INTRODUCTION

THE COLD WAR IS OVER: the nuclear arms race, at least in its most sinister form, is rapidly passing into history. Certainly grave nuclear menaces remain: the possibility of terrorist groups or such rogue states as North Korea or Iraq's acquiring nuclear weapons; the danger of regional nuclear exchanges—between India and Pakistan, for example; the future of aging nuclear power plants; the disposal of tons of radioactive wastes that will remain lethal for millennia. Nevertheless, the nuclear arms competition between the United States and the Soviet Union that terrified the world for more than forty years is, blessedly, a thing of the past.

I was forcibly reminded of this in December 1993 when I participated in a Defense Department symposium convened to develop plans for converting nuclear missile silos into national historic landmarks. Silos that once housed nightmarish weapons of mass destruction may soon become tourist stops for family vacationers on their way to Yellowstone, Glacier, or Mount Rushmore.

As the Cold War recedes further into the past, the moment is opportune for those who lived through all or part of that stressful time to begin seriously the process of historical assessment—not just of the diplomacy of the Cold War, but of its social and cultural ramifications as well. It is also a timely moment to remind the rising generation—for many of whom the Cold War and the nuclear arms race are merely words on the pages of history textbooks or grainy images in television documentaries—of the diplomatic, strategic, and technological realities that for decades profoundly shaped Americans' historical experience. This book is one historian's effort to explore one aspect of that vast and
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complex reality: its intense and continuing impact on American consciousness and culture.

As I sought to conceptualize the cultural effects of the nuclear arms race for this book, I found myself thinking metaphorically. In August 1946, at Bikini atoll in the Marshall Islands, the United States conducted the first of what would prove to be a long series of atmospheric tests of nuclear bombs in the South Pacific. In 1949, the Soviet Union exploded its first atomic bomb, launching its own decades-long cycle of atmospheric tests. By the mid-1950s, with the development of hydrogen bombs a thousand times more powerful than the city-destroying atomic bombs of 1945, the pace and intensity of each nation's testing program quickened. Atmospheric testing by the two superpowers continued until the Limited Nuclear Test Ban Treaty of 1963. (Testing by France and China continued for many years.)

Beginning with the U.S. Bravo test series of 1954, the public gradually awakened to a scary by-product of these tests: Cancer-causing strontium 90 and other radioactive materials released by the explosions were drifting over the globe and filtering back to earth, contaminating pastures, farmlands, lakes, and rivers. Concerned scientists raised the alarm, and despite a disinformation campaign by federal officials pooh-poohing the health hazards of radioactivity, the media publicized the danger, and the public became deeply alarmed. These fears, mobilized by activist organizations, played a crucial role in generating political pressure for a test ban—pressure that culminated in the 1963 treaty by which the signatories (the United States, the Soviet Union, and Great Britain) pledged to confine their tests to underground sites. In a larger sense, the test ban campaign helped lay the groundwork for a broader environmental movement that remained important in the 1990s, forty years after the initial wave of public fear and activism.

The whole episode proved a classic illustration of the phenomenon of unintended consequences. The government agencies, weapons designers, and military strategists who planned and conducted these tests did not deliberately set out to poison the environment or to cause strontium 90 to accumulate in mothers' milk, babies' teeth, or the grass eaten by grazing cows. And they certainly did not intend to stir a hornets' nest of
reaction against tests and, to some extent, against the arms race itself. But these consequences followed directly from their actions.

This book is a study of the phenomenon of such unintended consequences. When President Franklin Roosevelt in 1939 authorized the research that led to the successful testing and use of the atomic bomb six years later, he had little awareness (so far as we know) of the far-reaching political and diplomatic ramifications of his decision, or of the social, cultural, and ethical consequences. When President Harry Truman made the fateful determination in 1945 to authorize the dropping of two atomic bombs on Japan, he may well have had larger postwar strategic calculations in mind (historians and the public still debate the question), but he almost surely had little idea that the use of the new weapon would resonate powerfully in American life for half a century and beyond, shaping not only Cold War strategy and diplomacy, but also the nation’s art, literature, ethical discourse, religious life, and mass culture.

As journalists of the mid-1950s reported on the deadly by-products of H-bomb tests that were coursing through the atmosphere and settling inexorably back to earth, they popularized a term that atomic scientists had been using at least since 1946: fallout. Soon the word, often as part of the phrase “radioactive fallout,” became all too familiar to ordinary citizens.

I’ve chosen this term as the title of this book, for the “fallout” from nuclear weapons was cultural as well as chemical. As early as 1954, Time magazine used the word in this metaphorical sense: “The most recent H-bomb test [by the Soviets],” Time observed (December 20, 1954), “was made in Siberia about three months ago, but the fallout of fear and worry . . . has by no means died away.”

The “fallout” from the nuclear arms race, with its endless rounds of nuclear tests, was clearly not limited to strontium 90 and other deadly substances; it also worked its way into the mental and imaginative world of an entire generation, adults and children alike, producing not only nightmares, worried conversations, and activist campaigns, but also a diverse array of cultural artifacts, ranging from poems, novels, and paintings to popular songs, slang, movies, advertisements, radio shows, and television specials. Without close attention to this larger impact of the
nuclear reality, large swaths of American thought and culture in the years after 1945 become opaque and incomprehensible.

This book probes the political, social, psychological, and cultural fallout of the atomic bomb from August 1945 to the mid-1990s. But it is not a conventional work of cultural history, and this invites some explanation and perhaps a bit of autobiography. My training is as a historian, and I have worked on a broad range of topics dealing with American social and cultural history. In 1980, having completed a book on moral reform in the American city, and on the lookout for a new project, I somewhat fortuitously decided to explore the intellectual and cultural impact of the atomic bomb in American life—a topic then very much neglected. As my research proceeded, and I realized the scope of what I had undertaken, I narrowed the time frame of my study to the years from 1945 through 1950. The results appeared as *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*, published by Pantheon in 1985 and reprinted by the University of North Carolina Press in 1994.

Except for an epilogue briefly sketching the rhythms of America's political and cultural responses to the bomb from 1950 to the early 1980s, *By the Bomb's Early Light* was wholly concerned with the immediate postwar period. (An introduction written for the 1994 reissue touches briefly on the eventful decade that began in the early 1980s.) My rationale for limiting that work to the immediate postwar years still remains valid. In that fleeting period, nearly every theme, motif, and fear that would shape America's nuclear discourse for the next half century first emerged, in embryonic but clearly discernible form.

But the publication of *By the Bomb's Early Light* did not end my engagement with nuclear issues. Indeed, the writing of that book appears in retrospect as only a way station in a lifelong encounter that began with my own early nuclear memories, long before I took up the topic as a matter of scholarly interest. Those memories begin with the first news of the atom bomb in August 1945, and my hazy but very real awareness, as a ten year old, of the spike of fear that followed. Among my father's papers is a yellowing 1946 pamphlet entitled "A Statement of Purpose by the Emergency Committee of Atomic Scientists," with passages underlined by my largely apolitical, businessman father.
Then came the nervous talk of atomic confrontation when the Russians exploded their first atomic bomb in 1949 and the Korean War broke out soon after. Even sharper fears of nuclear war in the later 1950s and early 1960s followed, stirred by such movies as *On the Beach*, President John F. Kennedy's sparring with Soviet premier Nikita Khrushchev over Berlin, and the terrifying Cuban Missile Crisis. This, in turn, was succeeded by the uneasy interlude in the later 1960s and 1970s when Vietnam, Watergate, and other crises dominated the headlines without ever fully effacing one's awareness of the superpowers' arsenals of doomsday weaponry— arsenals that seemed to grow in numbers and menace despite periodic “arms control” treaties that were supposed to be reassuring.

My research on *By the Bomb's Early Light* in the early 1980s coincided with the wave of heightened nuclear fear that gripped the nation during President Ronald Reagan's first term. The nuclear-weapons freeze campaign, a grassroots movement calling for a halt in the testing, production, and deployment of nuclear weapons, emerged as the political manifestation of this fear. At the same time, a tidal wave of movies, television programs, rock songs, and science-fiction stories bore witness to the public's renewed obsession with the specter of nuclear holocaust. This outpouring of cultural expression spurred by nuclear fear echoed two earlier cycles, first in the immediate aftermath of Hiroshima and then in the late 1950s and early 1960s, when nuclear alarms and threats had similarly unleashed surges of media commentary, political activism, and cultural attention.

President Ronald Reagan, ever the master of television, undercut the freeze campaign with his dramatic 1983 proposal for a Strategic Defense Initiative, quickly dubbed “Star Wars” by the media and the public. By the end of Reagan's second term and into President George Bush's administration, upheavals in Moscow, the opening of the Berlin Wall, and the collapse of the Soviet Union itself heralded the demise of the Cold War, the end of the superpowers' nuclear arms race, and ushered in nothing less than a new era in world politics.

Curiously, however, the nuclear theme lived on, not only in serious discussion of the real dangers that remained, but also as a motif in pop culture and as a topic of sometimes bitter public debate. In 1995, the
National Air and Space Museum of the Smithsonian Institution announced an exhibit observing the fiftieth anniversary of the atomic bombing of Japan and featuring the *Enola Gay*, the airplane that carried the bomb to Hiroshima. A storm of controversy erupted as veterans' groups, patriotic organizations, and headline-seeking politicians realized that the exhibit would graphically portray the devastation and human suffering the bomb had inflicted and, even more provocatively, include a full range of views by diplomats, military leaders, and historians exploring the murky reasons behind Truman's fateful decision to use the bomb against a nation already tottering on the brink of defeat. Half a century on, the events of August 1945 still stirred uneasily in the nation's memory.

As a historian, citizen, and (intermittent) activist, I observed and, in small ways, participated in these events. Having chosen a research topic that in 1980 seemed far from the center of public awareness, I found myself by 1982 caught up in a sometimes hectic round of public speaking, journalistic writing, and activist strategizing at the local level as the freeze campaign gained momentum. This book, *Fallout*, thus offers a somewhat episodic record of America's political and cultural encounter with nuclear weapons, both as I have written about this encounter as a scholar and as I have experienced it as someone caught up in the events of my time.

The essays reprinted here vary widely in character, from newspaper op-ed columns, book reviews, and journalistic forays to personal reflections and more conventional cultural history that one finds in scholarly periodicals. For all their diversity, however, these chapters share a common theme: the impact of nuclear weapons in American life from 1945 to the present.

The occasions that called forth these essays are as varied as the pieces themselves. In part 1, the two opening essays on the earliest reactions to the atomic bomb (chapters 1 and 2) appeared in August 1985—the fortieth anniversary of the atomic bombing of Japan—as an op-ed piece in the *New York Times* and an article in the *New Republic*. I wrote the essay on Truman and the bomb (chapter 3) for a 1984 conference on the centennial of Harry Truman's birth and then expanded it as a chapter in a 1989 book on his presidency. Chapter 4 includes a 1987 review of a book
on early Cold War diplomacy, and a 1982 review essay (my first published work on the nuclear theme) on a book about nuclear-war planning in the late 1940s.

The three essays in part 2 (chapters 5–7) focus on seemingly quite diverse but in fact interwoven aspects of America’s nuclear culture during the high tide of the Cold War in the later 1950s and early 1960s: the health professionals and civil-defense experts who insisted that with proper planning, nuclear war would not be so bad; “Project Chariot,” Edward Teller’s bizarre scheme to use nuclear explosions in a zany “public works” project to convert the outlet of a small stream in Alaska into a major world port; and what many consider the greatest film ever made on a nuclear theme, Stanley Kubrick’s Dr. Strangelove. Divergent as they seem, these three essays nicely complement each other, since the technocratic mode of thinking revealed in the civil-defense and medical planning for atomic war and in Project Chariot (what C. Wright Mills in another context called “crackpot realism”) forms the real-life context for Kubrick’s black comedy.

Once again, the nature and the tone of these three chapters reflect the circumstances of their original publication: a 1985 article in the Journal of the American Medical Association marking the fortieth anniversary of the Hiroshima-Nagasaki bombings; a 1995 review essay in the Bulletin of the Atomic Scientists; and a 1995 contribution to a general-audience book on the way moviemakers have handled historical themes.

Part 3, “Going Underground,” offers two perspectives on America’s nuclear culture in the years after the 1963 test ban treaty, when the nation’s overt political and cultural engagement with the nuclear threat somewhat diminished—but by no means disappeared. Chapter 8, based on an essay first published in the Journal of American History, presents a bird’s-eye overview of these years, and explores some of the reasons for the “nuclear apathy” that some observers discerned. Qualifying this view of pervasive apathy, chapter 9, drawn from my 1992 book When Time Shall Be No More: Prophecy Belief in Modern American Culture, suggests that attention to atomic war continued to flourish in these years in an unlikely source: popular writings on Bible prophecy.

Part 4 (chapters 10–13), on the “Reagan Round” of nuclear fear, activism, and cultural attention in the early 1980s—and its waning later
in the decade—reprints some of my late 1980s essays on such topics as the nuclear-freeze campaign, the commercial by-products of Reagan’s Star Wars scheme, and the views of college students on nuclear issues as the Cold War wound down. These essays appeared in the Nation and, again, the Bulletin of the Atomic Scientists, a magazine that has provided a forum for thoughtful commentary on nuclear issues from the very beginning of the atomic age.

Part 5, focusing on the period since the end of the Cold War, documents the “nuclear fallout” that continues to affect American culture and politics. Chapter 14, written with Eric Idsvoog, explores the persistence of nuclear menace in video games, Hollywood movies, and blockbuster novels of the 1990s.

The year 1995, the fiftieth anniversary of both the end of World War II and the atomic bombing of Japan, and especially the angry controversy surrounding the National Air and Space Museum’s abortive Enola Gay exhibit, provided another occasion for consideration of the cultural resonances of America’s half-century encounter with nuclear weapons. With these reflections (chapters 15 and 16), written more than fifteen years after I initially turned my scholarly attention to this topic, the book closes.

The very diversity of these essays and of the publications where they originally appeared is a major reason that the idea of gathering them into a single work originally appealed to me, as the chances of anyone’s having read more than three or four of them when they first saw the light of day are surely rather remote! I have arranged these varied essays in a generally chronological order—based on the progression of historical events rather than the dates of composition—moving through the successive stages of the nuclear era, from the dawning of the atomic age in August 1945 to the retrospective moment of 1995 half a century later. Each section and each chapter has a brief introduction relating it to the book’s larger contours and themes, and also suggesting something of the circumstances under which it was written. This epoch is not only one that I have studied as a professional historian; I have also lived through it, and its issues and concerns have engaged me as a citizen. Fallout is an amalgam of both my scholarly and my personal encounter with the bomb.
The text of the essays as reprinted here is close to that of the original publication. I have, however, made some changes, excisions, and additions to avoid duplication, smooth flow, cut excessive detail, or eliminate material not germane to the purpose of this book, such as paragraphs in book reviews that focused purely on matters of style or organization.

I have made these changes silently, rather than burdening the text with ellipses and brackets that, as someone has said, make the act of reading as laborious as climbing an endless series of picket fences to reach one’s destination. Some of the pieces originally included footnotes, but for this book, with its more personal format, the scholarly apparatus has been dropped. The place of first publication of every chapter is clearly indicated, making it easy for anyone to consult the original text or, for those essays originally published in scholarly books or journals, to check a footnote.

Inevitably in a work that draws upon essays and reviews written on a single broad theme over a fifteen-year period, certain events, individuals, and historical developments are alluded to more than once, though in different contexts and from different perspectives. While most repetitions have been quietly edited out, not all could be eliminated without doing violence to the coherence and integrity of specific chapters. Where redundancies still remain, I trust the reader will not find them unduly distracting, and will understand the reason for their presence.