up in that wave to do what we can to shape its course and direction.

NOTES

A Note on the Sources

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Swarthmore College Peace Collection
- Papers of SANE, The National Committee for a Sane Nuclear Policy

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