LIFE AFTER NUCLEAR WAR

THE ECONOMIC AND SOCIAL IMPACTS OF NUCLEAR ATTACKS ON THE UNITED STATES

ARTHUR M. KATZ

Foreword by Senator William Proxmire

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FOREWORD

As the bomb fell over Hiroshima and exploded, we saw an entire city disappear. I wrote in my log the words: "My God, what have we done?"

Robert C. Lewis
American Aviator

A developer in Utah puts the finishing touches on a community of disaster-proof condominiums sunk under three feet of earth and eight inches of concrete. The units come complete with air and water filtration systems, independent utilities, and a decontamination chamber. Other "survivalists," perhaps numbering a thousand, are scattered across the country with C-rations and Geiger counters stockpiled in basements.

Their vigil is looked upon with amusement by some as an anachronism from the Cold War 50s and 60s. Nevertheless, the survivalists sit and wait, for the odds continue to mount that they may end up among the living who will pick through the rubble to bury, or worse, envy the dead.

The facts speak for themselves. Six nations now belong to the nuclear club. Another 30 stand in the wings with either the capability or desire to go nuclear. More than 30,000 warheads are now stockpiled throughout the world, equal to the force of over 1 million Hiroshima-sized bombs. Another 10,000 will likely come off the assembly lines by the end of the decade—all this, despite evidence

that the United States and the Soviet Union would be destroyed in an hour with a few hundred. Yet strategic war gamers on both sides talk of a winnable nuclear war through limited attacks with pinpoint targeting.

The atomic bomb, which George F. Kennan described as "the most useless weapon ever invented," has become the dominant weapon of our time. The defense of America, a subject largely dormant since the painful days of Vietnam, is now on everyone's minds, from Main Street to the Pentagon, from the think tanks to the halls of Congress. Fearful that the military edge has slipped to the Soviets, the United States has launched the largest defense buildup since World War II—a staggering $1.5 trillion worth over the next five years.

The debate over how much we should spend has been settled. We have decided to spend more. The remaining issue is how to spend this military largess—a decision that pits the fantasies of the strategist with the reality of the battlefield. "Human kind cannot bear very much reality," wrote T.S. Eliot. Strategic military and civil defense planners suffer from the same affliction.

The defense of America is premised on the retaliatory attack—that is, the ability of the United States to launch enough of its 9,000-odd strategic warheads to destroy the Soviet Union should it decide to strike first. This doctrine of mutually assured destruction, however, has relegated the notion of survival to a back seat. Or, to put it another way, we have become so preoccupied with arming for Armageddon, we have largely ignored the fact that the nation that wins a nuclear war may not survive it.

A nuclear conflict between the United States and the Soviet Union will incinerate life as the two societies now know it, but it will not destroy mankind. There will be people left on this planet after the silos are emptied—the occupants of those Utah condominiums possibly, the survivalists with their C-rations and Geiger counters, and millions more.

What will life be like after the bombs have fallen? Perceptions have stopped far short of reality. Civil defense analysts have displayed a surprising degree of tunnel vision in forecasting the effects of nuclear war by studying only the number of casualties and the amount of physical damage. To be sure, casualty and damage figures are valuable pieces of information that by themselves paint a picture beyond

comprehension. (Can anyone really imagine *90 million* Americans perishing in a full-scale nuclear war?) But dwelling on body and building counts creates a serious misapprehension in our analyses of life after the bombs have dropped. It assumes that when the radioactive dust settles, the remaining population and industry will comprise a viable nation, albeit one with 40 percent fewer people and 80 percent less productive capacity.

Dr. Arthur M. Katz's book, *Life After Nuclear War*, offers a much needed dose of reality to this subject. A thorough debate of the effects of nuclear war, reports Dr. Katz, should include not only a discussion of who or what is left standing, but also a consideration of the social, economic, institutional, political, and psychological traumas faced by the survivors.

Dr. Katz first explored this issue in a study he prepared for Congress's Joint Committee on Defense Production, which I chaired. *Life After Nuclear War* is an updated and expanded version of that 1979 study.

Dr. Katz's conclusions: The casualty figures from a nuclear attack would be gruesome, the physical damage would be devastating; but equally ominous would be the dismemberment of the social, economic, and institutional relationships that hold a nation together.

Banks would fold from evacuees drawing out accounts. Farms not contaminated would have no transportation system to haul their goods to market. Areas not struck would become clogged with evacuees. Millions of managers, supervisors, technicians, and administrators—the people needed to organize a recovery—would be dead. Distrust of government and its leaders, already prevalent, would increase. Uncontaminated survivors would be suspicious of the survivors nearer the explosions, fearing they might spread the radiation. The problems are endless.

Even in a limited nuclear war, in which 20 million persons die as a result of an attack on our land-based missiles, the damage might be more extensive than the strategic planners envision. The industrial bottlenecks alone would be enough to create economic chaos here and abroad. Furthermore, public pressure and outrage might prevent the political leadership from keeping a limited war limited.

New relocation concepts are being considered by civil defense experts to reduce the damage and death toll. Evacuation studies indicate that in small and medium sized cities, many lives could be saved

with an orderly dispersal program. Even so, Dr. Katz's findings should offer fair warning that the aftermath will be far more nightmarish than we have heretofore imagined.

Strategic decisions should be based on both an accurate assessment of our military posture and an accurate projection of our losses once the guns have fired. If this is done, we may finally come to the realization that the only answer to survival is the reduction of the nuclear armaments that have brought us to this precipice. SALT I and SALT II merely place limits on the expansion of our arsenals. It is time to move vigorously forward with negotiations that actually *reduce* the number of nuclear weapons on each side, before Dr. Katz's post-holocaust projection becomes reality.

William Proxmire
United States Senator

PREFACE

This book evolved out of a decade-long exploration of the meaning of nuclear war for society. In the early 1970s I was a staff member to a modest effort by the Arms Control Seminar at MIT to examine the effects of nuclear war on Massachusetts. Our work there grew into a broader examination of the national effects of urban, economically oriented nuclear war. One result of these efforts was a report, *Economic and Social Effects of Nuclear War on the United States*, which I wrote for the Joint Committee on Defense Production of the U.S. Congress; this report was published in 1979 by the Senate Committee on Banking, Housing and Urban Affairs after the Joint Committee's dissolution. Part III and to a lesser degree Part I of this book are based on that report.

Because of its growing appeal during the mid-1970s I began to examine the issue of limited nuclear war—that is, military oriented attacks. Ironically, within the normal definition of full-scale urban attacks, even the economically oriented attacks discussed in this book are limited in size. My hope in combining all of these variations of nuclear war is that the reader will carry away a respect for the meaning of nuclear war in all its guises and an ability to cut through the strategic planning rhetoric to ask some fundamental and demanding questions of military planners.

This book is not a product of my personal efforts alone, and I gratefully acknowledge the assistance of many people. I would like to express my profound thanks to a thoughtful critic and supportive and gracious human being, Professor Bernard Feld. It was he who guided me through the early stages of my studies while I was working for him on the MIT Arms Control Seminar. I also extend my deepest appreciation for their help and support to other members of the Seminar: Francis Low, Viktor Teplitz, Leo Sartori, Steven Weinberg, and particularly, Henry Kendall and James MacKenzie. Over the years Geoffrey Kemp, Ted Greenwood, Kosta Tsipis, George Rathjens, and Newell Mack read innumerable drafts; I am indebted to all of them for their incisive criticism and generous support.

My admiration and thanks go to Peter Scharfman of the Office of Technology Assessment, whose understanding and patient communication of the subtleties of strategic issues enhanced substantially my understanding and, I hope, the quality of my discussion of these issues. I would also like to thank Marshall Goldman for his thoughtful review of Chapter 10.

My largest debt of gratitude is owed to William Kincade, who as staff director of the Joint Committee on Defense Production saw the potential of my work and helped to shape it intellectually and editorially into the committee study. After the Joint Committee was dissolved, he continued to work with me at considerable sacrifice to time spent on his own doctoral thesis and with his family. Even after this truly demanding effort he made the time to review and criticize constructively drafts of this book. He is a true friend. Whatever value this book is deemed to have, he deserves recognition as a substantial contributor to creating it.

I would like to thank sincerely Senator William Proxmire for his support of the original report and for his later assistance in making possible the publication of this book. Ron Tammen and Leon Reed were always ready to help in times of trouble, for which I am deeply grateful. The person who deserves the award for valor in the face of trying circumstances and congressional reorganization is Martha Braddock; she managed to oversee the painful progress of my congressional report. Also deserving recognition for extraordinary efforts are Lory Breneman and Sharon Carter who turned illegible scrawl into typed copy, and Ed Mallon who worked wonders in getting the final committee report into print.

I am very grateful to Michael Connolly, president, and Carol Franco, editor, of Ballinger Publishing Company, who believed

enough in this book to support its publication. Carol and Ruth Chasek, copyeditor, are gratefully acknowledged for helping to edit and organize this book. My sincere appreciation also goes to Steven Cramer, assistant editor at Ballinger, who was always helpful and tolerant as he struggled to bring this book to fruition. To a good friend, Sarah Andrew, who applied her considerable editorial talents under severe time pressures and shaped this book as best she could into its final form, I want to express my deepest appreciation and affection. Bonnie Jones was efficient in typing the revised version of this book, and Linda Heffner always found a way to assure that help was available when I most needed it. Finally, I want to thank my wife, Sima Osdoby, who endured the demands of this book while providing her usual forthright and constructive comments. Of course, any errors and shortcomings are entirely my own.

Arthur M. Katz
Rockville, Maryland

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