

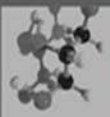
THE NUCLEAR AGE IN POPULAR MEDIA

A Transnational History,
1945-1965

EDITED BY
DICK VAN LENTE



PALGRAVE STUDIES IN THE HISTORY OF SCIENCE AND TECHNOLOGY



THE NUCLEAR AGE IN POPULAR MEDIA

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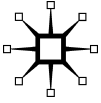
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Contents

<i>List of Illustrations</i>	vii
<i>Acknowledgments</i>	ix
Chapter 1 Introduction: A Transnational History of Popular Images and Narratives of Nuclear Technologies in the First Two Postwar Decades <i>Dick van Lente</i>	1
Chapter 2 Shaping the Soviet Experience of the Atomic Age: Nuclear Topics in <i>Ogonyok</i> , 1945–1965 <i>Sonja D. Schmid</i>	19
Chapter 3 “To See ... Things Dangerous to Come to”: <i>Life</i> Magazine and the Atomic Age in the United States, 1945–1965 <i>Scott C. Zeman</i>	53
Chapter 4 Learning from War: Media Coverage of the Nuclear Age in the Two Germanies <i>Dolores L. Augustine</i>	79
Chapter 5 “Dawn—Or Dusk?”: Britain’s <i>Picture Post</i> Confronts Nuclear Energy <i>Christoph Laucht</i>	117
Chapter 6 Nuclear Power, World Politics, and a Small Nation: Narratives and Counternarratives in the Netherlands <i>Dick van Lente</i>	149

Chapter 7 Nuclear Power Plants in “The Only A-bombed Country”: Images of Nuclear Power and the Nation’s Changing Self-portrait in Postwar Japan <i>Hirofumi Utsumi</i>	175
Chapter 8 Promises of Indian Modernity: Representations of Nuclear Technology in the <i>Illustrated Weekly of India</i> <i>Hans-Joachim Bieber</i>	203
Chapter 9 Conclusion: One World, Two Worlds, Many Worlds? <i>Dolores Augustine and Dick van Lente</i>	233
<i>Appendix I: Picture Essay: Images of Nuclear Power in Illustrated Magazines</i>	249
<i>Appendix II: Nuclear Issues in Eight Countries, 1945–1965</i>	261
<i>Notes on Contributors</i>	265
<i>Index</i>	267

Illustrations

Photographs

AI.1	“The First Publication of the Damages by Atomic Bombs”	250
AI.2	“Six of These Destroy Germany”	251
AI.3	Advertisement for nasal drops	252
AI.4	Tokaimura Research Institute	253
AI.5	Launching of the nuclear icebreaker “Lenin”	253
AI.6	“Snipers of the atomic nucleus”	254
AI.7	“The peaceful atom’s citadel”	255
AI.8	Pavilion of “Atomic Energy for Peaceful Uses”	256
AI.9	“Peace, progress, and communism”	257
AI.10	“Britain on the march: tens of thousands in Trafalgar Square”	258
AI.11	Atomic reactors in Africa	258
AI.12	“The atom cures. But doctor and nurse are exposed to danger”	259
AI.13	Helmuth Sohre confronts Honest John	260

Graphs

AII.1	Nuclear Technology in <i>Ogonyok</i> (Soviet Union), 1945–1965	262
AII.2	Nuclear Technology in <i>Life Magazine</i> (United States), 1945–1965	262

AII.3	Nuclear Technology in <i>Stern</i> (West Germany), 1945–1965	262
AII.4	Nuclear Technology in <i>Neue Berliner illustrierte</i> (East Germany), 1945–1965	262
AII.5	Nuclear Technology in <i>Picture Post</i> (United Kingdom), 1945–1965	263
AII.6	Nuclear Technology in <i>Panorama</i> (Netherlands), 1945–1965	263
AII.7	Nuclear Technology in <i>Asahigraph</i> (Japan), 1945–1965	263
AII.8	Nuclear Technology in <i>Illustrated Weekly of India</i> (India), 1945–1965	263

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DICK VAN LENTE
Rotterdam, May 2012

Chapter 1

Introduction: A Transnational History of Popular Images and Narratives of Nuclear Technologies in the First Two Postwar Decades

Dick van Lente

Nuclear Images and Discourse: A Transnational Theme

Among the great technological innovations that were developed during the Second World War, none made as strong an impression around the world as the atom bombs that destroyed two Japanese cities in August 1945. Commentators spoke of the “atomic age” that had now begun, as if the atom would, all by itself, shape a new world. Two diametrically opposed visions soon developed about the nature of this new phase in human development. On the one hand, it was commonly assumed that before long other nations would create their own nuclear weapons. A new world war would therefore be even more devastating than the one that had just ended, possibly putting an end to all human life on earth. On the other hand, the applications of nuclear fission in medicine, agriculture, engineering, and power provision promised to create a utopian world. Vehicles, from family cars to interplanetary rockets, would be propelled by cheap nuclear power, canals and harbor basins would be created by “peaceful nuclear explosions,” diseases would more easily be diagnosed and cured, food would be produced more efficiently and cheaply, and deserts would be transformed into agricultural land—in brief, material comfort for all people on earth became a realistic prospect, and with it, an end to conflict and war.¹

Naturally, such radically opposing anticipations created a wide demand for information and understanding. Not only popular media,

such as newspapers, illustrated magazines, and exhibitions, but also novels, comic strips, and films, catered to this demand. The result was a deluge of texts and images, ranging from serious explanation to wild fantasy. A striking characteristic of this effusion of popular material was its transnational character, with respect to both content and diffusion. As to content, on the one hand, nuclear war was, from the beginning, considered a threat to the whole planet, because it was assumed that nuclear arsenals would rapidly grow. Peaceful applications, on the other hand, would benefit all mankind. These ideas spread rapidly around the world. A quick glance at the European, American, and East Asian newspapers and illustrated magazines analyzed in this book shows that they often carried reports about the same events, and similar, sometimes even the same, photos. Moreover, nuclear technologies were often discussed in similar terms, using the same metaphors and characteristic narratives.

To speak of a “global” debate would be an exaggeration, however. As Hans-Joachim Bieber points out in his chapter on India, the majority of the people in that country were completely unaware of the issue, and so, we may surmise, were most people in the rural areas of Africa and Latin America. Nevertheless, it seems likely that around the world, both those who made the critical decisions about nuclear technologies and the wider constituencies they had to reckon with were exposed to similar messages about nuclear technology.

This does not mean that nuclear imagery and discourse were basically the same everywhere. They were shaped by national factors as well as international ones. For example, energy provision and national defense were primarily national issues, which led to different policies and public discussions, depending on a country’s energy resources and its position in the Cold War. Japan’s experience as the first A-bombed country differed radically from that of, say, the United States or the newly independent India. In Communist countries, such as the Soviet Union and East Germany, the media worked under constraints that were very different from those in the West. In other words, nuclear technology, both in its peaceful and in its military forms, was at the same time an international issue, argued and speculated about by means of ideas and images that circulated worldwide, *and* it was depicted and discussed in media made for national audiences, reflecting national preoccupations, experiences, and cultural conventions.

It therefore seems evident that the development of nuclear discourse and imagery can only be understood in an international context. A combination of a comparative and a transnational approach seems to be the most promising way forward.² Systematic comparison

of popular media content in several countries will bring out the elements that were shared by some or all of the countries examined, and those that were characteristic for a specific country. Transnational analysis then examines the mechanisms of dissemination, which may account for the high degree of common thought and imagination in the nuclear age. It will focus on the role of press agencies, worldwide propaganda campaigns such as Eisenhower's "Peaceful Atom," and international networks of scientists and peace movements. Such studies are very rare. In 1982, Bertrand Goldschmidt described the politics and debates of nuclear weapons and nuclear energy around the world.³ Spencer Weart's rich account of the development of "nuclear fear," published in 1988, covers several countries, but focuses mostly on the United States, and is vague about methodology. Between 1993 and 2003, Lawrence S. Wittner published an impressive three-volume overview of the international antinuclear movement. More recently, Benjamin Ziemann edited a collection of essays on antinuclear movements in several countries, and Holger Nehring executed a thorough comparison between the British and the West German movements.⁴ These are the most outstanding examples of works transcending national boundaries. The large majority of studies of atomic popular culture, however, covers only one country. Although several of them are based upon solid research, it is impossible to construct a systematic transnational study upon them, because their authors have analyzed different kinds of sources, using different methods. The present book is the first attempt at a systematic transnational analysis of representations of nuclear power in several countries, based on a common source base and a common methodology. Our goal is to compare representations of nuclear power in eight countries during the first two decades of the "nuclear age," and to trace and explain divergences, convergences, and exchanges.

Eight Countries during the First Two Decades of the Nuclear Age

The eight countries discussed in this book have been selected to reflect a range of different positions in the new nuclear age. Of course, the leading opponents in the Cold War, the Soviet Union and the United States, are each discussed in a chapter. Within the Western world, Britain conducted top-level nuclear research, and developed its own atomic and thermonuclear weapons as well as civilian applications. East and West Germany, with their shared past and opposite positions

in the Cold War, present the most striking example of the shaping of nuclear images by common and opposing forces. The Netherlands is an example of a small country with an ambitious nuclear program, but very dependent upon the maneuvering of the larger powers. In the mid-1950s Japan, in spite of the trauma of the nuclear attack, and after initial reservations, launched an ambitious program of technological modernization, in which nuclear energy had a major role. The political and scientific elites in India had, immediately after independence, embraced the development of civilian nuclear technology as a powerful instrument of modernizing the country and leaving behind the colonial stigma. Only after the short war with China 1962 and the first Chinese nuclear test in 1964 did the country's leaders start to debate India's need for nuclear weapons.

Of course, many other countries might have been included in this book, but our aim is not to provide a comprehensive overview. Rather, we attempt to show the interplay of national and international pressures in the creation of images and ideas about nuclear power, and we are confident that this can be achieved with the case studies we have selected.

The period studied runs from the first use of nuclear weapons in August 1945, which started a period of intense concern and debate, to about 1965, when the atomic age had more or less settled in, and public discussions shifted toward other themes. It was the period when people around the world first attempted to come to terms with a new phenomenon that profoundly changed the prospects of the future.

Sources and Methods

Although various sources have been used in this work, illustrated magazines constitute its backbone of evidence. They are very useful for comparative analysis because they existed in each country, and were similar in several respects. First, they were very popular in all layers of society, although India is an exception, as will be shown later; second, since they all imitated and borrowed from each other, they had a similar format; third, they appeared throughout our period and therefore enable us to study the changes in perceptions over time; and finally, they contained both text and images, allowing us to study the interplay between dominant narratives and dominant visual representations. The main features of popular illustrated magazines in this period were weekly appearance, a wealth of photographic illustrations that were much better printed and were often of a much larger

size than those appearing in newspapers, attractive page design, and mixed content consisting of spectacular news items, background reports, stories about royalty, sports heroes and movie stars, serial fiction, science popularization, and cartoons. Although large circulation magazines had existed in the nineteenth century, the typical twentieth century format appeared during the nineteen twenties, more or less simultaneously in several Western countries and in Japan.⁵ After the war, the American magazines *Life* and the older *Saturday Evening Post*, as well as the British *Picture Post* were leading examples throughout the Western world as well as in countries imitating the West. West German *Stern* and Dutch *Panorama* adapted the Anglo-American models to national tastes. Similarities between these magazines also stemmed from the fact that they exchanged items with each other, took over style elements that might be successful in their own countries, and used international photo agencies as a common source of images. The leading Russian, East German, Japanese, and Indian magazines were remarkably similar to these Western publications.

Most of these magazines reached large audiences, often larger than the most widely read newspapers, and in all social strata. In the West, they operated in a very competitive market, forcing them to pay close attention to the interests of the reading public. In Communist countries, they were major channels of propaganda. However, in order to be effective, they also had to take public tastes into account. Television was hardly a competitor in continental Europe, where it became a mass medium only during the sixties, let alone in India where this occurred much later.⁶ In the United States, television already had a large audience from the late forties, Britain followed in the late fifties, and Japan a few years later. Possibly during those first years, television, and the news reels in cinema theatres too, only stimulated the sales of illustrated magazines. This was the opinion of the chief editor of the successful West German magazine *Bunte Illustrierte*, who argued that the ephemeral character of moving images fostered a desire in the public to take a closer look and acquire further information, services that precisely the illustrated magazine could perform.⁷ In any case, it seems very likely that the illustrated magazines performed a prominent role in acquainting people with a new technology with which they had no personal experience: they showed what Hiroshima and Nagasaki, bomb tests, and nuclear reactors looked like; they showed the faces of political leaders, scientists, and critics in intimate detail; and they provided some technical explanation, as well as metaphors and narratives which might help readers to interpret the frightening and promising new phenomenon. The richness of this source has led us to study

every issue of our selected magazines—about a thousand issues in each country. This has allowed us to follow the development of our theme week by week, as the readers did. We can show exactly which aspects of nuclear technology were covered, how this was done, and how this changed over time.

The magazines we have selected were among the most popular in their countries: *Stern* in West Germany, *Neue Berliner Illustrierte* in East Germany, *Picture Post* in Britain, *Life* and *Saturday Evening Post* in the United States, *Panorama* in the Netherlands, *Ogonyok* in the Soviet Union, *Asahi Gurafu* (*Asahigraph*) in Japan, and the *Illustrated Weekly of India* in India. The Indian case is special, because 80 percent of the population was unable to read. However, the *Illustrated Weekly of India* did reach that part of the population which followed, and sometimes participated in, political debates. It was important in shaping the opinions of the politically relevant public. We will take account of the fact that, in spite of many similarities, these magazines also differed significantly in some respects. For example, *Picture Post* served as a forum for a rather sophisticated exchange of views, and occasionally published articles by prominent scientists, whereas *Stern* and especially *Panorama* were more oriented toward a less highly educated public and were more politically neutral than the left-leaning *Picture Post*. The *Illustrated Weekly of India* was read as a supplement to the daily newspaper *Times of India*, and therefore often did not report on subjects that had already been treated extensively in the *Times* (which is why Hans Bieber in his chapter on India also discusses the newspaper). Nevertheless, during the period studied here, no other medium so clearly and so regularly reflected and shaped the perceptions and thought of a wide variety of people than these illustrated magazines.

As a check on the narratives and images we found in these magazines, we have used several other sources. Opinion polls give a rough impression of changing perceptions. Comic books dealt with the subject in a literary way, which often sheds a more direct light on the fears, hopes, and fantasies lurking below the arguments in discursive texts. *Serialized* comics, like magazines, have the additional advantage of reflecting changing preoccupations over time. Exhibitions about peaceful applications of nuclear power, that were held in many countries during the fifties, attempted to turn people's minds away from bombs, and open up more hopeful visions. In newspaper reports about them, we sometimes catch a glimpse of the public's response that is difficult to find in other sources. Reviews of films such as "On the beach," are another rich source for international comparison.

Our approach in analyzing the contents of these popular media follows the recent literature on science popularization.⁸ Representations of science and technology for large, nonexpert publics are, according to this literature, mainly shaped by four groups of factors: the scientific and technological establishment, the state and businesses as financiers of scientific-technological research, the dynamics of media themselves, and the fund of stories and images commonly known in a culture, on which representations of science and technology could draw.

Scientists were a crucial and contradictory factor. They were crucial because governments, the media, and the public relied on them for information about technologies that were difficult for laypersons to understand. All the countries discussed here had a tradition of reverence for science as an institution, while scientists as persons, at least in the West, have for a long time been regarded with a mixture of admiration and suspicion.⁹ Nuclear scientists had an obvious interest in a positive image of their work, because the very expensive research they conducted was mostly financed from tax money. Utopian prospects of the atomic age usually came from them, either directly, or through popular writers extrapolating from recent scientific findings. However, some highly venerated scientists, such as Albert Einstein and Carl Friedrich von Weizsäcker, were severe critics of nuclear weapons and testing. Several were also skeptical about the promises of a nuclear paradise. These critical scientists also appeared in popular media, and their apocalyptic warnings were supported by some politicians and popular writers. In other words, the intellectual and political elites to which most people tended to look for guidance in public affairs were bitterly divided. In the complex and frightening situation of the Cold War, this created additional bewilderment.

Both military and peaceful applications of nuclear energy were mostly financed by states, much less through private investment. This was obviously the case with armaments and research in universities, hospitals, and other government-supported institutions, but nuclear energy was also mainly a government project, because companies were reluctant to invest in this untested technology. Of course, the states we deal with in this book differed widely in their relations to their citizens and their legitimating institutions and strategies, but all of them needed some amount of public approval of their policies, and therefore tried to use popular media to create legitimacy.

While governments and scientists tried to shape public opinion, the mass media had their own agendas and logic, and therefore were not simply mouthpieces of the elites. In capitalist countries, they needed

to reach as large an audience as possible in order to attract their main sources of revenue, the advertisers. This resulted in a selection of topics and a “framing” of stories and images that the editors believed would speak to many. Commercial considerations were not the only motives, of course: many journalists and editors believed that their mission was to educate the public. In Communist countries, the party used the media for propaganda much more explicitly, but as the chapters on the Soviet Union and East Germany show, editors of popular magazines were also expected to make their publications attractive to their readers. In this regard, Eastern European illustrated magazines were different from straightforward party newspapers.

Finally, writers and photographers describing and depicting nuclear power often used old and well-known images and narratives to portray nuclear energy and weapons, for example, the alchemist, prying into nature’s most intimate and dangerous secrets, or the hero serving common people in need.

Each chapter briefly outlines the development of nuclear science and technology in the country under discussion, and sketches the main political debates and changes in public opinion. The magazine on which the analysis focuses is then introduced, including editorial policy and its relation to other popular media. The analysis of the magazine and the other sources then focuses on four general themes: descriptions and commemorations of the destruction of Hiroshima and Nagasaki, military and peaceful forms of nuclear technology, and the rise of the protest movement. The analysis starts with an elementary statistical scan, which shows changes in attention to these themes over time (see [appendix II](#)). Then follows a structural analysis of nuclear narratives, in which we loosely employ three concepts from literary studies: opposition, metaphor, and metonymy.¹⁰ Basic oppositions between good and bad, hope and fear, promise and doom structure all narratives, and the Manichean discourse on nuclear power in particular. Metaphors associate a subject with well-known images, such as mankind standing “at a crossroads,” the biblical one of swords turned into plowshares, or the typical Communist image of the capitalist as a rapist. They add emotional power, often suggest attributes without mentioning them, and make complicated phenomena seem understandable. Metonymy is frequently used to represent a complex event or phenomenon by means of a single picture or a description of a part or an aspect of the event. Thus, the mushroom cloud could represent the power of a nuclear explosion as a kind of natural phenomenon, without showing victims or perpetrators. Nuclear reactors could suggest the coming of a modern society, as was the case in Japan and

India, or they could stand for environmental risks, an image that we see emerging in the Netherlands in the early sixties.

In the photographs and other images appearing in the magazines the same tropes were used, but it is important to note that they always did much more than providing visual support (“illustration”) for the topics discussed in the text. Practically always, they added an affective load by speaking more powerfully to the senses. They could also undermine textual messages or give them an ironic twist, as happened, for example, in stories about medical applications in which pictures of doctors with elaborate protective gear against radiation subtly undermined the message of healing the sick.

The results of our statistical analysis can be found in [appendix II](#), and a sample of images from the magazines from the countries we studied is presented in [appendix I](#). We refer to this material in our chapters, but have collected them at the end of the book in order to invite the reader to think along with us about convergences and divergences of perceptions of the nuclear age around the world.

The Atom as a Public Issue 1945–1965: A Brief Survey

Well before the first nuclear reactor became critical in Chicago in December 1942, images and stories about nuclear power were widespread, at least in the Western world.¹¹ In 1903, the physicist Frederick Soddy was one of the first to announce to the general public the recently discovered phenomenon of radiation. In a popular magazine, he wrote that planet earth was “a storehouse full of explosives,” and in lectures for diverse publics he explained the new field of nuclear physics and its possible applications. Soon journalists and popular fiction writers elaborated on this theme. They projected a dichotomous image of constructive and destructive uses—a topos in discourse on new technologies, but greatly enhanced in the case of nuclear technology. On the positive side, an inexhaustible energy source could lead to limitless progress, “transform a desert continent, thaw the frozen poles, and make the whole earth one smiling garden of Eden,” to quote Soddy once again.¹² But unlimited destruction was possible as well. In 1913, the popular novelist H. G. Wells summed up many of these hopes and fears in his novel *The World Set Free*. After a war involving air attacks with “atomic bombs” (he coined the word), which almost destroyed human life on earth, the survivors, led by the scientist who had invented the nuclear weapon, created an atomic-powered paradise. These early stories and explanations often drew on images from the large fund of European mythology, which would be

used again and again in the discourse on nuclear power: the reckless alchemist Faustus, the deranged scientist Frankenstein, and the naive sorcerer's apprentice, among others.

In the early months of 1939, shortly after the discovery of uranium fission in a Berlin lab, scientists worked out the possibility that such fissions might occur chainwise, each igniting new ones, releasing a tremendous amount of energy. The strong suspicion that the Germans were working on a bomb based on this principle led to the American Manhattan Project, which started in 1942. The Germans had indeed set up a program to design a fission weapon, and so had the Japanese, but their efforts were dwarfed by the huge amounts of capital and creative genius that the United States could muster for the project. After three years of hectic work, two types of bomb had been created. The first used two subcritical blocks of highly enriched uranium, one of which was shot against the other one by means of an explosive, creating a critical mass and an instant chain reaction. The bomb code-named "Little Boy," that exploded over Hiroshima on August 6, 1945, was of this type. A much more complicated device contained a hollow sphere of Plutonium, which became critical through compression by a ring of high explosives. This type was tested on July 16, 1945, near Alamogordo in the New Mexico desert, and exploded above Nagasaki on August 9. These bombs completely destroyed the larger part of both cities and instantaneously killed thousands of people, maiming many more. By the end of 1945, about 140,000 people had died in Hiroshima and about 70,000 in Nagasaki. Hundreds of thousands more died of radiation disease during the following years.

In the debate of the following two decades, the period analyzed in this book, we may distinguish two main periods separated by a brief interlude. The first four years were those of America's nuclear monopoly, which lasted until the end of August 1949, when the Russians tested their first atom bomb. In 1952, the British joined the nuclear club. The next phase, which started with the explosion of the first hydrogen bomb in November 1952, was characterized by a long series of atmospheric bomb tests, the rise of the antinuclear movement, and an intensive propaganda campaign for peaceful applications of nuclear technology. This phase ended in the years following 1963, when the Nuclear Test Ban Treaty was signed and the antinuclear movement started to decline. We will now take a closer look at each of these periods.

In the first reports on the dropping of the atomic bombs on Japan, it was already assumed that the expertise and materials needed to

build nuclear weapons would sooner or later spread to other countries besides the United States. Some kind of international regime was needed to contain this threat. The title of a widely read pamphlet, published in the United States in March 1946, described the dilemma as *One World or None*. Attempts to create such an international arrangement under the auspices of the United Nations, a few months later, stranded however, because Americans and Russians could not agree about the mechanism for controlling nuclear activities, and because the Americans refused to dismantle their nuclear arsenals first, as the Russians demanded. During these years, antinuclear movements arose in several countries, supported mostly by concerned scientists and Christian organizations that had also been active in the prewar peace movements. In Japan, survivors of the nuclear attacks, the so-called *hibakusha*, played a prominent role. In 1948, the Soviet leaders tried to channel worldwide fears of a nuclear holocaust into an international peace movement, supported by Communists in the West, among whom were prominent scientists like Frédéric Joliot-Curie and J. D. Bernal. This World Peace Council collected millions of signatures for its "Stockholm Appeal" of March 1950, but most people in the West recognized it for the Communist propaganda vehicle that it was, and anyhow, by this time, the antinuclear movement was in decline, only to revive a few years later, when the nuclear threat seemed to become more acute.

On August 29, 1949, when the Russians tested their first atomic bomb, the American nuclear monopoly ended. In January 1950, President Eisenhower responded by ordering the development of the vastly more destructive hydrogen bomb, a weapon based on the fusion of hydrogen atoms in the intense heat created by a fission device (hence, "thermonuclear weapon"). The first of these bombs was tested over the island Eniwetok in the Pacific in November 1952. Within a year, the Russians tested theirs. In retrospect, these years were a kind of interlude. The coming of thermonuclear weapons, each of which eventually exceeded the destructiveness of the older nuclear weapons by a factor of 1000, was the beginning of a new phase of controversy.

After the Eniwetok test, the buildup of the "arsenals of folly," as Richard Rhodes has called them, started in earnest. Americans and Russians tested ever more powerful bombs. In 1952, the British tested their first atomic bomb, the French followed in 1960, and the Chinese in 1964. Britain, China, and France then went on to test thermonuclear weapons, in 1957, 1967, and 1968, respectively. In order to justify the huge budgets devoted to nuclear armaments, the

governments of these countries exaggerated the threat of the opponent. From 1952, American, Russian, and British leaders announced that they would not hesitate to use nuclear weapons in the event of war, even if the opponent had only used conventional arms. The Americans installed short-range nuclear weapons in Western Germany in 1953 and two years later, in a military exercise called *Carte Blanche*, simulated a Russian attack on that country. Newspapers reported what the country would look like after such an attack. At the same time, Western governments tried to convince their citizens that they could protect themselves by simple measures, such as improvised shelters ("civil defence"). To give these measures a semblance of realism, the population was instructed, in films and leaflets, about the effects of a nuclear attack. The effect of all this simultaneous saber rattling and efforts at confidence building was a sharp increase of nuclear fear.

Increasingly, this fear focused upon the effects of radioactive fallout from bomb tests. Worries about the death of cattle and people falling ill in the vicinity of the American test site in Nevada were at first denied by American Atomic Energy Commission (AEC), which conducted the tests. This was no longer possible after March 1954, when an American thermonuclear test on the Pacific island Bikini produced much more fallout than expected. People on the adjoining islands had to be evacuated quickly. A small Japanese fisher boat called *Fukuryu Maru* (Lucky Dragon), operating well outside the danger zone the Americans had marked out, was showered with fallout in the form of white powder. On the way home, the men fell seriously ill, one died in September, and all over Japan panic struck about irradiated tuna fish. The incident created an outrage around the world, and from that time on, the antinuclear movement gathered strength again.

As in the earlier wave of protest, scientists were the first to speak out. Already in 1950, Einstein had tried to persuade president Truman not to pursue the hydrogen bomb, because "radioactive poisoning of the atmosphere" would lead to "annihilation of any life on earth." After the *Lucky Dragon* incident, other celebrities, often qualified in the fields of nuclear physics or medicine, started to issue similar warnings, for example, doctors Albert Schweitzer and Benjamin Spock, and biochemist Linus Pauling. They were joined by other famous men, such as the British philosopher and pacifist Bertrand Russell, the French nuclear scientist Frédéric Joliot-Curie, the American presidential candidate Adlai Stevenson, and the Indian prime minister Jawaharlal Nehru. Newspapers reported about traces of radioactive material found in rain, milk, and even children's teeth around the world. In 1957, the Canadian American businessman Cyrus Eaton

invited scientists from Western and Communist countries at his home in Pugwash to discuss nuclear disarmament—the beginning of a widely publicized scientists' movement. Churches were an important international factor in the opposition movement in the West. In 1954, both the pope and the protestant World Council of Churches spoke out against the nuclear arms race and tests.

In 1957, the peace movement began to grow very quickly, especially in Germany, Britain, the United States, and Japan. In Britain, the first "Easter march" took place. Protesters marched in four days from London to Aldermaston, the center for nuclear weapons research. Organizations such as the British Committee for Nuclear Disarmament, the German Kampf dem Atomtod, the American National Committee for a Sane Nuclear Policy (SANE), and the Japanese Council against Atomic and Hydrogen Bombs coordinated the activities of thousands of volunteers. Among them, women and young people, especially students, were overrepresented.

In the mean time, political leaders tried to contain the nuclear threat. Negotiations were difficult because of mutual distrust, not only between East and West, but also within the Western alliance. West-European politicians were not sure that the Americans would be prepared to defend Western Europe if that invited a Soviet nuclear attack on their own country, and they also distrusted each other. The most spectacular effort to soothe public fears about nuclear weapons, tie down fissionable material worldwide for peaceful uses, and prolong American nuclear hegemony, all at the same time, was president Eisenhower's Peaceful Atom initiative, launched in December 1953 in a masterful speech to the General Assembly of the United Nations. Now that the American monopoly was lost, and several countries (including all those we are concerned with in this volume, except West Germany) were successfully conducting nuclear research, the American president launched a new international strategy. He proposed that the all countries that owned fissionable material deposit some of this into a common fund, to be administered by a new agency under the auspices of the United Nations, and to be distributed to any country that wanted to use it for civilian purposes. Until such an agency was set up, American enriched uranium and reactor technology would be made available by bilateral treaty to countries that wanted to use them for anything but weapons.

Eisenhower's speech was followed up by a massive worldwide propaganda campaign. Exhibitions on peaceful uses of nuclear power were held in several European countries as well as in Japan, India, and many other countries. Disney Studios in 1957 produced a brilliant

piece of science popularization, "Our friend the Atom," which also appeared as a book, and reached audiences in many countries, at least in the West. A large international conference on peaceful nuclear power was organized in Geneva in 1955, where the Americans also exhibited a working nuclear reactor. The conference created a euphoric mood among scientists, who could now freely discuss their findings with foreign colleagues, even across the East-West divide. Numerous popular publications explained the blessings of the new nuclear age. The two main lines of argument in these publications were that nuclear power should not be identified with weapons only; and that it was the only hope of overcoming Western dependence on the quickly shrinking supplies of oil and coal—an argument that carried much conviction after the interruption of oil transports during the Suez crisis of 1956. "Peaceful Atom" met with a substantial positive popular response in all Western countries, and apparently in India and Japan as well. Several countries made treaties with the United States for the purchase of nuclear fuel and reactors.

By the end of the fifties, however, nuclear power quickly lost its glamour. It turned out to be more expensive to produce than had been expected. Besides, large amounts of oil and natural gas were found in the Sahara and elsewhere. The impending shortage of fossil fuels disappeared from the horizon, and consequently the introduction of nuclear power lost its urgency.

As to the arms race and nuclear proliferation, a series of American-Soviet confrontations—the grounding of an American spy plane over Russia in 1960, disagreements over the status of Berlin, culminating in the building of the Berlin Wall in 1961, and, most dangerous of all, the Cuban missile crisis in October 1962—in combination with increasing popular resentment of nuclear weapons, pushed the politicians toward the negotiation table. This resulted in the Nuclear Test Ban Treaty of 1963, which prohibited all tests except those carried out underground. The treaty had become possible because of the advent of the reconnaissance satellite, which eliminated the necessity of inspection on the ground, something the Soviet Union had always rejected.¹³ A hundred countries joined the treaty, although not the new nuclear powers France and China. It was mainly a symbolic gesture: underground testing, which could not be detected by satellite, went on at a brisk pace, and the stock of weapons increased. But the weapons race did become less visible, and the underground tests produced no fallout. The "hot line" installed between Moscow and Washington after the Cuban crisis, and the negotiations that resulted in the Nuclear Nonproliferation Treaty in 1968 seemed to make the

world a little safer. The antinuclear movement started to fade, and public debate shifted to other issues, such as the wars of decolonization and the student and civil rights movements. In East Asia, as we saw, the situation was different: here, the Chinese test of 1964 was the beginning of the proliferation of nuclear weapons.

A Note on Articles in Illustrated Magazines

Most articles that appeared in the illustrated magazines were anonymous, although some were signed by the author. In the chapter end-notes we have mentioned authors of signed articles. When no name is mentioned, the reader may assume that the article was written by an anonymous author.

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Chapter 2

Shaping the Soviet Experience of the Atomic Age: Nuclear Topics in *Ogonyok*, 1945–1965

Sonja D. Schmid

Introduction

It was the sudden disappearance of American scholarly publications on nuclear fission in the early 1940s that alerted Soviet scientists to the secret American nuclear weapons program. Georgi Flerov, a Soviet nuclear physicist, wrote a letter to Stalin in 1942 and warned him that this conspicuous silence could only mean that the Americans were working on a nuclear bomb.¹ Intelligence soon confirmed Flerov's suspicion, and in early 1943, the Soviet Union initiated its own nuclear weapons project. Shrouded in secrecy, the Soviet state set up organizations and facilities supporting an army of nuclear scientists and engineers, who developed and mastered fission and fusion devices soon after their American counterparts. The ground work was laid for a nuclear arms race that would soon escalate. Yet another race started in 1954, with the launch of a Soviet nuclear power plant—named “The World’s First.” This race was about capturing the public’s imagination, and providing a vision of what the “peaceful applications” of nuclear energy might bring to the world. Popular media were key instruments to disseminate such visions to the public, in the Soviet case perhaps even more consciously so than elsewhere. Since the October revolution in 1917, the young Soviet state had continuously fine-tuned its mass media system to reach all citizens, and to enroll each and every one of them into the “construction of communism in one country.”

This chapter uses one popular magazine, *Ogonyok*, as the main source for this book’s international comparison. Although I have

used it as my point of departure, it will soon become clear that this is but a tiny drop in the sea of Soviet media. *Ogonyok's* later editors would consciously compare the magazine to the American *Life* and the French *Paris Match*, but this magazine nevertheless kept a distinctly Soviet character. As such, its early postwar coverage of nuclear topics reflects not only a specifically Soviet perspective on the nascent atomic age, but also situates the journal within a larger, highly planned, and orchestrated media landscape unlike in any Western state. By closely tracing how nuclear themes were covered by *Ogonyok* between 1945 and 1965, we will see not only changes in the selection and presentation of nuclear topics, but also begin to understand how these changes reflect the concept of a Soviet state, and the idea of Soviet citizens. Independent additions from other popular and official renditions complement this foray into the early decades of nuclear popularization in the USSR.² I hope to show that these Soviet nuclear narratives did not just present events, but also articulated expectations about each individual's role in the construction of a Communist society. In other words, the way nuclear matters were presented in Soviet mass media were simultaneously prescriptions for what and how the public should know about nuclear matters. In the two decades immediately following the end of World War II, it was the sustained absence of nuclear milestones in *Ogonyok* that should alert us to the fact that the public imagination of "the atomic age" that was taking shape in the Soviet Union may have been quite different from that in the West.

Ogonyok and Soviet Popular Media

Soviet leaders knew that the mass media were powerful instruments of socialization and they utilized them not just for distributing information, but also consciously for shaping "popular mentality."³ Since Lenin, the media's role had been defined as training citizens in how to build a new society.⁴ Accordingly, the media's task was to influence the formation of political attitudes and to mobilize people to contribute to the economic production goals set by the state.⁵ Reading printed matter, especially the official daily papers, and thus staying informed was part of Soviet political identity; it was portrayed as one of the central tasks of the ideal Soviet citizen, and this image was discursively maintained and reinforced by official reports on Soviet reading habits.⁶ While state-controlled television and radio, especially the news programs, also played an important role in Soviet life, they were complementary to, not a replacement for, reading.⁷

The early 1950s brought a professionalization of Soviet journalism, when the Union of Journalists was created and university programs for journalists were established.⁸ This process went hand in hand with an increase of control, and especially for journal editors, ideological reliability and political training were standard requirements.⁹ Any Soviet editor had to perform a sophisticated balancing act between carrying just the right amount of official material, and featuring original stories that appealed to the readership (but were potentially questionable on ideological grounds).

Ogonyok (pronounced “Uh-gun-YOK,” meaning “Spark,” “Flame,” or “Little Fire”) first appeared on December 9, 1899, as an insert that came with the newspaper *Birzhevyye Vedomosti* (“News from the Stock Exchange”).¹⁰ In 1902, *Ogonyok* became an independent magazine consisting of typically eight pages, one-third of which were photographs, and reached a circulation of 120,000. In 1918, its publication was suspended, along with many other Russian newspapers and magazines in the postrevolutionary period. In 1923, Moscow journalists around Mikhail Koltsov, one of the brightest stars among the revolutionary journalists of the time, launched an effort to revive *Ogonyok* as “a Soviet journal under the old name”—a controversial step, given the Soviet Union’s obsession with renaming everything (streets, cities, organizations, etc.). At first, the journal appeared once a week, or once every ten days, depending on paper supplies. By the end of 1923, it appeared more regularly and its circulation had reached 42,000; in 1925, it had jumped to half a million copies.¹¹ When Koltsov was arrested in 1938, Evgeni Petrov took over as editor.¹² With its illustrations and lively, engaging style of reporting, *Ogonyok* became hugely popular—much to the dismay of the intelligentsia, who sometimes referred to it as “yellow press.” In addition to individual or family subscriptions, most libraries carried the journal, and people widely shared it. After Petrov’s death in 1942, editors came and went in quick succession until Stalin’s death.¹³ In 1953, the poet and stage director Anatoli Sofronov took over as editor and the magazine quickly became a classic. Under his leadership, *Ogonyok* maintained its commitment to literature and the visual arts, but the early 1950s mark a significant shift in coverage of nuclear topics. This coverage went beyond official rules of reporting on party conventions, foreign visits by political functionaries, or recipients of high state prizes. Famous photographers, writers, poets, and reporters worked for *Ogonyok*, and the journal claims that it was one of the few weeklies that resembled *Life*, or *Der Spiegel*. It remains questionable, however, whether a comparison like this honors the radically different media context.

Like most Soviet print media, *Ogonyok* relied on a combination of staff writers and temporary reporters, as well as the occasional prominent author. Among these prominent authors are, starting in the mid-1950s, visible scientists: the president of the Soviet Academy of Sciences, elite researchers, and renowned professors.¹⁴ Letters to the editor, although a highly valued instrument for the Soviet press in general, did not contain any on nuclear topics during the period analyzed.¹⁵ Where *Ogonyok* did print readers' letters, they were hard to distinguish from the official content, and clearly used to represent desirable public concerns, and to reinforce the ideal image of a curious, interested public. Like most Soviet print media, *Ogonyok* made extensive use of political caricatures. Although I was unable to establish a consistent trend in terms of meanness, such caricatures typically connect American financial might with atomic bombs and the domination of workers; they often include distinctly antisemitic traits. In stark contrast, another genre of caricatures espouses a harmless humor and ridicules universal human traits, rather than specifics of Soviet life. For example, a cartoon from late 1963 links nuclear science to child care: a father studies a book with the symbol of the atom on its cover, while holding a bundled-up, crying baby in his arm; above his head, he dreams up three crying-baby bundles that form the symbol of the atom.¹⁶ In 1965, a cartoon pictures a small boy attacking an oversized model of an atom on his father's desk with a big hammer—to the title of “splitting the atom.”¹⁷

Soviet media in the early postwar period was just starting to develop into the highly specialized apparatus it would eventually become; an apparatus that was designed to reach extremely diverse audiences that were dispersed over a huge geographical area.¹⁸ To do so, Soviet media managers unapologetically defined their audiences from above. In a sense, the readers didn't choose their papers, but a paper selected its readers. The main goal of Soviet periodicals was “to increase the reader's concern with his everyday activities rather than to divert his attention from them.”¹⁹ Newspapers and magazines emphasized education, and solicited compliance and collaboration with the state's objectives.

The most distinctive element of the Soviet media system—apart from censorship—was its notion of newsworthiness.²⁰ “Newsworthy” in the Soviet context was closely connected to the educational element that was so critical in Soviet ideology. Media, just like schools, courts of law, and other public organizations, were authorized and controlled by the state, and tasked with “molding Soviet citizens,” with the socialization of the person receiving the message. The central

news item was the construction of a future Communist society, and only events that could be related to this general theme were considered meaningful and worth reporting on. This meant that neither timeliness (“breaking news”) mattered, nor stories about individuals qua individuals—where they do appear, for example, as visible scientists, they either symbolize a desirable attitude, or personify what was considered typical and “normal.” Also, setbacks along the way were either built into an “ongoing construction” narrative, or mentioned only once they had been successfully overcome. This meant that only nuclear events that could be related to the construction of communism were considered “interesting.”

Soviet media were hierarchically structured, and followed a rigid system of plans. In the realm of print media, reporting and commenting on current events was the prerogative of the government dailies, *Pravda* (“Truth”) and *Izvestiia* (“News”).²¹ My in-depth analysis of reporting on nuclear themes in *Ogonyok* between 1945 and 1965 suggests that during the initial period (immediately after the war, and until Stalin’s death), *Ogonyok* restricted itself to general interest articles that were broadly educational, occasionally polemical, and often humorous. *Ogonyok* provided background stories on official reports, and it printed more visual material than the dailies. Although this no doubt contributed to its popularity in the Soviet Union, *Ogonyok*’s visual culture remained significantly less glamorous than the Western magazines analyzed in this volume. This may have been the case partly for technical reasons, but more importantly, Soviet doctrine considered entertainment secondary to education. Starting in the mid-1950s, the topic of peace allows *Ogonyok* to publish more stories on nuclear themes, both on Soviet initiatives to abolish nuclear weapons, and Soviet successes with peaceful nuclear applications in science and technology. The overall setup of the Soviet media system also explains why most of the world-shattering events that occurred during our period of investigation (first atomic bomb dropped, first Soviet bombs, the Lucky Dragon incident, etc.) are as good as absent from the pages of *Ogonyok*.

This peculiar idea of newsworthiness, combined with a distinctive use of portraying individuals, leads to stories that a reader used to Western news reporting will find strangely uneventful. In international comparison, *Ogonyok*’s reporting on nuclear energy was everything but sensationalist. When the journal did mention an event that the world press had covered (usually months after it had occurred), *Ogonyok* used curt introductions along the lines of “as has been reported in the all-Union press,” signaling to its readers

that they were no doubt already familiar with a particular story. This curiously consistent time lag, and often a complete lack of reports or even comment on significant nuclear events can be explained in part by the distinct concept of newsworthiness in the Soviet context, and in part by the specific status of *Ogonyok* within the Soviet media system overall.

All the more important is reminding ourselves that the description of, for example, a nuclear laboratory as a safe, clean place where people follow regulations, where there is no accident, no radiation leak, no alarm, and where the conscientious work being done by scientists has led to path breaking discoveries and international recognition, *was news* in the Soviet context: it exemplifies the construction of the Communist society of the future, where people work peacefully, protected by rules, and in cooperation with their comrades. Where problems are identified at all, this is done only to demonstrate how they were successfully conquered. The reader is often drawn in with references intelligible to everyone, with simple analogies chosen not only to allow anyone to follow the story, but also to emulate the exemplary behavior of those portrayed in such stories.

During the incipient Cold War, it was yet to be determined what nuclear energy was to mean in the Soviet context. During the period from 1945 to 1965, reporters on science and technology anywhere in the world struggled with shifting moral imperatives and changing political agendas. But this dilemma was nowhere as palpable as in the Soviet Union. Like their readers, journalists writing on nuclear topics knew that what was being printed was just a small part of what was actually going on—and that there were powerful state agencies deciding and controlling which kind of information would reach the printed pages of a journal. *Ogonyok* was no exception. Its coverage of nuclear themes in the two decades from 1945 to 1965 reflects not only changes in the presentation of nuclear energy and the concepts of popular learning. It also shows shifting expectations about each individual's role in the construction of a Communist society.

A Conspicuous Absence: The Soviet Atomic Project

Alarmed by the detonation of the first American atomic bomb at Alamogordo, New Mexico, and the bombardment of Hiroshima and Nagasaki, the Soviet Union launched a crash program in 1945 to develop its own nuclear device. Research on radioactive materials in Russia had started in the early 1910s and had been well institutionalized before the Second World War.²² The German attack in 1941,

however, interrupted this research, as most scientists devoted their work to the war effort. When Soviet scientists noticed that publications on nuclear fission research had disappeared from American scholarly journals, they alerted Stalin. Soon, intelligence material confirmed the secret American nuclear weapons program and in 1943, Stalin assembled a group of scientists under the physicist Igor Kurchatov, provided them with a laboratory, and ordered them to develop a Soviet nuclear weapon. The intensity of these efforts increased dramatically after the United States tested an atomic bomb on July 16, 1945, and after the bombing of Hiroshima.²³ On August 29, 1949, the Soviets tested a plutonium bomb, and four years later, on August 12, 1953, their first hydrogen bomb.²⁴

Parallel to the weapons program, Kurchatov promoted civilian applications of nuclear technology. As early as 1946, he initiated research into different power reactor designs and on June 27, 1954, a small graphite-water reactor first provided electricity to the grid.²⁵ Despite initial successes and international acclaim, political support for the civilian nuclear program wavered, and it was not until 1964 that the next industrial-scale nuclear reactors became operational (one each at the Beloyarsk, and the Novo-Voronezh sites). In 1966, most nuclear power plants were transferred to the Ministry of Energy and Electrification, which was in charge of all conventional power plants, the country's centralized heat supply, and the national grid of transmission lines, signaling the final step in the integration of the nuclear industry into the "people's economy."

We find all of the main categories used for the volume's international comparison in *Ogonyok*: Hiroshima, atomic bombs and nuclear war, protests against the arms race and disarmament proposals, as well as peaceful applications of nuclear energy in science, agriculture, industry, and, of course, the electricity sector. But we find a dearth of *any* reports on nuclear topics for the first postwar decade (see [appendix II, AII.1](#)). This may reflect *Ogonyok's* search of identity, and its specific role within the Soviet media system; it is not indicative of a complete absence of reports in other segments of Soviet media. The government daily newspapers *Pravda* and *Izvestiia*, for example, report on all important events in a reasonably timely fashion. Still, it is striking that a journal that since the 1930s had modeled itself on *Life*, did not publish any images of Hiroshima or Nagasaki, and no mushroom clouds until 1960.²⁶ The period starting in the mid-1950s, after the launch of "The World's First Nuclear Power Plant" in Obninsk in 1954, and the first Geneva Conference on Peaceful Uses of Atomic Energy in 1955, coincided with a fresh political wind: Stalin had died in 1953,

Nikita Khrushchev emerged as his official successor in 1954, and the year 1956, with Khrushchev's secret speech at the Twentieth Party Congress, in which he condemned Stalin's crimes, heralded a new era often referred to as "the Thaw."

While censorship continued to be enforced, nuclear topics soon moved center stage, especially those related to science, the power industry, and practical applications in agriculture, mining, and medicine. Arguably, the peaceful uses of nuclear energy, along with successes in space exploration, catapulted science and technology to the forefront of domestic, as well as international politics. In the Soviet Union, success in these two areas became closely tied to party leaders and their political fate. And although applications of nuclear energy only reached a certain degree of stabilization in later decades, Soviet readers in the late 1950s saw the emergence of a powerful set of images and slogans that suggested the feasibility and necessity of a civilian nuclear industry. As Paul Josephson has shown, leading scientists used the high social status they had gained from the nuclear weapons project to blend the promises of nuclear power with utopian visions of the Communist future, and to promote the development of a civilian nuclear industry.²⁷ What we are trying to show here is how this campaign emerged *before* 1954, when "The World's First Nuclear Power Plant" started up, and what cultural symbols, resources, and repertoires Soviet nuclear advocates could build on to unfold the promises of the new atomic age.

In Search of an Editorial Identity: *Ogonyok's* Coverage of Nuclear Topics, 1945–1955

During the first ten years of the period under investigation, the magazine's coverage of atomic energy is very sketchy, ranging from book reviews, popular-scientific texts on the science behind radiation, and medical applications on the one hand, to mentions of the military applications on the other. These military applications are always couched in terms of the beginning Cold War, and "Anglo-American imperialists" attempting to maintain a monopoly over nuclear science and technology, while the Soviet Union is portrayed consistently as merely reacting to this aggression, and as immediately focusing its attention on "peaceful" applications.

The few pieces on international politics that appeared in 1945 portrayed the Soviet offensive in Manchuria as the trigger event for Japan's capitulation—the atomic bombs were not even mentioned.²⁸ They appear in October 1946 in a political cartoon on the last page,

as one among many threats made by Western warmongers against the Soviet Union holding its ground.²⁹ But the only other article that deals with nuclear technology is one on the use of tracers in medicine and science more generally.³⁰ A year later, the atomic bomb once again appears in a political cartoon as one among many threats mounted against the Soviet Union, labor unions, and freedom in general.³¹ In 1949, several items relate to nuclear topics, but they all do so indirectly. With one exception (a portrait of the French scientist Frédéric Joliot-Curie³²), they are satires of American “atomic psychosis”: stories of petty con men making a fortune selling “atomic medicine” to rich and nervous clients, staging a “nuclear explosion” to then sell an imaginary antidote, or advertising “bomb shelters” to take advantage of people’s fears.³³ A translated piece (from an English original) features one Mr. van Dollarbill conversing with an atom. The atom accuses him of scaring the public about nuclear war and explains that atoms are in fact predisposed against any war. Furthermore, they are unionized, and ready to devote their energy to peaceful applications.³⁴ Nothing in the months after the Soviets detonated their first nuclear device in August of this year even hints at, let alone advertises, this game-changing event that was officially reported in other Soviet media.

The year 1950 continues this trend of omission, although the first issue features a poem in which Churchill complains that the atomic bomb is no longer a secret—Soviet readers tuned into the read-between-the-lines style of reporting might have understood this as a reference to the Soviet nuclear test the previous summer.³⁵ This is also the first year *Ogonyok* covers protests against nuclear weapons, but never calls what came to be known as “Stockholm Appeal” anything but the attempt of peace-loving people all over the world (especially in the Soviet Union, whose entire adult population allegedly signed the appeal) to outlaw nuclear weapons.³⁶ The published articles and cartoons generally reflect the deteriorating political relations between the Soviet Union and the United States, with text and images mocking the American involvement in Korea.³⁷ A long, exceedingly critical depiction of Churchill’s career portrays him as a committed war monger, and a piece on the organizations behind the American atomic project complements the coverage.³⁸ Only in November, *Ogonyok*’s readers encounter a book review of a book by James Allen, *Atomic Energy and Society*. Recently translated into Russian, the book outlines future peaceful nuclear applications, such as reversing the direction of rivers and irrigating deserts, but then goes on to condemn American “atomic blackmail,” while portraying the Soviet Union as

“having had nuclear weapons for a long time.” And yet, the piece states, the Soviet Union is committed to only using nuclear weapons when absolutely necessary.³⁹

In the following four years, coverage of nuclear topics in *Ogonyok* drops to near zero again. The only references to nuclear themes in 1951 are a New Year’s cartoon featuring nuclear-armed warmongers and an article on the joys of being a Soviet scientist, who doesn’t have to fear being bullied or silenced by greedy corporations, and instead can pursue work—among other things in the exciting new field of atomic energy—that will eventually equip humanity with new tools to conquer nature.⁴⁰ The only other indirect references to nuclear themes are two mentions of Joliot-Curie: one an ode to the committed scientist and pacifist, who had been removed a year earlier as France’s top atomic commissioner because of his declared Communist sympathies, another announcing that he was awarded the Stalin Prize.⁴¹ Nuclear energy appears only in a book review in 1952, and in an article triumphantly announcing that there were currently 57 million students in the Soviet Union (whether these were university students or school children is not made explicit), which in turn would produce the scientists who could “solve the problem” of producing atomic energy.⁴² In 1953, there is no coverage of nuclear topics at all, and only one piece appears in 1954: “The Energy of Atomic Nuclei” is a general popular-scientific article written by a professor on the history of nuclear physics, and the discovery of nuclear fission, but it uses phrases such as “an ordinary uranium bomb” and “a nuclear boiler,” suggesting that atomic bombs are old news, and that nuclear power plants are basically a mastered technology. It also compares the technology of fusion reactors to that enabling hydrogen bombs, again suggesting a familiarity with both technical processes and historical events that readers simply would not have, had they only been reading *Ogonyok*.⁴³ A small note, and another big assumption, precedes the professor’s article: “The entire world now knows about the launch of the first industrial-scale power plant operating on atomic energy.” The entire world now knows—but *Ogonyok* had not mentioned it before!

Starting in 1955, the number of articles, photographs, and illustrated articles on nuclear topics increases dramatically: from 29 total items in the preceding decade, to 139 items in the following decade,⁴⁴ or from an average of 2.9 articles on nuclear topics per year, to 29: a tenfold increase, and more than one piece every other week, on average. The overall emphasis also shifts somewhat, with peaceful applications and the popular movement against nuclear weapons

taking over, or at least balancing out reports on the threat of military uses of nuclear energy.

If there is a narrative to be reconstructed from such a limited sample, it is one that establishes a clear contrast between the warmongering capitalists (especially in the United States and Britain) and the peace-loving Soviet Union. Scientists appear as moral fixtures, while scientific applications of nuclear energy remain utopian. This decade in *Ogonyok* can be characterized by the search for a clear editorial identity; a search that is complicated by the underlying confusion that a state devastated by war and aggressively promoting peace and a ban on nuclear weapons is at the same time spending the better part of its budget on developing these very weapons. Anecdotal evidence suggests that the official version of the Soviet Union merely “reacting” to American aggression caught on quite early, but the last piece of the rhetorical puzzle—evidence of alternative, peaceful uses—had not yet fallen into place.

Another Kind of Nuclear “Explosion”: Nuclear Themes in *Ogonyok*, 1955–1965

Nuclear topics are clearly on the rise after Stalin’s death in 1953 (and a new editor for *Ogonyok*), the launch of the world’s first nuclear power plant in Obninsk in 1954, and the first Geneva Conference on Peaceful Uses of Atomic Energy in 1955. The “Geneva spirit” not only allowed a new level of international scientific exchange and an openness such as the two preceding decades had not seen, but it also provided international recognition for the practical, and peaceful, applications of nuclear energy that had previously been limited to utopian dreams. The jump in coverage of peaceful applications—medicine, science, power plants, and others—is significant. Peace is the connecting thread that *Ogonyok’s* editors seem to have found. It links high-tech, grassroots, and international nuclear topics and provides one consistent narrative frame. Furthermore, in its “peace of mind” variety, this concept also allows *Ogonyok* (and Soviet media in general) to mock those fearful of nuclear annihilation and to promote those brave enough to engage in the construction of a better, more peaceful world.

Of the 19 items *Ogonyok* published on nuclear topics in 1955, half are on peaceful applications, and half on protests against nuclear weapons, with many of the articles on peaceful uses clustered in the second half of the year, accompanying or following the first Geneva conference. All pieces in 1955 are articles (ranging from one paragraph

to several pages), and all are illustrated, predominantly with photographs. One exception is a polemical portrayal of General Alfred Gruenther, then commander in chief of the United States European Command and in that position responsible for positioning nuclear weapons on American bases all over Europe—this one includes a cartoon. The other exception is a popular-scientific article on high-energy physics published the day before the first Geneva conference began that features several small drawings directly related to the content.⁴⁵ The photographs published tend to show people carrying signs demanding peace or objecting to nuclear war, or they feature people—typically against proletarian backdrops such as factories—signing something, which the caption then identifies as a petition against nuclear war, hydrogen bombs, or for world peace.⁴⁶ Much of the coverage on antinuclear protests builds up before the World Peace Congress in Helsinki in June 1955—an event the journal links explicitly with the “atomic hysteria” spilling into Europe from the United States.⁴⁷

Peaceful Applications

Two articles on peaceful applications are written by what appears to be a rising science writer for *Ogonyok*, Oleg Pizarzhevski. In March 1955, he wrote a long piece titled “At the Threshold of the ‘Atomic Age,’” that features multiple photographs drawings, along with boxes containing excerpts from interviews with various scientists on the various practical uses of ionizing radiation.⁴⁸ The article celebrates the first nuclear power plant in Obninsk, refers to official government reports that announced the development of larger nuclear plants, and carefully justifies that the significance of the little reactor in Obninsk was not its power (which pales compared to other gigantic power plants Soviet readers are familiar with), but the way it produces electricity—by splitting atomic nuclei, it delivers “atomic light!”⁴⁹ The author also acknowledges his readers’ thirst for knowledge and explains why he can’t provide more information just yet: “The desire to know how a nuclear power plant works is only natural. Details and particulars have not been published yet. But the general principles of such facilities are known.”⁵⁰ Then, he outlines these general principles, and proceeds to discussing future possibilities such as nuclear-powered submarines, icebreakers, and space ships, and already available applications in biology, medicine, and agriculture. The potential contribution of nuclear power plants is briefly mentioned in a long article on the country’s electrification published in

April 1955, and in the following August, the first actual photographs of the inside of the Obninsk station are published: a view of the reactor hall, and one of the control room, with two sitting operators facing the panels.⁵¹ These images were in fact frames taken from a film that had been prepared, and was to be shown, at the first Geneva conference. On the following page, the same Oleg Pizarzhevski tries to capitalize on the Geneva enthusiasm and writes about high-energy physics, thus foregrounding education in ways characteristic for Soviet science popularization.⁵²

The next issue features a one-page photo-report with images from the exhibition that accompanied the Geneva conference. Visitors are shown to admire the Soviet exhibits and signing the guest book in the Soviet hall. The bottom third of the page is taken up by a photograph of “the Soviet Academy of Sciences’ nuclear power plant,” according to the caption.⁵³ Nowhere does the author mention in the text how a reader is supposed to relate this “real” object to those presented abroad, in polished, miniaturized version, but it constitutes an interesting juxtaposition. To Soviet readers, these images also suggest how people *should* look, behave, and even feel: a confident chat with a colleague, a cheerful entry into the guestbook, and a diligent work attitude at home.

Two weeks later, *Ogonyok* publishes more photographs from Geneva: a snapshot of the conference presidium, which includes a Soviet delegate; a press conference the Soviet delegation held; and multiple scenes featuring the friendly interactions among scientists from East and West.⁵⁴ Finally, the first November issue features a reflective piece on what the “atomic age” really means, and what it may bring. The author contrasts the dates used to mark the beginning of the atomic age: the bombing of Hiroshima in 1945, and the Geneva conference in 1955, where “for the first time scientists started talking openly . . . from an international stage about the peaceful applications of atomic energy.”⁵⁵ The author then proceeds to lay out the hopes and dreams associated with nuclear energy: nuclear-powered locomotives, submarines, airplanes, and even space ships, peaceful nuclear explosions to reverse the flow of rivers and irrigate deserts, and of course all the benefits nuclear reactors and the isotopes produced therein will yield for science, medicine, industry, and agriculture. The article ends with a warning: the atomic age started not only with the trumpets of progress, but also with the thunder of the first nuclear explosions. Atomic energy is capable of leading humanity into a bright tomorrow, or annihilating everything under the sun. The last paragraph frames the story’s morale: “People of the

world, who have entered the atomic age, will do everything in their power to ascertain that this new energy chooses the peaceful way, the only right way ahead. There can be no other!”

From 1956 on, peaceful uses of atomic energy dominate *Ogonyok*'s reports on nuclear topics.⁵⁶ The second Geneva conference does not receive as much attention as the first one, but *Ogonyok* does publish a short note in September 1958 about the event, right next to a long, proud article about the icebreaker “Lenin,” and a shorter piece on Soviet fusion research.⁵⁷ A piece on an “atomic passenger plane of the future” keeps up the utopian atomic future narrative.⁵⁸

Sputnik enters its orbit, and the pages of *Ogonyok*, in the year 1957. Incidentally, the icebreaker “Lenin” also appears on *Ogonyok*'s pages in 1957—still under construction at the Leningrad docks, but an artifact that will keep the journal's readers company for the years to come.⁵⁹ “Sputnik” is hailed as herald of a better future, and proof of Soviet technological prowess. *Ogonyok* sometimes anthropomorphizes the satellite, and takes great pleasure detailing the uproar created by Sputnik's successful launch in the United States. Articles on space research now provide a clear alternative to nuclear energy for educating *Ogonyok*'s readers about science and technology.⁶⁰ Sometimes, the two themes merge, as in two pieces by Stefan Geim, published in early 1959, that link success in space to theoretical physicists in leading Soviet research institutes, and to the Soviet educational system in general.⁶¹

Two years after the launch of Sputnik, the nuclear icebreaker “Lenin” offers yet another “fellow traveler” (or “companion,” the actual meaning of “sputnik”) for *Ogonyok*'s readers to identify with. In September of 1959, the ship is ready for deployment, an event *Ogonyok* celebrates with a beautiful photo-essay that shows not only the impressive vessel, but also the collectives that built it, and the engineers who will operate it.⁶² A tiny picture a couple of weeks later shows the icebreaker sailing down the river Neva, its shoreline flanked with spectators.⁶³ The following month, “Lenin” appears already on duty in the Baltic Sea. Its captain is introduced as an experienced commander, and one of the engineers is portrayed as a lover of music: in his spare time he plays the piano in the icebreaker's music room.⁶⁴ The icebreaker inspired artists, illustrated by a colorful, two-page drawing of “Lenin's” launch (see [appendix I, AI.5](#)), as well as confectioners, who positioned a sugary icebreaker “Lenin” on top of a chocolate cake in one of their public showrooms.⁶⁵

The international attention that this first nuclear-powered icebreaker receives, is the subject of a 1960 article, “Atomic Icebreaker

Is Keeping Watch”: once it started its tour of duty in the Baltic sea, ships and aircraft from other nations paid enormous attention to the new addition to the Soviet fleet.⁶⁶ The ship profoundly changed the way of Arctic seafaring (by removing the need for refueling), a story that *Ogonyok* humanized by showing the crew playing soccer on the ice.⁶⁷ A November 1959 issue of *Ogonyok* commemorates the forty-second anniversary of the October Revolution with a photograph of the majestic icebreaker that dwarfs a city skyline. The accompanying poem ties together peace, science, and nuclear technology, and announces that the icebreaker “Lenin” will not only crush icebergs, but will also ultimately “squash the Cold War.”⁶⁸

Here, we are beginning to see how “peaceful nuclear applications” become political tools in a conflict first set in motion by their military twin technologies. They increasingly signify the antidote to nuclear annihilation, however utopian and futuristic they remain at this point. Perhaps unique for the Soviet context, the strong association of peaceful nuclear technologies with the government’s disarmament proposals *and* the might of Soviet science, technology, and progress, made Soviet citizens understand nuclear energy as a panacea for domestic and international problems.⁶⁹ In January 1962, a color photograph of the icebreaker in the midst of Arctic ice appears on the front cover. Inside, a lavishly illustrated article introducing individual members of “Lenin’s” crew starts with an epigraph by Nikita Khrushchev: “Our nuclear icebreaker ‘Lenin’ will crush not only the ice of the seas, but also the ice of the ‘Cold War.’ It will pave the way to the minds and hearts of peoples, and call them to turn away from state competition in the arms race and toward competition in the use of atomic energy for the public good . . . for the creation of everything necessary that people need.”⁷⁰

Nuclear Power Plants

Nuclear power plants start getting more attention from 1959 on. In 1959, an illustrated article chronicles the early stages of construction at “Ural atomic [power plant].” This plant, later called Beloyarsk nuclear power plant, would not be completed until some five years later, but the clever combination of actual construction progress (both very raw, and sufficiently advanced) with an artist’s rendition of what the future plant would look like did render a sense of determination.⁷¹ Under the title, “May the Atom be a Worker, Not a Soldier!” a similar piece in 1960 introduces the other nuclear plant under construction in Southern Russia, near Voronezh. Next to the industrial

site, the piece and the selection of photographs focus on people: a family who recently moved into their new apartment, and a small child that is introduced as the first “native” of the emerging village Novo-Voronezh.⁷² “Everything has to be absolutely safe,” the author observes. Power plants are directly tied to peace: “If they only agreed to our disarmament proposals—how many more of such power plants would we be able to build,” a young volunteer from the youth organization, the Komsomol, is quoted.

In March 1961, ongoing work at the Beloyarsk site made it to *Ogonyok*'s first pages: a short text and pictures of cranes, welders, and snow on half-finished buildings emphasize that statistics, numbers, and schedules can capture only so much. The author concludes that there is no column in the foreman's paperwork to describe the spirit of comradeship that pervades the hard work of everyone working on site.⁷³ In 1962, *Ogonyok* again features one item on each of the two plants: a picture of the “carcass” of the Novo-Voronezh plant “growing by the hour” in January, and the central reactor hall at the Beloyarsk plant in December.⁷⁴ In the December 1963 issue, *Ogonyok* reports in a six-page photo-essay that the Beloyarsk reactor has been started up—the last phase has begun where the power is gradually raised to its nominal-power level, and where the station will eventually be connected to the regional power grid.⁷⁵ The article bursts with personal stories of success and enthusiasm, and boasts the industrial aesthetics of the time: huge transformer parks, control panels, and operators with serious faces dressed in white uniforms.

A short article in the May 1964 issue reports about the launch of the Beloyarsk nuclear power plant: “It seems on these warm spring evenings the lights of the festively lit streets of Sverdlovsk were shining especially bright. No wonder! For the first time, the peaceful atom turned on the lights.”⁷⁶ The plant's director reports that the plant's first, unique reactor is working well, and that the plant's staff is working hard to complete the second one.

“The Peaceful Atom's Citadel,” published on the first pages of the November 1964 issue, tells of the successful launch of the first reactor at the Novo-Voronezh nuclear power plant (see appendix AI, AI.7).⁷⁷ The text mentions a fair amount of dangers, but is dominated by the diligence of everyone involved, and the “scientific purview” of its operators. The reactor is compared to the “heart” of the plant, while the control room is its “brain.”

The last issue of 1965 features a long story about Shevchenko, the town emerging from scratch in the desert, at the oil-rich but water-deprived banks of the Caspian sea, around a nuclear-powered

desalination facility. This new kind of nuclear reactor was still under construction, but the “omnipotent atom” was bound to provide heat and drinking water to a town already known for its enthusiastic inhabitants.⁷⁸

Public Displays of Peaceful Atoms

A new theme emerges in the late 1950s—one on World fairs and other exhibitions.⁷⁹ These reports usually feature stunning photographs of pavilions, both within the Soviet Union and abroad (e.g., the Brussels “atomium”) and almost always include references (visual, textual, or both) to atomic energy. The 1959 article “Window to Our Life” introduces the logo of the “Exhibition of the Achievements of the People’s Economy” (VDNKh), a world fair inspired permanent fair ground in the northern outskirts of Moscow (see [appendix I, AI.8](#)).⁸⁰ The logo features a male worker, a female farmer, and in the center a male scientist raising their arms to hold up the symbol of the atom, and notes that not one, but two pavilions of the exhibition were devoted to “such an important topic as the peaceful uses of atomic energy.”⁸¹ Another piece on this exhibition features a photograph of the pavilion’s lively inside: colorful images everywhere, large but intricately detailed models of reactors and power plants on the main floor of the hall, and modestly dressed men and women happily studying the exhibits.⁸²

A curious variation of the public-display topic is an article published in early 1960, entitled “The Atom Serves Peace.”⁸³ It portrays a store on one of Moscow’s most popular streets, apparently publicly accessible, called “Isotopes.” As the text explains, medical isotopes were sold here, but the interior is—as was so often the case in large general stores in Moscow—more than a display of goods to sell. It apparently featured a brightly lit periodic table in the center of the hall, a hot chamber, and various exhibition-style artifacts, for example, a cross-section model of a container used to safely transport isotopes, and a large industrial “defectoscope” that uses gamma rays to detect material flaws.

Radiation, Medicine, and Science

Very little is to be found on the dangers associated with peaceful nuclear applications, and if there is, it is couched in terms of mastery and control.⁸⁴ In this tone, a short note titled “Against Radiation Sickness,” introduces the determined scientists who study the effects

of high and low doses of radiation on organisms, and concludes by stating that while these scientists are still searching for many answers, “we can already confidently say that the successes in radiobiology are so significant that, for example, a contemporary reactor under normal operating conditions does not pose a danger, neither to the operating personnel, nor to the people living nearby.”⁸⁵

Much more common are articles on medical applications of nuclear energy, where radiation is typically portrayed as “healing” rather than as a risk, and scientists as caring doctors, rather than eccentric specialists.⁸⁶

On the international level, good intentions continue, for example, with Soviet political leaders visiting Great Britain’s nuclear research center at Harwell in 1956, and foreign scientists visiting physics conferences in Moscow.⁸⁷ Kurchatov as *the* spokesman for Soviet science gradually reaches the pages of *Ogonyok*. In 1956, he was part of the official delegation visiting Britain, and he appears in photographs published in the journal, but he is not identified by name. In 1958, in the wake of the second Geneva Conference, he emerges as the Soviet Union’s favorite son, who travels the world and reaches out to fellow scientists.⁸⁸ In 1959, *Ogonyok* publishes a full-page artistic portrait of a rather grim-looking Kurchatov reading papers, and in 1960 a friendly, almost affectionate obituary, with a photograph titled “Igor Vasilievich Kurchatov in his office,” showing a smiling Kurchatov talking on the phone.⁸⁹ An artistic portrait of the late scientist appears in November 1962.⁹⁰ By 1963, Kurchatov has become a national hero, who not only developed a reliable nuclear shield for his homeland, but who also launched the first nuclear power plant, the first nuclear icebreaker, and who set up the USSR’s innovative fusion research.⁹¹

Theoretical nuclear physics continues to feature on *Ogonyok*’s pages, especially since Soviet scientists now receive international acclaim.⁹² In 1963, a three-page photo-essay introduces the Soviet “Tokamak” fusion research program.⁹³ *Ogonyok* also starts to publish photo portraits and citations for major domestic awards, such as the Lenin Prize for achievements in science, and they always include nuclear scientists.⁹⁴ Occasional pieces by prominent academicians remind *Ogonyok*’s readers of the significance of scientific education within the Soviet system, and tie the state’s declared emphasis on education directly to the outstanding achievements of Soviet science and technology.⁹⁵ In addition, science is portrayed not as a pursuit for its own sake, but as the link with actual implementation in industry. For instance, a 1962 article (loosely connected to the third Geneva conference on peaceful

applications of atomic energy) is titled “Matter Made to Order.” It describes the revolutionary innovations prompted by new materials, new forms of energy, and new methods introduced in the wake of nuclear research. This research is then linked to practical applications, and ultimately “to the construction of communism.”⁹⁶

Increasingly, research centers in remote parts of the Soviet Union are introduced, for example, in Uzbekistan.⁹⁷ In 1963, the “Snipers of the Atomic Nucleus” grace the cover: nuclear research reactor meets mountain idyll, folkloristic dress code, and cotton fields (see [appendix I, AI.6](#)). According to the article, Uzbek scientists have been experimenting with irradiating cotton seeds since 1958, and are interpreting the results as proof that “small doses of irradiation stimulate living cells, rather than damage them.”⁹⁸ A 1965 piece on the Siberian “City of Science,” *Akademgorodok*, focuses on the talented students trained to become the next generation of fusion researchers.⁹⁹

Hiroshima

Between 1955 and 1965, Hiroshima was the explicit focus of only three articles. In 1959, the human suffering is filtered through art. An exhibition by Japanese artists in one of Moscow’s central parks is presented reproducing some of the featured artwork, and—a fascinating technique—by publishing pictures of visitors’ faces, presumably as they are looking at the artwork. The shock and disgust on the viewers’ faces in some pictures is balanced by an image of a woman holding a baby and a balloon, while studying a drawing of Hiroshima victims and survivors. The exhibition itself is portrayed as an act of resistance: initially forbidden by US military, the artists’ work eventually became known and recognized around the world.¹⁰⁰

In 1960, *Ogonyok* publishes photographs that the American press secretary James Hagerty took on his recent trip to Japan, and offers “supplemental” evidence that neither Eisenhower, nor American weapons are welcome in Japan. The central photograph shows a group of young Japanese holding up a sign that shows a skull, and in addition to Japanese characters says in English: “No more Hiroshima.” The story ends triumphantly, by reporting that despite all efforts by US and Japanese government representatives, the Japanese people ultimately succeeded in preventing Eisenhower’s visit.¹⁰¹ In 1963, *Ogonyok* publishes for the first time visual documentation of the atomic bombing of Hiroshima and Nagasaki. But these pictures are small, almost footnotes to a half-page article titled, “May This Never

Be Repeated!” Their size suggests that readers have already been familiarized with images of the destruction in other media.¹⁰²

Protest Movements for Peace

Ogonyok continues to cover the international movement for peace and antinuclear protests, and the presumably unequivocal perspective of the Soviet people, who uncompromisingly push for disarmament.¹⁰³ Everywhere else in the world, the argument goes, people have to march in the streets to get their governments to embrace peace; by contrast, the Soviet state itself stands for peace (see [appendix I, AI.10](#)).

A 1959 photomontage by A. Zhitomirski, entitled “Relieve humanity from the burden of the nuclear arms race!” features a male figure in overalls, with our planet as his head. This figure carries a fat, heavy H-bomb on his back. In August of 1961, just weeks after the launch of the second manned spacecraft, *Ogonyok* published a cartoon depicting a muscular young man, his overall adorned with hammer and sickle, riding like a ski jumper on two *Vostok* spacecrafts, and holding up a sign saying “Peace, progress, communism.”¹⁰⁴ Below, on the stylized surface of our planet, is a severely injured horse with an A-bomb as its head, transporting a fat man in a tuxedo holding a missile in one hand, and a sign in the other that says, “Cold War, war psychosis.” (see [appendix I, AI.9](#)) In July 1962, a piece entitled “Stop the Madmen!” pictures disturbing military motifs—the keys to authorize a nuclear attack, nuclear-armed military bases, nuclear attack submarines, and intimidating maneuver practices, followed by peaceful protesters (in London, New York, Germany, and Japan).¹⁰⁵

An article on a Soviet peace conference delegation visiting Tokyo (which contains a picture of the “Lucky Dragon”) simultaneously commemorates Hiroshima and Nagasaki, and stresses how committed the Japanese people are to nuclear disarmament.¹⁰⁶ In a guest commentary, a Japanese professor of international law further emphasizes this legacy: “In the past, we became victims of mass destruction. Now we demand its prohibition.”¹⁰⁷ Even a movie review of “On the Beach” is turned into a call for peace when it concludes: “Ever more people, even those who think and feel differently from us, say ‘no’ to a war that threatens to wipe out humankind.”¹⁰⁸ A July 1962 issue devotes eight full pages to the Peace Congress in Moscow, emphasizing Soviet patronage for the antinuclear movement.¹⁰⁹ In 1963, *Ogonyok* lends its voice to African nations protesting French nuclear testing in the Sahara—right next to a political cartoon criticizing French nuclear assistance to Germany.¹¹⁰

Military Uses of Atomic Energy

Although *Ogonyok* had emphasized peaceful applications, from 1958 on, articles about military uses of atomic energy return. German rearmament in particular is presented as a great concern, especially since now nuclear weapons are involved. A cartoon published in 1958 makes clear that the German army should never be trusted again. It shows two beer-bellied military men performing a Hitlergruss, the one labeled “Wehrmacht,” swastika-adorned ax in hand, exclaims “Heil Hitler!” whereas the other, labeled “NATO,” atomic bomb in hand, yells “Heil Dollar!”¹¹¹ A 1963 cartoon features a German Don Juan (“Bonn-Juan”), bouquet of flowers in his hands, who debates whether to court American or French nuclear weapons—each personified by a blond woman in high heels.¹¹²

Ogonyok's comments on the possibility, and desirability, of surviving a nuclear war are characterized by biting sarcasm, rebuking backyard bomb shelters as “atomic family idyll,”¹¹³ and ridiculing American concerns about protecting monetary assets throughout a nuclear exchange.¹¹⁴ The magazine interprets Western reports about mushroom clouds and fallout shelters as fueling public fear, while simultaneously diminishing the grief nuclear weapons would inevitably inflict upon humanity.¹¹⁵ *Ogonyok* criticizes that talk about surviving a nuclear attack in makeshift shelters trivializes nuclear war, and links this, once again, to an appeal for peace and disarmament.

But toward the end of the period under investigation here, a countertrend emerges in *Ogonyok*. In 1965, coincidentally the year after Khrushchev's ouster, Soviet strategic nuclear weapons receive a full-page article, and four pages of color photographs. The magazine celebrates these weapons' might, but also their humanity. Five of the six photographs feature soldiers along with machinery—bare-chested men playing in the snow, a close-up of very young, innocent faces.¹¹⁶ Reporting on the May parade, which commemorated the twentieth anniversary of Soviet victory in the Second World War, *Ogonyok* concluded that “Soviet people love and value their army.”¹¹⁷ The following month, the magazine continues this celebratory theme with a six-page photo-essay titled “Rockets guarding peace.”¹¹⁸ This is the first time in *Ogonyok*'s history that photographs depict the destructive power of the Soviet nuclear arsenal. The article's authors are military specialists, who are listed with their ranks. And yet, the overall message is that the Soviet nuclear defense system only serves to preserve peace. Similarly, a lieutenant-general of the Red Army argues in November 1965 that American imperialism and the threat of

German revenge force the party's hand. While strengthening Soviet armed forces, the government remains firmly committed to peace and peaceful coexistence.¹¹⁹

Ogonyok presented the 1958 unilateral test ban as evidence for the Soviet commitment to peace and nuclear disarmament.¹²⁰ Increasingly, the journal addressed why disarmament was not making any progress.¹²¹ In 1962, for example, a cartoon depicted the metamorphosis of an official document entitled "We are for disarmament," presented by two stately dressed men, into a coffin called "disarmament," that two men solemnly carry away.¹²² Western resistance to Soviet proposals was portrayed as the result of "aggressor companies" (such as Lockheed Martin) merging their business interests with imperialist ideology.¹²³ In the Soviet Union, by contrast, the state not only lavishly supported cutting-edge scientific research and technological development, but put them to use in the interest of humanity and in tune with "the spirit of history."¹²⁴ The signing of the partial nuclear test ban treaty in the summer of 1963 was all the more newsworthy.¹²⁵

Conclusions: Strategic Silences, Planned Successes, and World Peace

The Soviet way of framing nuclear topics no doubt shaped public perception of the Cold War world in specific ways. Although Soviet news media did cover all the key events of the beginning nuclear age, the closed character of the Soviet state and its almost total control over what its citizens were to see, hear, and read, created a separate universe for its readers, a universe that was free of accidents, problems, and negative emotions, such as fear or aggression. Instead, readers of *Ogonyok* were envisioned as (and thus encouraged to become) members of a peaceful project: the construction of a communist society. En route to this ideal society, political leaders tirelessly spread the spirit of peace, and state-funded science enabled social progress by guiding the assembly of nuclear power plants, made possible the construction of modern living quarters, and educated the masses so they would become productive members of the country's work force. The obstacles to these laudable goals were to be found outside the Soviet state, where aggressive warmongers undermined Soviet proposals and threatened world peace.

Ogonyok's reporting on nuclear topics represents the "official discourse" that was carefully crafted by party ideologues along socialist doctrine, a discourse that both reflected and shaped the political

realities of the time. Any article that appeared in *Ogonyok* (or any other Soviet publication, for that matter) represents first and foremost an orchestrated whole, rather than the opinions of individual journalists. But *Ogonyok* did also have a distinctive character as a journal. This character was in part determined by the editorial leadership, and in part by the magazine's place within the overall system of Soviet mass media. In contrast to newspapers, television, and radio, *Ogonyok* rarely introduced a new topic, but commented on it once it was already well-established "common knowledge."

Nuclear topics in *Ogonyok* display a clear contrast between the capitalist West and the socialist world, and yet, this contrast is undercut whenever ordinary people (not only workers, but also scientists) are covered: humanity's love for peace serves as a powerful connection beyond all political creeds. *Ogonyok* frequently reports on international peace initiatives and related conferences. Protests against nuclear weapons and for disarmament are portrayed as an extension of Soviet proposals for a worldwide ban on nuclear tests. The utopia versus dystopia trope that is so central to some Western magazines is muted on the pages of *Ogonyok*; Hiroshima is rarely mentioned, and when it does appear, *Ogonyok* uses pictures of the destroyed cities. The human suffering is filtered through art—exhibitions by Japanese artists, narratives by survivors who demonstrate how such a tragedy can be overcome, and the reaction on visitors' faces. Thus, while the threat of nuclear war does loom in the background, the journal deliberately foregrounds peaceful nuclear applications.

Starting in the mid-1950s, *Ogonyok* describes peaceful nuclear applications in industry, medicine, and agriculture no longer as utopian dreams, but as something that is already becoming a reality in the Soviet lands. Nuclear power plants are not a huge topic during this early period, but the 15 pieces that *Ogonyok* did publish are delicately spaced—exactly one or two per year. Reports on the ongoing construction of a nuclear facility were considered newsworthy, as they related to the construction of communism. Nuclear reactors also provided opportunities to emphasize the scientific sophistication necessary to engineer these complex artifacts, and they were used to project increases in energy production, job security, and improvements in the lives of ordinary people. While keeping its readers informed about the progress at plant construction sites, the nuclear icebreaker "Lenin" offers *Ogonyok* a highly visible, prestigious object to follow through construction, launch, and service, including all its "extracurricular" appearances (as a model at international fairs, the icing on a cake, etc.).¹²⁶

Science and scientists play an important role in these future scenarios of a bountiful nuclear-powered state. Scientists such as Kurchatov and Joliot-Curie are active in the peace movement, and their international connections sometimes even help defuse political tensions. International recognition of scientific achievements reflects the glory of Soviet science, but Soviet science, according to *Ogonyok*, has significant advantages over science conducted in capitalist countries. While scientists in the United States, for example, have to work under the control of the secret service and capitalist interests, Soviet scientists are free to work for the greater good, and they are free from government interference because the government supports these same interests.

In the two decades under investigation, *Ogonyok* covers nuclear themes only sporadically, and the numbers are too small to extract clear trends. Nevertheless, by plotting the occurrences of nuclear topics in *Ogonyok*'s coverage, I was able to document major differences between the first and the second postwar decades. The almost complete absence of nuclear topics until 1955 may have been connected to *Ogonyok* still determining its postwar editorial policy, both with regard to the Soviet Union's new geopolitical status, and as part of a media landscape that was being recalibrated after the Second World War. The complex narrative that emerges from the texts, images, and cartoons, and becomes more refined over these two decades links Soviet ideology (the construction of a just society) to science and technology as the drivers of social progress through the idea of peace. However cynical this emphasis on the Soviet-led pursuit of world peace may appear when compared to what we now know was actually spent on Soviet defense—expenditures that came at the expense of social reforms—this propaganda did work: when repeated often and consistently enough, ideas tend to catch on, and not all Soviet leaders and high-level decision-makers were cynics.¹²⁷

Notes

1. David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy 1939–1956* (New Haven, CT and London: Yale University Press, 1994); Thomas B. Cochran, Robert S. Norris, and Oleg A. Bukharin, *Making the Russian Bomb: From Stalin to Yeltsin* (Boulder et al.: Westview Press, 1995).
2. I searched between 1945 and 1965 in *Pravda* and *Izvestiia*, the two major daily newspapers of the Soviet Union, for “atom,” “nuclear,” “bomb,” “hydrogen bomb,” “Kurchatov,” “radiation,” and “Hiroshima”; I also consulted *Letopis' zhurnal'nykh stat'ei*, the standard bibliographical resource for major journal articles, for an overview of what was published in other general interest media.

3. Ellen Mickiewicz, *Split Signals: Television and Politics in the Soviet Union* (New York and Oxford, UK: Oxford University Press, 1988), 27.
4. “The mission of the mass media was to socialize in another sense, too—that of serving to integrate the sprawling, multi-lingual country that was to be the first socialist state” (Mickiewicz, *Split signals*, 27).
5. Mickiewicz, *Split signals*, 27–28; Alex Inkeles, *Public Opinion in Soviet Russia: A Study in Mass Persuasion* (Cambridge, MA: Harvard University Press, 1950), 147.
6. Gayle D. Hollander, *Soviet Political Indoctrination: Developments in Mass Media and Propaganda since Stalin* (New York, Washington, and London: Praeger, 1972), 52.
7. Mickiewicz, *Split signals*; see also Kristin Roth-Ey, *Moscow Prime Time: How the Soviet Union Built the Media Empire That Lost the Cultural Cold War* (Ithaca, N.Y.: Cornell University Press, 2011).
8. Gayle D. Hollander, *Soviet Political Indoctrination: Developments in Mass Media and Propaganda since Stalin* (New York, Washington, London: Praeger, 1972), 36.
9. Mickiewicz, *Split signals*, 23. In 1967, a new journal called *Zhurnalists* (Journalist) was founded, replacing the traditional journal *Sovietskaia Pechat* (Soviet Press). Hollander, *Soviet Political Indoctrination*, 35.
10. For *Ogonyok*’s official history, see <http://www.ogoniok.com/inside/hystory/> (last access July 14, 2012).
11. Circulation in 1948 was 154,000, and by 1986, it reportedly had a circulation of 400,000.
12. Petrov was coauthor (with Ilya Ilf) of a famous travesty novel, *Twelve Chairs*.
13. Circulation in 1948 was 154,000, and by 1986, it reportedly had a circulation of 400,000.
14. A. N. Nesmeianov, “Science at the Service of the Sixth Five-Year-Plan,” *Ogonyok* 14, April 1, 1956, 4–5; “Lenin Prize Laureates,” *Ogonyok* 20, May 12, 1957, 12; “United Institute for Nuclear Research,” *Ogonyok* 14, April 1, 1956, 26–27; “In Dubna on the Volga,” *Ogonyok* 41, October 7, 1956, 12–13; “With the Physicists of Dubna,” *Ogonyok* 49, December 1, 1957, 5–6.
15. Alex Inkeles and Kent Geiger, “Critical Letters to the Editors of the Soviet Press: Social Characteristics and Interrelations of Critics and the Criticized,” *American Sociological Review* 18 (1953): 12–22; Alex Inkeles, *Social Change in Soviet Russia* (Cambridge, MA: Harvard University Press, 1968), 266; Hollander, *Soviet Political Indoctrination*, 37–38, 44.
16. M. Ushats, “Without Words,” *Ogonyok* 45, November 3, 1963, 32; Another cartoon from that same year reminded readers of well-established “peaceful applications of hydrogen”—in a hair salon (“Peaceful Use of Hydrogen,” *Ogonyok* 49, December 1, 1963, 22).
17. Iu. Cherepanov, “Splitting the Atom,” *Ogonyok* 16, April 18, 1965, 30.
18. Hollander, *Soviet Political Indoctrination*, 22.

19. *Ibid.*, 47.
20. Mickiewicz, *Split Signals*, 28.
21. Vertically, the Soviet media can be subdivided along functional lines, for example, into general, party, governmental, trade union, scientific, and industrial periodicals (Inkeles, *Public Opinion in Soviet Russia*, 149).
22. The Radium Institute was founded in Petrograd in 1922; in 1934, Sergei Vavilov created the Physics Institute of the Academy of Sciences (FIAN) in Moscow, and in 1940, the Academy of Sciences set up a Commission on the Uranium Problem, which coordinated research in the area of isotope separation and nuclear fission, as well as the systematic exploration of uranium deposits (Holloway, *Stalin and the Bomb*, 32, 75).
23. Holloway, *Stalin and the Bomb*, 116.
24. The Soviet “atomic project,” as it came to be known, no doubt benefited from espionage, but it still involved tremendous ingenuity, coordination, and expenditures domestically, as David Holloway has convincingly documented in *Stalin and the Bomb*.
25. Stalin’s order came in 1950, just after the first A-bomb test, but still before the first Soviet H-bomb detonated. Holloway, *Stalin and the Bomb*; *Kurchatov v zhizni: Pis’ma, dokumenty, vospominaniia*, Raisa V. Kuznetsova, ed. (Moscow: Izd-vo ob”edineniia “Mosgorarkhiv,” 2002); Viktor A. Sidorenko, ed. *Istoriia atomnoi energetiki Sovetskogo Soiuza i Rossii*, vol. 1 (Moscow: IzdAt, 2001), 5–15; Vladimir G. Asmolov et al., *Atomnaia energetika: Otsenki proshlogo, realii nastoiashchego, ozhidaniia budushchego* (Moscow: IzdAt, 2004), 8, 12; Lev A. Kochetkov, ed. *Ot Pervoi v Mire AES k atomnoi energetike XXI veka: Sbornik tezisov, dokladov i soobshchenii*. Proceedings of the Tenth Annual Conference, June 28–July 2, 1999, Obninsk (Obninsk: Iadernoe obshchestvo Rossii, 1999).
26. “Down with the Atomic Mushroom!” *Ogonyok* 11, March 13, 1960, 4.
27. Paul R. Josephson, *Red Atom: Russia’s Nuclear Power Program from Stalin to Today* (New York: Freeman & Co., 1999). See also Paul R. Josephson, “Rockets, Reactors, and Soviet Culture,” in *Science and the Soviet Social Order*, ed. Loren Graham (Cambridge, MA and London, UK: Harvard University Press, 1990), 174; Paul R. Josephson, “Atomic-Powered Communism: Nuclear Culture in the Postwar USSR,” *Slavic Review* 55 (1996): 322; Paul R. Josephson, “Atomic Energy and ‘Atomic Culture’ in the USSR: The Ideological Roots of Economic and Safety Problems Facing the Nuclear Power Industry after Chernobyl,” in *Soviet Social Problems*, ed. T. Anthony Jones, David Powell, and Walter Connor (Boulder, CO: Westview Press, 1991), 55–77.
28. It is not without irony that Tsuyoshi Hasegawa’s award-winning book, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan* (Cambridge, MA: Harvard University Press, 2005), makes new sense from this silence about the atomic bombs: Hasegawa claims that

- the nuclear bombs did *not* trigger Japanese capitulation. Rather, it was only when the Soviets invaded Japanese-held Manchuria that Japanese leadership decided that capitulation was the lesser evil to falling under Soviet dominance.
29. Boris Efimov, "Our Union Stands Like a Majestic Cliff," *Ogonyok* 42–43, October 1946, inside back cover.
 30. G. M. Frank, "Tracers," *Ogonyok* 50, December 1946, 30.
 31. Boris Izakov, "Across the Ocean," *Ogonyok* 11, March 14, 1948, 7–8.
 32. Marsel Prenan, "Extraordinary Scholar, Fighter for Peace," *Ogonyok* 52, December 25, 1949, 16.
 33. "Atomic Psychosis," *Ogonyok* 11, March 13, 1949, 23; S. G. Adams, "Panic in Washington," *Ogonyok* 52, December 5, 1949, 29–30 (translated from English); "Forrestal's Followers," *Ogonyok* 31, August 28, 1949, 31.
 34. Villis K. Lariu, "Conversation with an Atom," *Ogonyok* 45, November 6, 1949, 31.
 35. Iu. Ganf (cartoon) and S. Marshak (poem), "New-Year's Reception on Wall Street," *Ogonyok* 1, January 1, 1950, inside back cover.
 36. "Powerful Front in the Fight for Peace," *Ogonyok* 18, April 30, 1950, 7; "Ban the Atomic Bomb!" *Ogonyok* 23, June 4, 1950, 9; [No title] *Ogonyok* 28, July 9, 1950, 1.
 37. A poem entitled "'Peaceful' Aggression" accompanies the image of a dove that carries what looks like an atomic bomb in its beak, and an American pilot inside (*Ogonyok* 32, August 6, 1950, 11).
 38. A. Leonidov, "The Face of a War Monger," *Ogonyok* 38, September 17, 1950, 15–16; P. Abramov, "Who Runs the Nuclear Program in the United States?" *Ogonyok* 16, April 16, 1950, 16.
 39. D. Umanski, "Atomic Energy and Society," *Ogonyok* 48, November 26, 1950, 20.
 40. Iu. Ganf, "A New Year Begins," *Ogonyok* 1, January 1, 1951, inside back cover; I. P. Bardin, "The Creative Power of Soviet Science," *Ogonyok* 2, January 7, 1951, 2.
 41. Oleg Piszarzhovski, "Serve Life, Serve the People!" *Ogonyok* 18, April 29, 1951, 17–18; "Frederic Joliot-Curie Receives International Stalin Prize," *Ogonyok* 29, July 15, 1951, 9.
 42. M. Gusev, "History of One Problem," *Ogonyok* 30, July 20, 1952, 27; [No title], *Ogonyok* 42, October 12, 1952, 2–3.
 43. A. I. Kitaigorodski, "The Energy of Atomic Nuclei," *Ogonyok* 36, September 5, 1954, 25–26.
 44. This excludes the ten pieces published in 1965.
 45. E. Kutnik, "The Smiles and Threats of General Guenter," *Ogonyok* 13, March 27, 1955, 7–8; Oleg Piszarzhovski, "High Energy Physics," *Ogonyok* 32, August 7, 1955, 5–8.
 46. Alberto Iakoviello and Riccardo Mariani, "Against the Atomic Bomb. Letter from Rome," *Ogonyok* 8, February 20, 1955, 19; A version of the "workers signing a petition" motif is men in long coats carrying

- large heaps of papers—according to the caption the lists of signatures collected for the cause: see, for example, “Ban Weapons of Mass Destruction!” *Ogonyok* 4, January 23, 1955, 7; “The Chinese against Atomic Weapons,” *Ogonyok* 9, February 27, 1955, 23; “Against Atomic Weapons!,” *Ogonyok* 11, March 13, 1955, 9; S. Smirnov, “Against Atomic Weapons! Letter from Helsinki,” *Ogonyok* 12, March 20, 1955, 9; Leonid Solov’ev, “Ban Atomic Weapons!” *Ogonyok* 13, March 27, 1955, 10–11; Mikhail Dudin et al., “For Peace, against Atomic War!” *Ogonyok* 13, April 10, 1955, 2–3; “Against War, for Peace, for Bread!” *Ogonyok* 20, May 15, 1955, 17–18; Jacques Lafitte, “Peoples defend peace,” *Ogonyok* 25, June 19, 1955, 1–2.
47. Sakhilb Sing Sokkheh, “From Geneva to Geneva,” *Ogonyok* 29, July 17, 1955, 18–19.
 48. Oleg Pisarzhevski, “At the Threshold of the ‘Atomic Age,’” *Ogonyok* 12, March 20, 1955, 10–14.
 49. *Ibid.*, 10.
 50. *Ibid.*, 10.
 51. N. Bondarev, “How the Country’s Electrification is Coming Along,” *Ogonyok* 13, April 17, 1955, 12–13; “Film about the Soviet Industrial Power Plant That Works on Atomic Energy,” *Ogonyok* 32, August 7, 1955, 4.
 52. Sonja D. Schmid, “Celebrating Tomorrow Today: The Peaceful Atom on Display in the Soviet Union,” *Social Studies of Science* 36 (2006): 331–365.
 53. “Atomic Energy—At the Service of Peace [or: the world]!” *Ogonyok* 33, August 14, 1955, 25.
 54. Nikolai Drachinski, “Atomic Energy at the Service of Peace [or: the world],” *Ogonyok* 35, August 28, 1955, 1–2.
 55. Vasili Zakharchenko (pictures by K. Artseulov), “Peaceful Atom,” *Ogonyok* 45, November 6, 1955, 20–21.
 56. For example on resource exploration using Kobalt-60 source (A. Krasilov, “Nuclear Prospector,” *Ogonyok* 29, March 13, 1958, 16).
 57. Vladimir Orlov, “Atomic Icebreaker ‘Lenin,’” *Ogonyok* 37, September 7, 1958, 1–4; “To Temperatures in the Billions of Degrees,” *Ogonyok* 37, September 7, 1958, 4.
 58. G. Pokrovski, “Atomic Passenger Jet of the Future,” *Ogonyok* 44, October 28, 1956, 18.
 59. I. Ganiushkin and B. Utkin, “Construction of the Nuclear Icebreaker ‘Lenin,’” *Ogonyok* 26, June 23, 1957, inside front cover; K. Konstantinov, “The Atomic Icebreaker Leaves the Deck,” *Ogonyok* 49, December 1, 1957, 4–5; Andrei Novikov, “From Morning and until the Evening,” *Ogonyok* 24, June 8, 1958, 24 and two-page color insert; Orlov, “Atomic Icebreaker ‘Lenin,’” 1–4; K. Cherevkov, “Atomic Icebreaker Ready for Trial,” *Ogonyok* 41, October 5, 1958, 8; M. Kukhtarev, “Control Panel Atomic Icebreaker ‘Lenin,’” *Ogonyok* 49, November 30, 1958, insider front cover.

60. Vadim Kozhevnikov, "Ambassador of a Good Future," *Ogonyok* 42, October 13, 1957, 3–4; Andrei Novikov, "Atomic Energy for Peace," *Ogonyok* 42, October 13, 1957, 5.
61. Stefan Geim, "Century of Space," *Ogonyok* 8, February 15, 1959, 20–22; Stefan Geim, "Century of Space," *Ogonyok* 10, March 1, 1959, 14–16.
62. K. Cherevkov, "The Atomic Icebreaker Is Ready to Swim," *Ogonyok* 38, September 13, 1959, 6–7.
63. M. Trakhman (photographs), "Atomic Icebreaker 'Lenin' on the Neva," *Ogonyok* 39, September 20, 1959, 6.
64. N. Denisov, "Atomic Giant on the Baltic Sea," *Ogonyok* 41, October 4, 1959, 30.
65. V. F. Shtranikh, "Launch of the Nuclear Icebreaker," *Ogonyok* 10, March 6, 1960, 18; M. Makarov, "Sugary Winter," *Ogonyok* 2, January 10, 1960, 26.
66. K. Cherevkov, "The Atomic Icebreaker Is Keeping Watch," *Ogonyok* 20, May 15, 1960, 5.
67. "Now It's Possible to Go to the Pole the Hard Way," *Ogonyok* 30, July 24, 1960, 1–3.
68. "Long Live the 42nd Anniversary of the Great Socialist October Revolution," *Ogonyok* 46, November 7, 1959, inside front cover.
69. See Josephson, *Red Atom*.
70. G. Kolosov, "The Atom Crushes the Ice," *Ogonyok* 3, January 14, 1962, cover, 16–17, and four-page color photo insert.
71. A. Grigor'ev, "The Urals' Atomic [Power Plant]," *Ogonyok* 34, August 16, 1959, 2–3.
72. A. Rubina, "May the Atom be a Worker, Not a Soldier!" *Ogonyok* 41, October 9, 1960, 28–29.
73. A. Khitrova, "There Is No Column for That," *Ogonyok* 13, March 26, 1961, 1–2.
74. A. Anatol'ev (photograph), *Ogonyok* 49, December 2, 1962, n.p.; A. Goriachev, "Novo-Voronezh Atomic Power Plant," *Ogonyok* 2, January 7, 1962, 1.
75. A. Grigor'ev, "The Light of the Peaceful Atom," *Ogonyok* 52, December 22, 1963, 16–19, inside back cover, and color back cover.
76. A. Grigor'ev, "The Urals Atomic Power Plant Is under Construction," *Ogonyok* 20, May 10, 1964, 5.
77. Vl. Pavlov and Ia. Riumkin, "The Peaceful Atom's Citadel," *Ogonyok* 45, November 1, 1964, inside front cover, and 6–7.
78. German Makarov, "Water and Atom," *Ogonyok* 52, December 26, 1965, inside front cover, and 1–3.
79. Ia. A. Lomko, "Man and Progress: USSR in Bruxelles, 1958," *Ogonyok* 6, February 2, 1958, 9–10; Andrei Novikov, "At the Exhibition in Brussels," *Ogonyok* 18, April 27, 1958, 6–7; Andrei Novikov, "From Morning and until the Evening," *Ogonyok* 24, June 8, 1958; 24, and two-page color insert.
80. Schmid, "Celebrating Tomorrow Today."

81. B. Bogdanov, "A Window to Our Life," *Ogonyok* 25, June 14, 1959, 2–3. See also Schmid, "Celebrating Tomorrow Today," 335.
82. "VDNKh," *Ogonyok* 31, July 26, 1959, photo inserts between 16 and 17.
83. Vl. Keler, "The Atom Serves Peace," *Ogonyok* 9, February 28, 1960, 16–27. The text does not specify who could actually shop here.
84. Aleksei Dorokhov, "An Armor against Dust," *Ogonyok* 11, March 9, 1958, 13–15.
85. V. Parkhit'ko, "Against Radiation Sickness," *Ogonyok* 5, January 31, 1960, 23.
86. A. Cherniakovski, "Healing Atoms," *Ogonyok* 11, March 8, 1959, 15–16, and picture.
87. "N. A. Bulganin and N. S. Khrushchev Arrive in Britain," *Ogonyok* 18, May 1, 1956, 2–5; Kurchatov is in two of the photographs, but he is not identified anywhere in the text. See also G. Borovik, "Nuclear Scholars Talk about Peace," *Ogonyok* 23, June 3, 1956, 6.
88. A long piece on thermonuclear research claims that a short article Kurchatov had written on the future of nuclear energy, translated and distributed that year in Geneva, created "a real sensation." Vladimir Orlov, "Thoughts about the Ocean," *Ogonyok* 38, September 14, 1958, 6–8.
89. A. I. Laktionov, "Akademik I. V. Kurchatov," *Ogonyok* 25, June 14, 1959, inside front cover; "I. V. Kurchatov," *Ogonyok* 7, February 14, 1960, 7.
90. V. Efanov, "Kurchatov," *Ogonyok* 48, November 25, 1962, insert between 8 and 9.
91. Vladimir L'vov, "Kurchatov's Victory," *Ogonyok* 4, January 20, 1963, 17.
92. L. Zubkov, "The 'Schweif' of Atomic Particles," *Ogonyok* 49, November 30, 1958, 14–15.
93. Gleb Anfilov, "A Step toward the Sun," *Ogonyok* 39, September 22, 1963, 17–19.
94. "Laureates of the Lenin Prize," *Ogonyok* 19, May 8, 1960, 20–21.
95. For example, A. A. Skonchinski, "Discovered with Human Intellect," *Ogonyok* 16, April 17, 1960, 4.
96. Vanda Beletskaiia, "Matter Made to Order," *Ogonyok* 25, June 17, 1962, 25.
97. V. Beletskaiia, "The Atom Serves Peace," *Ogonyok* 41, October 4, 1959, 8; Vanda Veletskaiia and Vl. Krupin, "Snipers of the Atomic Nucleus," *Ogonyok* 30, July 21, 1963, front cover, 16–18, and four pages of color inserts. See also Iuri Sbitnev and Lev Sherstennikov, "How Many Scholars Are There in Kishlak (Uzbekistan)?" *Ogonyok* 52, December 26, 1965, 21–23.
98. Veletskaiia and Krupin, "Snipers of the Atomic Nucleus," 17. See also N. Akimov, "The Atom for Agriculture," *Ogonyok* 3, January 17, 1965, 3.
99. Iuri Ryto, "Siberian 'fimshata,'" *Ogonyok* 35, August 29, 1965, 6–7.

100. N. Svetlova, "Hiroshima," *Ogonyok* 28, July 5, 1959, 14–15. In 1960, this strategy of picturing visitors' reactions is repeated, this time in a report on the "Second American Exhibition in Moscow." While the preceding exhibition had focused on peace, according to the author, this year the exhibition featured almost exclusively military technology, to the visible dismay of the visitors. A full page of disconcerted letters to the editor, and a color photograph of a mother and her baby, titled "They Need Peace," reinforces the message that the Soviet Union, in contrast to the United States, wants to end the nuclear arms race (Gen. Borovik, "Hold Criminals Accountable!" *Ogonyok* 21, May 22, 1960, 6–9). In 1958, *Ogonyok* featured a special photo-essay on antiwar and antinuclear artwork by John Heartfield (*Ogonyok* 34, August 17, 1958, inside back cover).
101. M. Efimov, "Fotografs That Haggerty Brought to Eisenhower," *Ogonyok* 25, June 19, 1960, 4–5.
102. Iu. Iasnev, "May This Never be Repeated!" *Ogonyok* 33, August 11, 1963, 4–5.
103. V. Buzuev, "The Contribution of the World's Scholars," *Ogonyok* 38, September 13, 1959, 29; Genrikh Borovik, "Down with Weapons!" *Ogonyok* 46, November 7, 1959, 4–5. Mikhail Kotov, "For Peace without War! Before the Congress in Stockholm," *Ogonyok* 24, June 8, 1958, 4–5; A. Serbin, "Disarmament Is Mutual Understanding," *Ogonyok* 24, June 8, 1958, 5; "Missile Bases? No!" *Ogonyok* 1, January 1, 1959, 7; "The British Do Not Want to Live Next to the Bomb," *Ogonyok* 3, January 11, 1959, 25; Koni Zilliakus, "English Workers and the Hydrogen Bomb," *Ogonyok* 36, August 30, 1959, 4; K. Zilliakus, "England on the March," *Ogonyok* 20, May 15, 1960, 6–7.
104. Konstantin Murzidi (drawing by Iu. Cherepanov), "Peace, progress, communism," *Ogonyok* 33, August 13, 1961, inside back cover.
105. Ia. Nemchinski, L. Stepanov, "Peoples, Stop the Madmen!" *Ogonyok* 28, July 8, 1962, 4–8.
106. B. Petrov, "We Won't Allow This!" *Ogonyok* 31, July 29, 1956, 6–7. Note the delay (two years after the incident!).
107. Karu Iasun, "Bombs and the People," *Ogonyok* 40, September 30, 1956, 7.
108. R. Iurenev, "Disappointment or Hope?" *Ogonyok* 1, January 1, 1960, 27.
109. G. Gurkov and A. Serbin, "The World Demands Peace," *Ogonyok* 29, July 15, 1962, inside front cover and 1–7.
110. N. Prochogin, "The Sahara Is No Nuclear Testing Ground," *Ogonyok* 14, March 31, 1963, 6–7; V. Chernikov (drawing), "Bonn Juan is undecided," *Ogonyok* 14, March 31, 1963, 6.
111. E. Kutnik, "NATO's Weapons-Bearer," *Ogonyok* 3, January 12, 1958, 3. These concerns about German rearmament are also front and center in "Trampled Potsdam," *Ogonyok* 48, November 23, 1958, n.p.

112. Chernikov, "Bonn Juan is undecided."
113. L. Stepanov, "They Sweeten the Atomic Pill," *Ogonyok* 49, December 3, 1961, 7.
114. A. Serbin, "The Dollar Calms Itself Down," *Ogonyok* 1, January 1, 1962, 6.
115. A. Grigor'ev, "The Bomb and the Dollar," *Ogonyok* 31, July 29, 1962, 2–3; "They Push Fear," *Ogonyok* 9, February 25, 1962, 11.
116. A. Golikov, "Strategic Ones," *Ogonyok* 8, February 21, 1965, 16 and four-page color insert.
117. I. Tunkel' and A. Golikov, "To the Parade with Rocketeers," *Ogonyok* 20, May 14, 1965, 4–5.
118. V. Datsenko, M. Mriakin, and N. Izmailov, "Rockets guarding the peace," *Ogonyok* 25, June 20, 1965, 4–7, back cover.
119. G. Peredel'ski, "The Country's Reliable Shield," *Ogonyok* 46, November 14, 1965, 5.
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121. E. Kutnik, "Why Are They against It?" *Ogonyok* 2, January 10, 1960, 6.
122. M. Abramov, "Disarmament," *Ogonyok* 25, June 17, 1962, 3.
123. A. Serbin, "'Lockhead' Is an Aggressor Company," *Ogonyok* 21, May 22, 1960, 4–5.
124. "Disarmament is the Question of Questions," *Ogonyok* 24, June 12, 1960, 1; E. Vedernikov, "On NATO," *Ogonyok* 18, May 1, 1960, inside back cover.
125. "The Globe Provides Signatures," *Ogonyok* 34, August 18, 1963, 1. Science came to the support of politics: in 1962, an illustrated report tells *Ogonyok's* readers that scientific instruments can register every nuclear test, so the West won't be able to cheat (A. Golikov and G. Koposov, "The Earth Reports: Explosion!" *Ogonyok* 22, May 27, 1962, 30–32). See also A. Golikov, "No to Nuclear Explosions!" *Ogonyok* 10, March 3, 1963, 6–7.
126. Starting in 1957, a growing number of articles appear on space exploration. Although there are some implicit connections to nuclear themes, I have not included these in my count unless they specifically deal with nuclear themes. These were rare, but the topic of peaceful nuclear applications may have benefited from the tangible success of the space program.
127. For an argument on the pervasiveness of cynicism in the Brezhneva Soviet Union, see, for example, Steven L. Solnick, *Stealing the State: Control and Collapse in Soviet Institutions* (Cambridge,

MA: Harvard University Press, 1998). For a counterargument based on specialists in the Soviet nuclear industry, see Sonja D. Schmid, "Envisioning a Technological State: Reactor Design Choices and Political Legitimacy in the Soviet Union and Russia" (PhD diss., Cornell University, NY, 2005).

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Chapter 3

“To See ... Things Dangerous to Come to”: *Life* Magazine and the Atomic Age in the United States, 1945–1965

Scott C. Zeman

Introduction

On July 16, 1945, in New Mexico desert, scientists, engineers, and soldiers presided over the test of the world's first nuclear device. Even though it would be a few months before the world came to know of the existence of an atomic bomb, the “Trinity Test” signaled the beginning of the atomic age. The plutonium-implosion device exploded at Trinity was the product of a crash wartime American nuclear program headed by general Leslie R. Groves and physicist Robert J. Oppenheimer. The so-called Manhattan Project had facilities across the United States from Oak Ridge in Tennessee to Hanford in Washington to Los Alamos in New Mexico. It had been a massive industrial and scientific undertaking, and it had been shockingly successful.

It would be, of course, the horrific destruction of the Japanese cities of Hiroshima and Nagasaki that would alert Americans and the people of other nations to the fact that the United States had developed nuclear weapons. The destruction of Hiroshima and Nagasaki precipitated the end of the Second World War and ushered in the atomic age. The United States emerged from the war as the sole nuclear power, and in so doing triggered a nuclear arms race that would see the proliferation of nuclear weapons, and the proliferation of national “atomic cultures” that make up the subject of this book.

As in other developed countries, in the United States in the two decades following the end of the Second World War, popular illustrated magazines engaged in constructing narratives about the

meaning of the atomic age—in photographs and in text—that were remarkably similar and stable across the various publications.¹ The fact that the magazines, as well as other forms of popular culture, seized on particular narrative forms to explain the atomic age encouraged Americans to think about the meaning of the atom in formulaic ways. These formulae often proposed simplistic answers to the unprecedented and immediate questions raised by the realities of nuclear power.

This chapter will focus specifically, but not exclusively, on the most culturally influential of the American illustrated magazines, *Life*. The magazine was widely distributed and circulated in the United States. Simply put, a lot of Americans read *Life*. As Erika Doss notes, by the “late 1940s *Life* reached ‘21 percent of the entire population over ten years old’ (around 22.5 million people) and took in 19 percent of every magazine advertising dollar in the country.”² James Baugham adds that if we consider the readership “in terms of its ‘cumulative audience,’ or the total number looking at the magazine in a given period . . . about half of all Americans, ten years and older, had seen one or more copies of *Life*.”³ Of course, the magazine’s readership did not represent a wide cross section of the American public. The average readers of *Life* were white, in their mid-thirties, married, and college educated.⁴

Life magazine was the creation of Henry Luce, American media magnate and publisher of *Time*. Established in 1936, Luce declared the new picture magazine’s purpose in grandiose terms:

To see life; to see the world; to eyewitness great events; to watch the faces of the poor and the gestures of the proud; to see strange things—machines, armies, multitudes, shadows in the jungle and on the moon; to see man’s work—his paintings, towers, and discoveries; to see things thousands of miles away, things hidden behind walls and within rooms, things dangerous to come to.⁵

After August of 1945, prominent among those distant, hidden, and dangerous things was the atom. The way in which *Life* represented the atom was profoundly shaped by Luce. Consequently, Luce’s magazine maintained—as did its founder—a belief in “nationalism, capitalism, and classlessness, a sense of confidence, optimism, and exceptionalism,” and held no doubt that “the American way” was the standard to which all other societies and cultures should be measured.⁶

If we look at the four major points of comparison with magazines from other nations that are analyzed in this book (coverage of Hiroshima and Nagasaki, military and peaceful aspects, and antinuclear protest), we see that *Life* overwhelmingly focused on military

and peaceful aspects of the atomic age: the twin poles of atomic culture. These two general areas (along with various subcategories, such as testing or nuclear medicine) accounted for some 90 percent of the coverage of the atomic age in the pages of *Life* from 1945 to 1965 (see appendix II, AII.2). In short, *Life* readers were presented with two consistent and particular emphases on the meaning of the atom: swords and plowshares.

As Peter Bacon Hales has pointed out, examining *Life* in terms of its representation of the atom "is to discover a complex set of stages in America's accommodation to the atomic bomb, beginning with incomprehension and ending with something beyond dispassion, something closer to acceptance."⁷ For *Life*, Hiroshima and Nagasaki represented both a conclusion (American victory in world war) and an introduction (the dawn of a new era). As Hales observes, in the pages of *Life* "the atomic bomb was subsumed under a larger rubric: atomic energy, a force of divine origins, a force of nature, benignant and awesome when folded within the larger rationality of science and the benevolent meritocracy of the American scientific establishment."⁸ *Life*'s portrayal of the atomic age was consistent with Luce's belief in American "confidence, optimism, and exceptionalism."⁹ As we will see, even as *Life* described the horrible possibilities revealed by the splitting of the atom, under Luce it maintained a basic belief that Americans could successfully face these challenges and lead the world into a better future.

In addition to *Life*, this chapter examines other American illustrated magazines of the period, including the *Saturday Evening Post*, *Collier's*, and *Look*. The weekly *Saturday Evening Post* featured short fiction, editorials, news features, and illustrated covers of Americana, most famously by Norman Rockwell. The *Post* ended publication in 1969, although it was later reestablished in a different format. Around since the late nineteenth century, the Ohio-based *Collier's Weekly* magazine made a name for itself in the early twentieth century for its "muckraking" in support of progressive reforms. By mid-century, the magazine had dropped the "weekly" label and featured short fiction, news reportage, illustrations, and general interest stories. *Collier's* folded in 1957.

Look magazine, the Iowa-based, less popular competitor to *Life*, with a similar format and style, began publication the same year as *Life* and closed up shop in 1971.

"In a Strange New Land": Hiroshima and Nagasaki

As news of the atomic bombings of the Japanese cities of Hiroshima and Nagasaki broke in the United States, American magazines—like

many Americans who read them—openly pondered the meaning of this new “cosmic weapon.” The use of terms such as “cosmic” to describe the atomic bomb indicates the degree to which this new weapon lay outside contemporary understanding and scale, and implicates a mythic status to the bomb.¹⁰ The preponderance of reportage immediately following the atomic bombings noted the immensity of the destruction within a celebratory context of impending American victory in the war. For example, *Newsweek* in August of 1945 declared “Victory! The Warsick World Hails It Wildly with Jap Broken by Shock of Cosmic Weapons,” and “Awesome Force of Atom Bomb Loosed to Hasten Jap Surrender: Wonder Weapon Developed in Secret Plants Give Allies Unprecedented Edge in War.”¹¹

A few of the earliest magazine stories announcing the bomb did offer, however, sober reflections on the larger meaning of the atomic age. *Life*'s August 20, 1945, edition made first mention of the atomic bomb to its readers (although the atom did not make the cover, which featured General Spaatz, the “Bomber of Japan”). By imagining a future atomic war in which “there may be devastating ‘push-button’ battles,” *Life* was already implying that the United States would not maintain its nuclear monopoly. The atomic bombing of Japan signaled a revolution in the very concept of war, *Life* declared. “In a fraction of a second on August 5 [*sic*], 1945, American scientists not only destroyed Hiroshima, Japan, but with it many human concepts, chief among them our ideas of how to wage war.”¹²

An editorial in that same issue of *Life* declared that “No limits are set to our Promethean ingenuity . . . we are in a strange new land.”¹³ In this strange new land of atomic power, *Life* reminded its readers that the revealing of atomic power presented a potentially perilous course in which Americans could lead the world into a brighter future, provided they rise above basic human destructive impulses and a desire to play God.

The Saturday Evening Post's introduction of the atomic age maintained a self-reflexive stance, referencing science journalist William Laurence's 1940 piece in the magazine about developments in nuclear fission a few years earlier.¹⁴ The issue had been pulled from libraries across the country due to the sensitivity of the material. In announcing the atomic age, the *Post* was even more circumspect than *Life*. “Now that man is fooling around with the innermost secrets of the universe,” an editorial in the magazine warned, he has discovered “how to blow himself not merely into old-fashioned bits but into invisible charges of electricity.”¹⁵

In September of 1945, *Life* carried photographs by Bernard Hoffman of a bleak and ruined Japanese landscape, the aftermath of the bombings of Hiroshima and Nagasaki.¹⁶ In the same issue, an editorial declared that "mention of 'atomic energy' makes any other noun in the same sentence seem a minor matter."¹⁷ The following March, *Life* featured recently released information on the atom bomb effects on Hiroshima and Nagasaki accompanied by a drawing of a fireball over a city. *Life* described in grim detail the radiant heat that burned the clothes off people over one-half mile from the explosion's epicenter. The "patterns of dresses Japanese women wore were charred right through their skins," *Life* explained, while "people's bodies were terribly squeezed . . . their internal organs ruptured . . . the blast blew the broken bodies at 500 to 1,000 miles per hour through the flaming rubble filled air."¹⁸

After the first few months following the bombings of Hiroshima and Nagasaki, coverage in *Life* became increasingly sparse and sporadic over the next two decades. In 1952, *Life* carried photos of the destruction of Hiroshima and Nagasaki. Directly tying the devastation of the two Japanese cities with Americans' concerns about the possibility of nuclear war in the early 1950s, *Life* described the images as "a collection of scratched and dusty photographs," with "the immediacy of today's new pictures for any people who live in the not illogical fear of being caught themselves in an atomic blast or in the terrible work of tending those who are."¹⁹ *Life* offered no reflection on the tenth anniversary of the destruction of Hiroshima and Nagasaki, but instead focused the August 8, 1955, coverage of the atom on the theme of the promising future of the atomic industry, which will be discussed later in this chapter.²⁰

By 1965 and the twentieth anniversary of the bombings of Hiroshima and Nagasaki, American magazine coverage had become increasingly despairing. The *Saturday Evening Post's* special section on the twentieth anniversary of the atomic bombing of Hiroshima compared the Japanese city with Los Alamos, home to the Manhattan Project, 20 years later. The magazine somberly compared the two in Dickensian fashion: "The Bomb: A Tale of Two Cities," noting that two decades after the destruction of Hiroshima, "twenty years after surrender and cancer, leukemia and accelerated aging all induced by the bomb," the effects of atomic war were still claiming Japanese lives.²¹ Meanwhile, far away in New Mexico, the "ultimate output of Los Alamos's single industry is the dirtiest, most devastating product that the mind of man has yet devised."²²

Life also reflected upon the twentieth anniversary of the destruction of Hiroshima and Nagasaki with a similar lament and an accompanying photograph of thousands commemorating the anniversary in Hiroshima Memorial Peace Park. *Life* lamented the nuclear proliferation in the years since the first memorial in 1947. The United States, England, the Soviet Union, France, and China all had created atomic arsenals and the Americans, British, and Soviets had each developed thermonuclear weapons.²³

When compared to the coverage of the tenth anniversary of the bombings of Hiroshima and Nagasaki, which fit with a mid-1950s American focus on the bright atomic future, *Life*'s reflection on the twentieth anniversary returned to the more somber descriptions and conclusions of the first-few months after the bombings. Not only had nuclear weapons proliferated, but also the world had stood at attention nervously as several events, most notably the Cuban Missile Crisis in 1962, had made nuclear war seem a very real, and even imminent, possibility. In addition, *Life*'s founder, publisher, and chief editor, Henry Luce, stepped down in 1964. Obviously, the events of 1945 had not changed, but two decades of the buildup of increasingly powerful nuclear weapons and the ever-present threat of nuclear war had shifted the celebratory representations of the immediate postwar period to ones that were increasingly bleak.

"One World or None"

The first two years following the advent of atomic weapons and the end of the Second World War witnessed the development among scientists, politicians, and intellectuals of a movement toward "one world government." Proponents believed that the only real hope for peace and security in a postwar nuclear world lie in moving beyond sovereign, independent, and often hostile, individual nations each potentially possessing nuclear weapons.

Life magazine, and its publisher Henry Luce, initially embraced the one world government movement. *Life* captured the driving philosophy of the one worldists in their fear that "a world in which atomic weapons will be owned by sovereign nations . . . will be a world of fear, suspicion, and almost inevitable final catastrophe."²⁴ In an editorial a few months after the end of the war, *Life* worried that "in the third month of the Atomic Era the world still lacks a moral or political equivalent of The Bomb. No religious leader, no political scientist, nobody has yet come forward with a commanding idea to help mankind."²⁵

Published in late 1945, *Life's* "36-Hour War" featured an artist's rendering of a fireball over Washington, DC, and other images of a nuclear attack on the United States. "Hostilities would begin with the explosion of atomic bombs in cities like London, Paris, Moscow or Washington. The destruction caused by the bombs would be so swift and terrible that the war might be decided in 36 hours."²⁶ *Life* followed its apocalyptic "36-Hour War" with an editorial commending Truman, Atlee, and King for making progress toward control of atomic weapons by agreeing "that atomic energy is too big for any country or group of countries to monopolize."²⁷

Like Henry Luce, Ben Hibbs, the editor of *The Saturday Evening Post* (from 1942–1962), also embraced the world government movement. Hibbs argued that in a world of atomic power and national hostilities "nothing less than world government will suffice to tailor international politics to hitherto undreamed-of resources of power."²⁸ As evidenced by *Life*, *Saturday Evening Post*, and other American magazines for a brief period following the atomic bombings of Hiroshima and Nagasaki, there was significant national discussion over the question of control of atomic weapons and the desirability of international control. Across the various genres, popular magazines presented the world government case (and, of course, some offered critiques).

In *Ladies' Home Journal*, journalist Dorothy Thompson laid out her arguments for world government in the atomic age. Advocates included such prominent scientists as Leo Szilard and Albert Einstein, as well as writers, journalists, and intellectuals. Indeed, leading nuclear scientists including Niels Bohr, J. Robert Oppenheimer, and Hans Bethe added their weight to the movement with the 1946 publication of the Federation of American Scientists' *One World or None*.²⁹

As Paul Boyer notes, "the dream of world government from Tennyson's great parliament of mankind to Wendell Wilkie's visionary 1943 bestseller *One World*—was hardly new in 1945." But the founding charter of the United Nations in San Francisco and the bombings of Hiroshima and Nagasaki gave it new immediacy and credibility. "While dramatizing the need for world government," Boyer argues, "Hiroshima had also created the political conditions favorable for achieving it." And, as Boyer notes, for many pro-world government advocates, this meant a distinctly American world government, with the United States at the head of the new world order.³⁰ Boyer also informs us that in the early days of the atomic age, when the memories of Hiroshima and Nagasaki were vivid and the fear of future nuclear war weighed heavily on many minds, the concept of world government "won at least passive support from a third to a half of the American people."³¹

To return to *Ladies' Home Journal*, in the issue just mentioned, journalist Dorothy Thompson laid out her arguments for world government in the atomic age. "There seems to be practical unanimity among scientists and persons of a philosophical bent of mind," Thompson argued, "that with the discovery of the atomic bomb we shall either have 'one world' or 'no world.'" Thompson viewed the Second World War in revolutionary terms. For her, it represented the most significant political upheaval in world history.³² Thompson believed, "One World is actually in the making by the revolution of total war and total victory . . . The Big Three can never maintain lasting peace. Only a Big One can do that."³³

Beyond the magazines, we can also look to other areas of American popular culture for expression of the world government stance. Written in 1945 and briefly made popular later in 1950 by various artists, American folk singer, Vern Partlow's "Old Man Atom" captured the sentiment well: "World peace and the atomic golden age or a push-button war, Mass cooperation or mass annihilation, Civilian international control of the atom—one world or none"³⁴

Henry Luce's news magazine, *Time*, like his *Life*, also initially supported the movement. The issue of *Time* magazine that reached newsstands on September 17, 1945, featured a cover with US secretary of state James Byrnes at the helm of the globe with the question: "One world or no world?" To be sure, Luce equated one world government with a global pax Americana. As the Cold War divide deepened, Luce backed away from such utopian dreams. According to Luce biographer Robert Herzstein, rather than witnessing the inauguration of a new era of peace following the end of the Second World War, the onset of the Cold War began to undermine the "self-confidence and peaceful development essential to Harry Luce's original idea of American globalism."³⁵

Even as early as the spring of 1946, popular magazines were already backing away from their support of the one world movement.³⁶ The movement continued to wane as the Cold War waxed with the blockade and airlift in Berlin in 1948 and, of course, the Soviet development of atomic weapons in 1949. The Soviet's first atomic test in August 1949 posed a dramatic challenge to the question of control. For the first time, a nation other than the United States with atomic weapons was no longer theoretical, but all too real. *Life* in October of 1949 summarized the reaction: "It is a thoroughly discouraging record [international control of the atom]. On the face of it, automatic incantations to 'international control' seem merely silly."³⁷

The world government movement was relatively short lived, largely dying out within two years after Hiroshima and Nagasaki. As we will see, the narrative contours of the movement, however, influenced subsequent representations of the atomic age, notably the concept of an atomic pax Americana, the providential nature of the revealing of the atomic secret to Americans, and the necessity of beating wartime swords into peacetime plowshares.

The Bright Atomic Future

"The point is this: tomorrow's going to be pretty wonderful"
(advertisement, *Time* magazine, 1946)

American culture has long greeted technological developments such as the coming of the railroad or the use of electricity with utopian expectations. In this regard, atomic power was no exception. David Nye's typology of narratives concerning energy development is helpful in this context. Of several types of "energy narratives" identified by Nye, one he terms the "transformation narrative" is most relevant. In this narrative, "clever technicians reveal how to achieve growth, progress, and personal success by discovering new resources or recycling old ones." Another form of Nye's energy narratives, which we will return to later, is the "apocalyptic narrative" that "emphasizes the destructive force of energy sources" and is "tragic" in nature.³⁸

What can be termed the "bright atomic future" narrative appeared immediately after the bombings of Hiroshima and Nagasaki and seemingly offered comfort to a people who had just unleashed the most destructive weapon yet conceived on two cities and raised the specter of future atomic devastation. The bright atomic future narrative held that the destruction of the Japanese cities was indeed terrible, but with the harnessing of the atom, Americans had discovered the means to limitless power, and an end to war, disease, and even poverty—an awesomely destructive power given to them, as country singer-songwriter Fred Kirby (the "Victory Cowboy") declared in 1946, by "the mighty hand of God."³⁹

In Paul Boyer's terms, the bright atomic future narrative not only served as a cultural "anodyne to terror"⁴⁰, it also served the interests of the US government and media by focusing attention on the beneficent atom (peace) not the malevolent atom (war). A robust American nuclear research program was necessary for both weapons development *and* peaceful applications. As we will see later in this chapter, the US Atomic Energy Commission, for example, could sell Plowshare

projects as great strides in peaceful progress, while maintaining critical political and financial support for weapons development. Similarly, for American magazines like *Life*, a focus on the wonders of the future atomic utopia promised by the bright atomic future narrative made for good copy, and from an editorial and readership perspective, offered a measure of relief from the potential horrors of nuclear war.

The bright atomic future narrative may also be viewed as a “millennialist” narrative. This manner of representing the atomic age was not unique to *Life* and was potent in the United States, especially in the period from roughly 1945 to 1949. The bright atomic future maintained that the splitting of the atom meant that humankind had now discovered the means to cure disease and turn vast deserts green. Yet, at the same time, a submerged counternarrative emerged which held that unless controlled, humankind was poised to destroy itself, emphasizing humankind on the brink of nuclear apocalypse. Did this indicate that the earlier millennialist narrative disappeared? No, but it certainly began to recede in the American public imagination and in the magazines’ representations of the atomic age.

The bright atomic future narrative was anticipated in the reconversion emphasis of the immediate postwar period. Reconversion, simply put, encouraged Americans to convert wartime material to peacetime uses (e.g., military jeeps became sportsmen’s vehicles). Indeed, it could be argued that the bright atomic future narrative represents the growth to maturity of this earlier emphasis. American magazines like *Popular Science* and *Popular Mechanics* championed the peaceful uses of military “surplus,” from carbines to Quonset huts.⁴¹ The bright atomic future narrative, however, was of a much grander scale. While reconversion held that weapons of war could be converted to civilian purposes, the bright atomic future narrative maintained that the discovery of atomic fission would—and indeed *must*—transform virtually every aspect of human life for the better, from turning the deserts green to abolishing poverty and illness forever.

The bright atomic future, as a “transformation narrative,” became one of the most dominant and long-standing ways in which popular magazines like *Life* represented atomic power.⁴² This narrative strand, in part, taps into the American millenarian tradition. As Ron Hirschbein has pointed out, the development of atomic bombs “culminated American faith in the redemptive power of what Walt Whitman called the ‘strong, light work of engineers.’” This belief in the redemptive possibilities of nuclear technologies meshed with a distinctly American eschatology: “The time in the Los Alamos desert, the epiphany at the Trinity test site, and the apocalyptic destruction

of Hiroshima and Nagasaki were construed as the fulfillment of a resonant millenarian promise."⁴³

Atomic bombs had vanquished the enemy, and many Americans believed it was no accident that God had chosen to reveal to them alone the secrets of the atom and to entrust them with this awesome power. A power, as previously noted, that American songwriter Fred Kirby described in the 1946, as issuing directly from "God's own holy hand."⁴⁴ Atomic power—in the form of a bomb—was but a sign. "According to the new civic eschatology," Hirschbein notes, for Americans "nuclear weapons would usher in the millennium: national salvation—unprecedented peace, prosperity and power—for the elect among nations. History would have a happy ending as America attained its rightful place as the 'redeemer nation.'"⁴⁵

This vision of a bright atomic future foresaw the United States assuming the mantle of a new world order of peace and prosperity (and, of course, a preponderance of power). The bright atomic future narrative, as articulated in the popular magazines, was multilayered and multifaceted: the United States assuming world leadership is one aspect of the grander, larger story. Several components, or strands, were woven into the fabric of this narrative. If we unravel the whole, we can identify several closely related, yet distinct, strands. First, there is the dream of limitless power, one of the most potent and stable subnarratives. Here, nuclear fission is the successful culmination of the long-standing quest for an inexhaustible energy source. Second, we see a focus on nuclear medicine. Like the trope of limitless power, nuclear medicine represents, potentially, nothing less than humankind's final conquest of disease. Third, what might be termed the "entrepreneurial atom" emerges: atomic energy came to be understood in explicitly American capitalist terms, as a boon to the economy and a latter-day bonanza, complete with get-rich-quick schemes with uranium prospecting. Fourth, there appears the dream of atomic-powered utopias. And then, finally, there is plowshares. Unlike the other narrative strands, plowshares envisioned the use of nuclear explosions themselves for the good of humankind.

Let us begin with an analysis of the first strand of the bright atomic future tapestry, limitless power. The myth of limitless power became one of the earliest and most potent strands of the bright atomic future narrative. *Life* captured the sentiment in a December 1946 issue describing possible peaceful uses of the atom. Taking a long view of the meaning of atomic power, *Life* declared that "atomic energy will probably have a similar history [to fire]. It is potentially the greatest enemy of man, but it is also his greatest hope for the future." The

magazine specifically pointed to nuclear power plants and the use of radioisotopes in medicine.⁴⁶

New York Times science editor William Laurence asked the question, "Is Atomic Energy the Key to Our Dreams?" in the *Saturday Evening Post* of April 13, 1946. Laurence was the only journalist granted access to the Manhattan Project and the Trinity Test and had flown on the Nagasaki atomic bombing mission. In his writing about the atomic age, Laurence assumed the role of atomic sage, typically adopting the stance of a clear-thinking and thoroughly knowledgeable wise man. After a verbose introduction about humans' dealings in alchemy and conquest of space and time, Laurence explained in the *Post* that the quest for progress inherent in the discovery of fission "is the true meaning of atomic energy harnessed in the service of mankind . . . it gives man the greatest chance he ever had to master his material environment, to conquer space and time, disease and old age." Indeed, Laurence effused that humankind now stood where Moses did when he first caught sight of the Promised Land.⁴⁷ The lofty, Biblical rhetoric also became typical Laurence fare, beginning with his initial descriptions of the Trinity Test in which he declared that "one felt as though one were present at the moment of creation when God said: 'Let there be light.'"⁴⁸ Although Laurence also sought to deflate some of the more wildly unrealistic and fantastic notions of what atomic energy could do, he maintained his belief that humanity stood "at the gateway to a new world."⁴⁹

By the early 1950s, magazines began to stress developments in atomic power plants. *Look* magazine drew an explicit contrast between weapons and energy in a piece on Shippingsport, Pennsylvania, with a small photo of a mushroom cloud. The magazine noted, "You may have missed it, hidden away behind those mushroom clouds from the H-Bombs, but private enterprise is about ready to get its first real whack at the atom."⁵⁰

The year 1955 marked the tenth anniversary of the beginning of the atomic age and the bombings of Hiroshima and Nagasaki, and *Life* took the opportunity to assess a decade of developments in atomic power. *Life* on August 8, 1955, reflected on the hope of the atomic age as it had been imagined immediately after Trinity. Tellingly, the magazine chose Trinity as its touchstone, not Hiroshima or Nagasaki. *Life* featured a photo of several men ("rapt young nuclear engineers") who are the "future executives of a new industrial age—an age powered by the inexhaustible resources of atomic energy." *Life* proclaimed that "10 years after the first bomb at Alamogordo cast a mushroom

cloud of fear over the world . . . The atom business now directly supports 130,000 Americans and governs the lives of some 850,000 more."⁵¹ *Life* described the August 1955 United Nations-sponsored conference in Geneva on the peaceful atom similarly, but with a domestic spin. According to *Life*, the assembled nuclear scientists and participants from around the world, "behaved like housewives at a bargain basement as they inspected models of nuclear marvels on display."⁵²

Radioactive waste proved to be the most persistent and pernicious problem associated with atomic power. As a consequence, the quest for "cleaner" nuclear power proved both potent and long lived. The search for cleaner power pertained to both nuclear power and nuclear weapons. By the late 1950s, weaponeers and scientists began to seek to develop the so-called clean bomb, a nuclear weapon that did not leave large amounts of lingering radioactivity. The search for this weapon culminated most dramatically in the neutron bomb concept. The neutron bomb is a low-yield nuclear device that emits massive amounts of neutrons. Thus, its primary killing function is through neutron bombardment, not blast or heat, leaving significantly lower levels of lingering radioactivity than "conventional" nuclear weapons. The concept was first made public in the late 1950s and resurrected—to much public outcry—in the late 1970s.⁵³

The concept of clean nuclear weapons tapped into a larger narrative of the technological utopia. This had been one of the most powerful visions of the impact of technology on society, especially from the late nineteenth to the mid-twentieth century.

We can turn to American television history to see a vision of this technological future, a prime example being the animated television series *The Jetsons*. Following on the success of *The Flintstones*, Hanna-Barbera developed the futuristic animated show, which premiered in 1962. Set somewhere in the future, the Jetsons family enjoyed all the conveniences of the space age: a robot maid, flying cars, and instant food. The show reflected the hope of a technological-convenience utopia, a push-button age.

To return to the magazines and to an earlier time, an advertisement by the Casco Tool Company in *Time* 1946 captured in bizarre fashion the basic vision of the atomic utopian dream. The ad consisted of images of an East Indian-looking, three-faced family of planet Venus with the title "Make money! Sell Power Tool Kits by Mail on Venus!" Interested readers would not want to miss out on how "to cash in on this lucrative new market just as soon as the atom drive puts Venus practically in your lap. Consider!"

Venus abounds with wood, aching to be carved. Venusian plastics comprise one of the planet's major industries. Venusian metals have never been exploited to their fullest extent . . . The point is this: tomorrow's going to be pretty wonderful. But whether we're automatic or atomic, people will go on living much the same sort of lives. We'll eat, sleep, travel—we'll have hobbies and home repair.⁵⁴

Collier's "Next Stop the Moon" presented a slightly less grandiose vision of atomic-powered travel beyond the earth, but offered some fantastic representations of lunar travel. *Collier's* spatial placement of "Next Stop the Moon" is revealing: the article was followed by photos of the Bikini atomic test with the caption "Cloud of Doom." The piece pointed out that the same force that destroyed Bikini could be harnessed for peaceful space flight.⁵⁵ With this juxtaposition, *Collier's* illustrated the twin components of the atomic utopian narrative and its parent, the bright atomic future narrative: hope always existed alongside the terrible potential for destruction.

Throughout the 1950s, American magazines continued to present the case for the peaceful atom. *Look* magazine, for example, offered an essay by Atomic Energy Commission Chairman Gordon Dean in August 1953 entitled "Atomic Miracles We Will See," which provided some typical atomic hyperbole: "The promised land of atom-powered ships, planes, farms and home is closer than you think," Dean proclaimed. The article included a photo of a test at the Nevada Test Site noting that light of the atomic explosion symbolically asserted its status as the harbinger of a new world of hope for humankind through science.⁵⁶ The magazine noted, "Our generation lives between Hell and Utopia . . . the very force that can destroy the human race can create wonders without end on earth."⁵⁷ In a similar vein, the *Saturday Evening Post* simply stated that the "Atom is Going to Work."

Indeed, American foreign policy too envisioned the atom going to work. In 1953, US President Dwight Eisenhower addressed the United Nations declaring the United States' intention to put the atom to work in furthering the cause of peace. President Eisenhower's so-called Atoms for Peace address publically declared the American intention of facilitating the expansion of nuclear power projects globally.

An editorial in *Life* argued that Eisenhower's "Atoms for Peace" speech to the United Nations, which was broadcast in over 30 different languages, was so visionary and compelling that it was supported by such diverse critics of American policy as the London leftist newspaper *New Statesman and Nation*, and the usually critical *Le Monde*

in France. *Life* went on to comment that the world should be assured of the sincerity of Eisenhower's proposal to share peaceful nuclear power because the United States had already shown its good intentions with the so-called Baruch Plan presented to the United Nations Atomic Energy Commission in 1947, which called for international controls on atomic energy.⁵⁸

What is clear from an examination of *Life*, the *Post*, *Collier's*, and other magazines, is that there was a direct correspondence between new deadly weapons developments, especially the hydrogen bomb, and an increase in the magazines' efforts to highlight peaceful applications as an "anodyne to terror." Between 1952 with the first American thermonuclear test and 1954 with first Soviet detonation of a hydrogen bomb, magazines focused significant attention on the peaceful atom. Of the 38 stories featuring peaceful uses of atomic energy in *Life* between 1945 and 1965, 23 occurred in the years from 1951–1955, some 60 percent of all of *Life's* coverage of the peaceful atom.

Thus, with the rise of incredibly more destructive weapons came a concurrent rise in the focus on peaceful applications.⁵⁹ Nowhere is the link between nuclear weapons development and peaceful uses more direct than Project Plowshare. Plowshare was the American effort to use nuclear explosions for peaceful applications. As the name indicates, the idea behind Plowshare was to use nuclear weapons themselves as instruments of peace. The basic concept had been around since the earliest days of the atomic age, but did not develop as a specific, formalized program until the early 1960s in the United States under the Atomic Energy Commission, and was closely associated with one of its main champions, physicist Edward Teller.

Conceptually, Plowshare plans ranged from using nuclear blasts to build harbors, explore for natural gas, and even excavate a "Pan-Atomic Canal." Between 1961 and the termination of the project in the early 1970s, the United States conducted numerous Plowshare tests, most of which were at the Nevada Test Site, but tests were also conducted in Colorado and New Mexico.

Life in January 1962 carried a short piece on Gnome, the Carlsbad, New Mexico-area Plowshare test, complete with artist's illustrations. *Life* captured what would be the lingering, and ultimately fatal, flaw in the Plowshare program. Radioactivity, "fogged the film [in *Life's* cameras] . . . as well as the film in most of the 120 cameras which were photographing the data coming into batteries of equipment."⁶⁰ *Life* described the result as "Man's First Atomic Cave."⁶¹ Never extensively covered in the magazines, by the mid-1960s, Plowshare all but disappeared from their pages.

By the mid-1960s, the vision of an atomic-powered utopia would be largely eclipsed by its inverse, the technological dystopia.⁶² Nuclear weapons increasingly came to be seen as the ultimate expressions of humankind's drive toward its own destruction. A key development in the change in attitude was the growing attention to the increasingly haunting specter of radiation and radioactive fallout from decades of atmospheric testing.

10-9-8-7 ... Test Narratives

"It was as if someone had poured blood on the sky"

(*Life*, 1962)

To examine the ways in which American magazines chose to tell the tale of nuclear tests, we must begin, of course, with the first atomic test, Trinity. *Life* covered the Trinity Test in its September 24, 1945, issue. "In New Mexico," the magazine declared, "where the land is eroded into many bleak and beautiful shapes, there is a new formation which would unnerve a geologist who came upon it without warning ... a half-mile incrustation of sea-green glass, splattered on the desert." *Life* chose as the setup the atomic bomb's ability to deform New Mexico's exotic topography.⁶³ The essay on Trinity also included an excerpt from William Laurence's piece on the atomic bombing of Nagasaki.

The next round of American nuclear testing took place in the Marshall Islands in the South Pacific at Bikini Atoll in the summer of 1946. The Bikini tests, aptly code-named Crossroads, were among the world's most heavily hyped and media-saturated nuclear tests. As Dick Van Lente points out in his chapter on the Netherlands, "the metaphor of mankind standing at a crossroads was typical of the first postwar decade, when nuclear power seemed an unexpected, dangerous but potentially useful gift, confronting humanity with a basic choice."⁶⁴ *Life* proclaimed that Operation Crossroads would do no less than "determine the future of man, animals, birds, fish, plants and microorganisms."⁶⁵ The *Saturday Evening Post*, as did almost every other American illustrated magazine, featured articles preparatory to the Bikini tests. The *Post* spun the test as a great adventure in which remote-controlled unmanned aircraft "will fly directly into the billowing mushroom cloud which follows the atomic-bomb burst" in the Bikini lagoon.⁶⁶

After all of the media hype, so-called Test Able (the first in the series) proved to be somewhat anticlimactic. "The height of the cloud

was disappointing," a *Life* correspondent noted, "at Nagasaki it had risen more than 60,000 feet . . . Asked why the cloud had not risen higher, he [Crossroads meteorologist Ben Holzman] said, 'I guess this one just didn't have enough poop.'"⁶⁷ *Life* included photos of naval ships damaged by the blast, including the battleships *Nevada* and *New York* and the aircraft carrier *Independence*. The second test, Baker, an underwater blast, proved more dramatic and foregrounded the dangers of radioactive fallout. Because it was detonated underwater, Baker produced a tremendous amount of fallout in the spray that covered numerous naval test ships in the area and rendered them heavily radioactive.

Life regularly covered nuclear testing at the Nevada Test Site throughout the 1950s. The visual appeal of tests explains much of their recurring prominence in *Life*. With awesome imagery, dramatic titles such as "Atomic Tests Light Up Four States," and descriptions such as, "White-Hot Fireball from an atomic explosion rises above Nevada flats," they made good copy.⁶⁸ The dramatic images and hyperbole proved to be an attractive combination.

The continual coverage also in many ways served to demystify and naturalize the bomb. The coverage often conveyed the message that the atom was a tamed beast. *Life*'s May 5, 1952, essay on Yucca Flats, for example, described the Atomic Energy Commission (AEC) officials in charge of testing at the facility as "animal trainers who at last are ready to show off a monster they have tamed."⁶⁹ *Life* referred to this public Yucca test as "AEC's Atomic Open House." One photo of testing with troops in an atomic battlefield scenario included this disingenuous caption: "In the Bomb's Dust soldiers wait beneath the towering cloud for a check on radioactivity in the area . . . the high altitude of the bomb's burst obviated any danger to the troops."⁷⁰

Of course, there was always the potential for a serious threat to the image of the tamed atom. In early March of 1954, the United States tested a thermonuclear device at Bikini Atoll, code-named Castle Bravo. The explosion proved to be significantly more powerful than expected and, at approximately 15 megatons, the largest American nuclear test to date. The test produced a tremendous cloud of radioactive fallout. Tragically, the fallout fell like volcanic ash on a Japanese fishing vessel in the area, the *Fukuryu Maru* (Lucky Dragon), exposing the entire crew to deadly amounts of radiation. All the crewmen exhibited signs of radiation sickness, and one member died from the exposure.⁷¹

Life covered the Lucky Dragon incident about one month after the crew had been exposed. Contradicting the initial official US

government response that laid blame primarily on the Japanese fishermen, *Life* described the ship's crew as the "First Casualties of the H-Bomb." *Life* included in its coverage a basic history of the development of the H-bomb and photos of the Lucky Dragon victims. The magazine made a commendable effort to describe the suffering of the victims, but also declared, "Inevitably anti-American politicians seized on the affair, but their attacks were blunted considerably by prompt US assurance of medical treatment and profuse and sincere expressions of regret."⁷²

Even after the Lucky Dragon Incident, American magazine coverage of nuclear tests tended toward the "nuclear sublime."⁷³ However, as the 1950s progressed and the dangers of fallout from years of testing became more and more apparent, American magazines began to take a more critical stance. According to Frederick Michael O'Hara in his study of American magazine's attitudes toward nuclear testing, a shift against nuclear testing began to emerge by the late 1950s. The shift occurred as more information "became known about testing's deleterious effects by scientists, [and] as the wraps of secrecy placed on atomic information by the military and the USAEC were stripped away."⁷⁴

American and Soviet atmospheric nuclear testing came to an end with the Partial Test Ban Treaty of 1963, and not surprisingly, the ubiquitous images of fireballs and mushroom clouds as a common fare in magazines also came to an end. Near the close of the era of American atmospheric testing, *Life* described a US nuclear test in space in terms that made for a perhaps fitting epitaph for the era: "in awesome brilliance, the sky over Hawaii goes wild with color . . . It was as if someone had poured blood on the sky."⁷⁵

"A Danger Unique to the Atomic Age": Fallout

Achieving the full promise of the Peaceful Atom had proven elusive, for as the Golden Gate Quartet declared in 1947, Atom carried the stain of original sin: "Atom was a sweet young innocent thing, Until the night that Miss Evil took him under her wing."⁷⁶

It took time and a series of events, like the Bikini tests and fallout from continental explosions, for the "evils" of radiation to become regular subject matter for American illustrated magazines. Early discussions of radiation even made the case of its life-saving, rather than the death-dealing nature. *Life* in June 1946, for example, focused on the life-from-death transmutation of atomic power, often in explanation of the medicinal uses of radioactive isotopes. Created in Oak Ridge, the same facility that produced material for atomic bombs,

radioactive "elements can be traced through, and give valuable new data about, the body's biological processes."⁷⁷ From a facility constructed for a single purpose—to create atomic bombs—supposedly came life-giving hope.

Refrains of a consistent theme appeared: the bomb is terrible, but from it comes life, not just death. As Paul Boyer noted in his seminal work on American culture and the atom, *By the Bomb's Early Light*, one of the most vivid illustrations of this view of life-from-death was captured by *Collier's* magazine in 1947: a once wheelchair bound man stands, liberated by the mighty, life-giving power of the mushroom cloud enveloping him.⁷⁸

A series of events served to change the nature of the radioactive discourse. The Bikini Tests in the summer of 1946, and as previously noted, in particular the underwater Test Baker, brought the dangers of radioactivity to the forefront of national reportage. Fallout from hydrogen bomb tests beginning in the early 1950s made radiation a primary concern. For example, *Life* in 1950 featured a mushroom cloud on a cover, titled simply, "Atomic Explosion." Inside was included an illustration of the possible damage radius of an atomic blast on a typical American city—called "Central City." *Life* explained that if just one or two atomic bombs were dropped on a city of just under one million, "without the help of its deadly by-products, heat and radiation, the bomb's blast alone could wreck a city of nearly one million."⁷⁹ Compare that description with *Life* in 1955, which featured an extensive essay specifically focused on the effects of radiation—"a danger unique to the atomic age," which raised the "specter of bodily injury, disease and death by irradiation." The essay carried several photos, including those of animal "test" subjects such as the burros in the pen awaiting their horrific deaths by irradiation. One section titled "Amid Grave Concern a Measure of Hope" noted that, while science was making some progress toward protection against and treatment for exposure to radiation, "It is the long-range effects of radiation, its potential harm to heredity, which worry scientists most."⁸⁰

The *Saturday Evening Post* in September 1951, commented on a recent Nevada test of a battlefield (tactical) nuclear weapon.⁸¹ The *Post* imagined what a future nuclear battlefield might look like, and it was not a pleasant thing to contemplate: Soldiers by the thousands "screaming in pain from the burns inflicted by the great fireball of an atom bomb," and thousands more who "seem at first unharmed, only dazed . . . the walking dead, who have taken a fatal dose of radiation and do not yet know it."⁸² The *Post* later continued the theme with "Fallout: The Silent Killer."⁸³

It was primarily the development and testing of thermonuclear weapons that brought fallout to the forefront. The *Post* in March 1955 explained that thermonuclear testing had revealed a terrible reality of the H-bomb, the “sudden revelation of radioactive fall-out, which is the most fearful characteristic of the H-bomb,” was particularly concerning because the “lighter but no less noxiously radioactive particles of the bomb cloud ascend into the stratosphere, there to be carried round the earth in the world winds.”⁸⁴ The *Post* two years later carried a story about a group of nine scientists who had been “Trapped by Radioactive Fallout” from the Castle Bravo thermonuclear test in the Pacific—the same runaway test that had sickened the crew of the *Lucky Dragon*.⁸⁵

The same year that the *Post* related the ordeal of the trapped scientists, *Life* presented haunting images of dummies wearing plastic protective masks to highlight the danger of fallout from nuclear testing, the “nightmare that could become a reality” in which “the continuous testing of nuclear weapons [might] contaminate the atmosphere and bring illness or death to millions.”⁸⁶ The photos and article focused particular attention on concerns over Strontium 90 contaminating the milk supply, and thus posing a particular danger to children and adding to a growing national concern over Strontium 90.⁸⁷

In 1959, *Life* reviewed the antinuclear film *On the Beach*. Based on a novel by Nevil Shute, *On the Beach* was one of the first feature films to explore the tragic consequences of nuclear war. Set in Australia, the film probes the human tragedy as the survivors of nuclear war await their fate as radioactive fallout inevitably heads their way. Faced with this terrible eventuality, many people choose suicide as a lesser of evils. Though the film would inspire debate among viewers, the review noted that none would “argue over the subject’s impact as they watch doomed youngsters frolicking on beaches, crowds thinning out, a final kiss and the world gone empty.”⁸⁸

Life in September 15, 1961, featured a cover photo of a man in a “Civilian Fallout Suit” (plastic body and hooded, with an outstretched hand). The issue included a letter from President John F. Kennedy: “I urge you to read and consider seriously the contents of this issue of LIFE. The security of our country and the peace of the world are the objectives of our policy.” This was immediately followed by a section on “Fallout Shelters” and the line: “You could be among the 97 percent to survive if you follow the advice on these pages.”⁸⁹ Despite the claim, *Life* made mention of Americans’ increasing cynicism about the chances of surviving nuclear war. *Life* cited a Gallup poll that 40 percent of American families believed the chances

of surviving a nuclear war were "poor." *Life* also cited a Boston minister who declared that "I myself now accept the probability of nuclear holocaust . . . A miracle is needed. I mean it literally, a miracle."⁹⁰

Increasing awareness of the dangers of nuclear fallout did not stop some from downplaying its significance, and in the period before 1965, American magazines like *Life* and the *Saturday Evening Post* never adopted an outright antinuclear stance. For example, in February of 1962, the *Saturday Evening Post* featured a two-part series on the "Fallout Scare" by Edward Teller. The opening was classic Teller and established the tone of the whole piece: "Fallout from nuclear testing is not worth worrying about. Its effect on human beings, if there is an effect, is insignificant." For Teller, fear of testing presented the real threat by leading to a decline in support for nuclear testing.⁹¹ Similarly, *Life* editorialized that the honoring of scientist and anti-nuclear activist Linus Pauling with a Nobel Peace Prize represented an "extraordinary insult to America" because of Pauling's role as, to quote a Senate Internal Security report, the "number 1 scientific name in virtually every major activity of the Communist peace offensive in this country."⁹²

By the early to mid-1960s, concerns over fallout had come to dominate discussions of nuclear testing and nuclear power more generally in American magazines. From the first real considerations of radioactivity in 1946 to the outright fear of fallout by 1962, much had changed. In the early years, magazines like *Life* could still focus on the life-giving promise of radiation. By 1962, the same magazine openly worried about mass illness and deaths of millions of potential victims of radioactive fallout. Rising national and international concerns over fallout provided impetus for the Soviet Union and the United States to agree to a ban on atmospheric, as well as underwater and space, nuclear testing through the Partial Test Ban Treaty of 1963.

Conclusion

The end of the era of atmospheric testing corresponded with the end of the era of the prominence of American general interest magazines like *Life*. The magazine ended as a weekly publication in 1972, while the *Saturday Evening Post* folded a few years earlier in 1969. Such magazines had declining popular appeal given the growth of television and the increase in narrow, special interest markets. Further, the vision of a homogenous "American way of life" championed by publishers like Luce and represented in magazines like *Life* seemed increasingly disconnected from the realities of American life from the 1960s onward.⁹³

Life and other American magazines examined in this chapter tended to portray nuclear power in two distinct ways, as a weapon of war and an instrument of peace. Indeed, close examination of *Life* indicates that the two were intrinsically linked: as weapons became increasingly powerful and deadly, the emphasis on peaceful applications became more prominent. Within this general framework, magazines like *Life* represented the meaning of nuclear power and the atomic age in various narratives. The most prominent of these narratives was the “bright atomic future” which held that despite its horrific origins as a weapon of unprecedented destructive power, the fissioned atom promised new hope for humankind’s betterment. By the late 1950s and into the 1960s, this narrative had been eclipsed in American popular illustrated magazines by concerns over nuclear fallout and the consequences of years of nuclear testing.

Notes

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Chapter 4

Learning from War: Media Coverage of the Nuclear Age in the Two Germanies

Dolores L. Augustine

“Theirs was another world”¹—nineteenth-century historian Leopold von Ranke’s famous pronouncement about the incommensurability of past and present—encapsulates how many historians approach the utopian visions of an atomic future and the Manichean worldview of the early Cold War. The contradiction between the threat of total obliteration and optimistic thoughts of a better future based on nuclear technologies has been explained by some historians as resulting from mass manipulation and government propaganda, in particular in connection with the American “Atoms for Peace” program, announced in a speech given by US president Dwight D. Eisenhower on December 8, 1953.² Historian Joachim Radkau argues that the idea of a brighter future through nuclear technologies—heralded under the banner of the “Atomic Age”—was appealing to Germans because it offered an alternative to the misbegotten and discredited world created by the Nazis.³

Nuclear utopianism was not, however, confined to West Germany. The Soviet Union and its East German ally (the GDR, or German Democratic Republic) had been promoting a kind of “atoms for peace” message since at least 1945, arguing that nuclear technologies posed a grave threat in the hands of purportedly militaristic-capitalist countries, while supposedly peace-loving socialist countries would use them to further the well-being of all humanity. This contention first emerged as a reaction to the American nuclear monopoly, but remained a central argument in favor of socialism for years thereafter. It cast socialism as the more humanitarian of the two systems, but also revealed a deep-seated belief in the central role of technology in promoting progress.⁴

According to Paul Boyer, peaceful uses of nuclear technologies were presented by the United States as a kind of antidote that could mitigate or even eradicate fear of nuclear war.⁵ Did West Germans find this line of argumentation convincing? In West Germany, public opinion revealed considerable doubts, even at the supposed height of “nuclear euphoria.” Only 8 percent of all participants in a survey conducted by the Allensbach Institute in 1959 supported atomic power without any reservations.⁶

Nuclear issues in both Germanies were overshadowed by the Cold War. In the early Cold War, West Germans blamed the Soviet Union for the danger of nuclear war. In a 1950 survey conducted in West Germany on behalf of the US Information Agency (USIA) by an American polling organization, 74 percent of all respondents said that the United States was doing all it could to prevent a nuclear war, but only 8 percent believed the same of the Soviet Union.⁷ Comparable data are not available for the late 1950s and the early 1960s. However, the emergence of a peace movement (the “Ohne mich,” or “Without Me” and “Kampf dem Atomtod,” or “Struggle against Atomic Death” movements of the 1950s and the Easter March movement of the 1960s) indicates that over time, a growing number of West Germans came to see nuclear weapons themselves and the Cold War mentality entrenched in both the East and the West as the primary source of danger. This chapter will show that a similar shift in attitude took place in West German popular media. East German media were far more controlled and ideologically imprinted, yet there, too, a long process of evolution in depictions of war and peaceful nuclear technologies took place.

The Atomic Age in the Two Germanies: Technological Developments

Germany played a central role in the development of nuclear technologies. In the Nazi era, nuclear physicists made advances in their attempts to build an atomic reactor that used heavy water, but were unable to complete their project by the end of the war. The development of an atomic bomb was beyond their grasp, particularly given the Nazi leadership’s lack of commitment to the program. Werner Heisenberg later claimed that he had deliberately sabotaged attempts to develop a nuclear bomb, but this contention is no longer taken seriously in most quarters. Forced to flee from Germany, Albert Einstein and Leo Szilard initiated an American effort that was successful where the Nazi project failed.⁸

According to Radkau, scientists were the driving force behind atomic power after the war, but they did not grasp the technical and economic problems. Fears of an energy shortage in the mid-1950s increased interest in atomic power. The chemical and electrical industries only briefly considered becoming involved in developing nuclear power, but were deterred by the costs. Industry increasingly looked to the state. Though under Chancellor Konrad Adenauer an Atomic Ministry was created (in 1955) and an Atomic Law passed (in 1959), the Christian Democrats were skeptical about a large government role in the development of atomic power, preferring a free-market alternative. Rather, it was left-leaning Social Democrats who spearheaded attempts to bring about state subsidies. It was not until the mid-1960s that earlier frugality was cast aside and the state became heavily involved in atomic power. The first West German nuclear power plant, in Kahl, began producing power in 1961. Others followed, notably Gundremmingen, which went into operation in 1966. Hype concerning the “atomic age” secured popular support for a time, making the development of nuclear power in Germany thinkable. Radkau shows that in the end, factionalism (among rival groups of scientists, political parties, and industries) and disagreements about risk destroyed the brief atomic consensus.⁹

In East Germany, “Big Science” was also introduced in the area of nuclear research under the direction of Nazi-era scientists. The Central Institute for Nuclear Physics at Rossendorf, headed by Heinz Barwich, conducted important nuclear research, and had its own research reactors. A state office headed by Nobel Prize-winner Gustav Hertz was in charge of administration and overall coordination of atomic research. There was a School of Nuclear Physics at the Technical University of Dresden from 1955 to 1962. The Scientific Council for the Peaceful Use of Atomic Energy gave the East German scientific community an advisory function vis-à-vis the state.¹⁰ However, in 1962–1965, the East German government shut down most of East Germany’s nuclear research, propelled by high costs and a Soviet desire to play a dominant role in the development of nuclear power.¹¹ The first East German nuclear power plant, built in Rheinsberg and turned on in 1966, was a Soviet-built pressurized-water reactor. Research collaboration with the Soviet Union was very inadequate.¹²

Burghard Weiss has noted that in the West German state with a free market system, the state came to play a dominant role in the development of atomic power, whereas in socialist East German, the state largely withdrew from involvement in atomic power.

Two Illustrated Magazines in Cold War Germany

Spectacular images of film stars, rockets, airplane crashes, and abused children jumped out at readers from the large-format (roughly 10 by 15 inches) pages of *Stern*, a West German magazine of the post-war period. Hardly less spectacular, filled with pictures of attractive young men and women, technological marvels, socialist heroes, and capitalist scoundrels, was *Neue Berliner Illustrierte* (NBI), an illustrated East German magazine. These two publications, to be analyzed in this chapter, were among the most popular in their respective countries in the 1950s and the 1960s.

In Germany, illustrated magazines enjoyed their heyday in the era before the triumph of television. In 1960, only 24 percent of West German households and 17 percent of East German households had a television set.¹³ By contrast, 60 percent of West Germans surveyed in 1955 read magazines. (Comparable data are not available for East Germany.)¹⁴ *Stern* had about 8 million readers in 1950 and over 10 million readers in 1960 (meaning that roughly 20 percent of the population read it).¹⁵ Copies were widely read in beauty salons and waiting rooms, and passed from hand to hand among friends, relatives, and colleagues.

Stern had and has quite a reputation for sensationalism.¹⁶ Its intensely visual style and focus on the spectacular doubtlessly owed something to its constant quest for readers. In 1950, only 17 percent of all readers of illustrated magazines in West Germany were subscribers.¹⁷ Thus, *Stern* had to attract readers from week to week. *Stern's* brand of commercialized journalism clashed with traditional German ideals of education and refinement.¹⁸ Though many post-WWII West Germans professed to look down on magazines, professionals, and businessmen—the core of the bourgeoisie—were, along with office workers, their most avid readers, according to a US survey of 1955.¹⁹

In the late 1950s, *Stern's* focus shifted. Increasingly, the editors saw the magazine's role as that of a critical "fourth power" in the democratic system. In their eyes, it was their responsibility to maintain a critical stance toward West German governments and other Western democracies, according to scholar Otto Haseloff. However, they did not see criticism of the Soviet bloc as an important part of that role. Nonetheless, *Stern* was never in any sense a socialist or leftist magazine. In fact, Haseloff's study shows that in the mid-1960s, *Stern* leaned slightly more toward the right-of-center Christian Democrats than toward the left-of-center Social Democrats.²⁰

West German popular journalism was molded by cultural forces and consumer society, notably in the case of gender. Images of femininity

and masculinity were shaped by the notion of the “normal” female consumer (according to historian Erica Carter), as well as by a desire to make the family into a haven, “protected against impending doom,” in the words of Elaine Tyler May.²¹

The East German *NBI*, which first appeared in October 1945, modeled itself in terms of layout and style on the *Berliner Illustrierte Zeitung* (published 1892–1945), as well as Western illustrated magazines, but used Western forms to communicate socialist content. It was the weekly magazine with the highest circulation in the GDR (almost 700,000 in 1971). This is a very respectable figure, considering that the GDR had a population of only about 17 million. In fact, the number of copies printed was kept artificially low by the authorities. Issues of *NBI* were sold “under the counter,” and quickly sold out.²²

The GDR press was tightly controlled: censorship was strict; paper scarcity was used to limit production runs; and the journalist profession was closely monitored and controlled by the *Sozialistische Einheitspartei Deutschlands* (SED) the Socialist Unity Party of Germany, as the Communist Party was known in the GDR.²³ Guidelines for the writing of articles were developed and disseminated by the “Agitation/Propaganda” division of the SED, at times at the behest of other SED divisions and in close coordination with Soviet counterparts.²⁴ The German Peace Council, a GDR affiliate of the Soviet-dominated World Peace Council, gave detailed instructions to the press as to how to cover events, exactly what arguments to make, who to interview, and how to interview.²⁵

Despite the totalitarian aspirations and efforts of the SED, *NBI* turns out to be a very lively magazine, filled, yes, with oft-repeated formulas deriving from SED directives, but also a juxtapositioning of images and stories with entertainment value (as well as pedagogical and propagandistic purpose). These items were politically conformist, never critical of the SED or the Soviet Union. However, some reveal noncommunist influences of various sorts, as well as emotional valences that opened up spaces for a conception of individuality. Even on-target Communist propaganda at times suggested things that eventually undermined SED policies. This chapter will discuss the ways in which the black-and-white pattern of thinking implicit in the “good socialist/bad capitalist” model was enlivened, disrupted, and perhaps even subverted by other messages.

Over the years, nuclear technologies and the danger of nuclear war elicited fairly continuous interest of the two magazines analyzed for this chapter (a total of about 2000 issues) (see [appendix II, AII.3](#) and [AII.4](#)). In 1948–1965, *Stern* published 270 articles and other items on nuclear technologies, while *NBI* published 201 between 1945 and

1965. Military themes dwarfed coverage of peaceful nuclear technologies. (The connection between nuclear power and military uses, for example, the production of plutonium, was not understood during this period.) *Stern* consistently ran more articles on nuclear war and nuclear weapons than on nuclear power (except in 1955). The same can be said of *NBI* (with the exception of 1956) if we include articles on antiwar protests and on Hiroshima and Nagasaki in the tally of articles about military themes. Located along a major geopolitical fault line of the Cold War, the two Germanies lived in the shadow of war. This chapter not only analyzes these articles, but also comic books, films, and exhibitions.

The Stalin Era, 1945–1953

Friend-Foe Thinking and the Threat of Nuclear War in the Stalin Era, 1945–1953

A series of crises involving Germany, including the Berlin Blockade of 1948–1949, aroused fears of nuclear war. Two German states were founded in 1949, and the West rejected Stalin's proposal for reunification of a neutralized Germany in 1952. Debates over the rearmament of West Germany, starting in 1950, heightened East-West tensions and caused considerable unrest in the Federal Republic, where many opposed what they saw as a militarization of West German society. In the GDR, the civilian population was drawn into civil defense preparations, part of a broad attempt, from 1952 onward, to bring about a "total mobilization and militarization" of society.²⁶

In the early years of the Cold War, West and East German popular media tended to portray the threat of nuclear war as emanating from the "other side." Vivid depictions of the horrors that nuclear war would unleash, weapons and defenses served to promote feelings of unity and solidarity within the Western and Eastern camps in those years. The beginning of a questioning of this orthodox Cold War position emerged in *Stern* in the early 1950s, accompanied by a greater use of irony. *NBI*, however, rigidly adhered to an attitude of simplistic moral outrage against the West until the end of the Stalin era.

NBI identified the archfoe as the capitalist who sought profits through the promotion of war, indifferent to the utter devastation that nuclear war could cause. A 1950 *NBI* article claimed to reveal the contours of a capitalist conspiracy to start an atomic war, organized by the US Atomic Energy Commission and headed by "Number One Atomic Bomb King, banker-billionaire Morgan" (presumably Henry

Sturgis Morgan, 1901–1982, cofounder of Morgan Stanley). “These companies made billions in the Second World War and would now like to participate in the VERY PROFITABLE BUSINESS of an atomic war.” It was asserted that Konrad Adenauer had married into this “atomic bomb dynasty.”²⁷

The late 1940s and the early 1950s were the heyday of “antifascism,” a doctrine that claimed that socialism was the main bulwark against fascism. *NBI* articles drove home the supposed parallels between Nazi aggression in the Second World War and West German policies. “Adenauer is the Hitler of today,” SED head Walter Ulbricht is quoted as saying in a 1953 article.²⁸ Adenauer is shown praying, but in a pose that might be interpreted as rubbing his hands together in a scheming manner (thus fusing antireligious, antifascist, and anti-Western imagery). His picture is superimposed on a map that shows those areas that the GDR claimed that he planned to conquer in a nuclear war. This claim was based on a statement by West German politician Walter Hallstein, advocating European integration “up to the Urals” (in actuality a plea for peaceful European integration).

Western preparations for nuclear war were linked to various forms of moral deviance, notably sexual exploitation, pornography, and jazz.²⁹ A 1952 article asserted that American pimps were earning money off 70,000 prostitutes in Japan (three of whom were pictured, clad only in thongs, from behind). To blame was, according to the article, General Matthew Bunker Ridgway, a former military governor of Japan, named NATO Supreme Allied Commander weeks earlier. In case the reader had trouble interpreting a photo of Ridgway, this description was supposed to help: “His mouth is broad and brutal, his skin like leather, his nose like a poisonous claw.”³⁰ As in other *NBI* imagery, the soft, vulnerable female is contrasted with the brutal, rapacious capitalist male.

NBI featured countless articles on antinuclear activism, peaking in 1950 with 13 articles. Officially choreographed demonstrations in the East were presented in the pages of *NBI* as part of an international movement that also inspired protests in the West.³¹ West German peace activism was covered in a way that was intended to evoke a keen sense of solidarity.³²

Articles from the Stalin era often made it sound as if West Germany were on the brink of civil war: “Despite unconstitutional police actions, arrests, and house searches, brave peace activists [literally ‘peace fighters’] paint their warnings on buildings. They don’t allow mobile [police] units to prevent them from demonstrating for their causes.”³³ Neat dress and decorous behavior were typical of peace

demonstrators depicted in the early 1950s, but not of their opponents, one of whom was termed a neo-Nazi “rowdy.”³⁴ In a 1952 article, female advocacy of peace (with maternal overtones) was contrasted with male oppression in the form of dark, somewhat menacing figures of male policemen who were trying to prevent demonstrators from reaching government buildings.³⁵ Ethel Rosenberg was depicted as a martyr for the cause of peace.³⁶ This gendering of socialism as female can be traced back to the art of Käthe Kollwitz (1867–1945), as well as the political work of activists such as Adelheid Popp (1869–1939) and Clara Zetkin (1857–1933).

In the early Cold War, *NBI* shied away from depictions of Soviet nuclear tests and downplayed the existence of Soviet nuclear weapons, bombers, and missiles, evidently because these could undermine the image of the Soviet Union as peace loving. *NBI* argued that the Soviet Union had developed nuclear bombs as a necessary form of self-defense. The first Soviet test of a nuclear weapon on August 29, 1949, was not covered in *NBI*, and was not revealed by the Soviet leadership. Instead, US President Harry Truman announced it to the world in September 1949. The first mention of Soviet development of nuclear capabilities in *NBI* was oblique: in December 1949 *NBI* unveiled a Soviet proposal (never put into practice) to alter the course of two Siberian rivers by blowing up a mountain range with a nuclear device, so that they would no longer flow into the Arctic Ocean, but rather into the Caspian Sea. The desert climate of the area around the Caspian would become temperate, making it suitable for farming, claimed the article.³⁷

The West German *Stern* was distinctly anticommunist in this period. Vivid images of “the enemy” were to be found in the magazine. The Soviet threat was imagined as a red flood across the map of Europe, with huge, threatening arrows indicating Soviet invasion forces, plunging into West Germany and France.³⁸ *Stern* conveyed the danger posed by the Soviet nuclear program in a series of sensational exposés, surrounded by a nimbus of danger and intrigue. A 1951 article revealed secret Soviet research facilities and nuclear testing grounds, not only in what is today Kazakhstan, but also in adjacent territories inside China. An unnamed Western expert commented on the irony that in this area, where the original Garden of Eden was supposedly located, “people today are working with the industriousness of bees to bring about the destruction of mankind.”³⁹

Also typical of this period was the very positive depiction of Western defenses. Thrilling panoramas (evidently hand drawn for *Stern*) showed how the United States could counter a Soviet nuclear missile attack. Not the technical personnel, but the technology—missiles, radar, computers, nuclear submarines, and high-tech buoys

with electronic transmitters—stood in the foreground. The pictures here and in other articles⁴⁰ seemed designed to call forth a boyish enthusiasm for war toys (seldom satisfied in the pre-video game era). The use of the term “atomic bomb” (“bombshell” in English) to describe intensely sexually attractive women such as Marilyn Monroe underscores this association of war and fun. Monroe, the “atomic bomb,” is shown in a provocative, almost aggressive, pose, reaching out in a USO (United Service Organizations) concert to the troops. There was a kind of bravado here that was associated with the dangers of war. Sexuality and violence were also equated here, though, interestingly, the woman was the agent of violence, not its victim in this case.⁴¹

Nonetheless, articles on the atomic bomb from this period evoked its terrible destructiveness. A 1950 article featured a large picture of a hydrogen bomb detonating in Essen, a large industrial city in West Germany (see [appendix I, AI.2](#)). The levels of destruction in concentric circles going out from Essen were explained. *Stern* noted sarcastically that “the hydrogen bomb has brought civilization a step forward,” by making it possible to kill as many human beings in seconds that it took five years to kill using conventional methods in the Second World War. It would only take six bombs, the article told the reader, to completely destroy Germany.⁴²

Gradually, a specifically West German sensibility emerged in these *Stern* articles. They often questioned what were perceived as naive American attitudes toward the prospect of nuclear war, and were grounded in a rich sense of irony, at times crossing over into sarcasm. “I’m not afraid of the atom bomb,” proclaimed the title of a *Stern* article from 1952, a quotation from an American officer who thought nothing of walking through a nuclear test area in Yucca Flats, Nevada, shortly after the detonation of an atomic bomb.⁴³ A small picture of Captain Taffe showed a somewhat comical figure with a double chin, propped up on his elbow while he smoked and read a book entitled *Atomic Weapons*. “The famous radioactivity is almost harmless,” he declared. *Stern* would have none of it, commenting, “But millions of people in the entire world shudder at the mere thought of this terrible new weapon of destruction. If it is as harmless as he claims, then the huge investments in labor and money for its construction would be incomprehensible.” In this context, Americans came off as foolishly naive about the atomic bomb. In one photo, Americans sat, waiting to watch the test from a distance of 30 kilometers, “as if they were in an outdoor movie theater.”⁴⁴

Civil defense is another topic that brought out a keen sense of irony among *Stern* journalists and editors. Particularly pointed and sardonically humorous was an item that featured what were claimed

to be pictures out of an American instructional booklet, showing scantily-clad women “protecting” themselves from radioactive fallout through measures such as placing a tub over one’s head. In fact, it appears that the original point of the pictures (perhaps taken from a “girly magazine” of the era), was to show off their black bras, gartered nylon stocking, panties, and cleavage. However, *Stern* seized upon this opportunity to heap sarcasm on this supposed manifestation of American naïveté regarding atomic war: “If you look at this spread from an information booklet, you will immediately realize how amusing the next war will be.”⁴⁵ Entitled “Aren’t We Having a Happy Childhood!,” a December 1952 item declared that a “duck-and-cover” drill in an American elementary school would cast a pall over Christmas preparations.⁴⁶

Gradually, criticism of American policies was stepped up, particularly in connection with bomb testing. Did atomic tests have a profound impact on the weather? This was a question that was being asked around the world in this period. Germans, who for centuries had seen their identity as bound up with untouched nature, were particularly prone to concern about the environment.⁴⁷ “What Is Wrong in the Ether?,” asked the title of a 1953 article. A spectacular picture of an atomic explosion was juxtapositioned with a frightening picture of a gigantic black funnel, descending from massive black clouds. The article told the reader that recent atomic tests in Nevada had spread fallout to Michigan, Ohio, and Massachusetts, and in their wake came tornados, a great rarity in those areas. The article went on to report that experts did not believe that there was a connection. But the sober language of the text was contradicted by the suggestive quality of the photographs that seemed to point to visual parallels between atomic explosions and tornados. The article also asked whether radiation from atomic tests could be the cause of rising cancer rates, circulatory problems, and even psychological changes of the postwar period: “Aren’t we all more tired, irritable, dejected, and moodier than we used to be?” Again, experts said that this was not possible, but the reader was nonetheless confronted with the possibility that radiation was penetrating body, soul, and nature.⁴⁸

Peaceful Uses of “the Atom” in an Age of Utopianism and Fear: 1945–1953

It is often said that Hiroshima and Nagasaki destroyed the basis for trust in science, revealing the horrors that science and its applications could unleash. Though this was doubtlessly true of some German

intellectuals,⁴⁹ science and technology were generally embraced in both Germanies by politicians, the media, and the public.

Producers of German popular culture gladly made the leap into an imagined atomic future in which “the atom” would bring prosperity and great adventures. Particularly vivid were the imaginings in the East. A 1946 article in *NBI* held out the hope that a trip to the moon in an atomic-powered spacecraft would take “3 hours, 27 minutes.”⁵⁰ One of the great German press illustrators of the twentieth century, Helmuth Ellgaard (1913–1980), drew the fantastical illustrations. The giant spacecraft stood at the center of a dramatic nighttime scene. The caption was a bit reminiscent of Jules Verne: “It is a few minutes before midnight. All eyes on earth are turned to this first United Nations airport for inter-planetary travel. The elegant, shiny, metallic body of the spacecraft lies on a mighty, rotating launching pad . . . A pull on a lever unleashes the subdued atomic power . . . For the first time, a spacecraft leaves our planet.” On the next page, the reader could marvel at a drawing of a giant spacecraft, zooming to the moon, the star-studded inky black of space in the background.

Three years later, in 1949, *Stern* ran a similar article on an atomic spacecraft, though claiming that the “idea and text” came from a certain “Walter Heise.” A hint regarding the origin of this idea may be found in the designation of this rocket as an “RAK,” a reference to a series of rocket vehicles (including rocket cars, rocket airplanes, and rocket trains) produced as stunt vehicles by Fritz von Opel of the Opel Automobile Company in the 1920s. More practical than the 1946 moon rocket in *NBI*, the 1949 *Stern* nuclear rocket was described as a freight and mail rocket for use on earth.⁵¹

Nuclear utopianism was generally more prominent in the East German magazine. “Bomb or Philosopher’s Stone?” asked an *NBI* article from 1947.⁵² An X over a picture of a mushroom cloud underlined a Soviet call to ban the bomb and instead use the energy of the atom for peaceful purposes. And what were the peaceful alternatives? Atomic energy would serve as the energy source for space travel. Radioactivity could be used to combat cancer and—fancifully enough—to reverse the aging process in the human body, as well as to create food artificially, thus providing a way to deal with bad harvests. Oddly enough, the article’s author was quite skeptical about the use of atomic energy as a regular power source because it was so expensive to produce, asserting that atomic reactors would not be built in the foreseeable future.

In *Stern*, atomic medicine was an important theme in the early 1950s, and indeed the label “atomic” seems to have been associated

with progress and modernity in that era. However, many of the articles were unintentionally lugubrious, disgusting, or at least mildly upsetting. According to a 1950 *Stern* article, x-rays were used to treat a child's mental illness at a West German clinic.⁵³ An article on the use of an "atomic cocktail"—radioactive iodine 131—to detect and treat cancer in the United States declared this to be an important innovation. But the patient's face reflected her suffering.⁵⁴ "Atomic Shot into the Brain," was how one article described the use of radiation in lobotomies in the United States. The very graphic photographs of a lobotomy in progress were probably greeted with both horror and fascination.⁵⁵

The Clash of Utopian and Dystopian Visions, 1954–1957

The years 1954–1955 marked, in a sense, the high point of the "Atomic Age" in all its promise and horror. The American "Castle Bravo" hydrogen bomb test at Bikini on March 1, 1954, was the moment when radioactivity came to be seen as the most dangerous aspect of nuclear bombs in Germany, according to historian Ilona Stölken-Fitschen.⁵⁶ However, Eisenhower's "Atoms for Peace" speech and the 1955 Geneva Conference unleashed a wave of "nuclear euphoria," which Radkau sees as an attempt to embrace optimism and overcome dire fears for the future.⁵⁷

In Germany, these fears were based on substantive conflicts. West Germany joined NATO and the GDR joined the Warsaw Pact in 1955. Each founded an independent army. And in 1957, it was agreed that nuclear weapons would be stationed in West Germany, but under US control. Under the Hallstein Doctrine, in force until the *détente* era, West Germany refused to recognize the German Democratic Republic as a sovereign country and threatened to break off diplomatic relations with any other country that did so.

Bikini and Changing Perspectives on "The Bomb," 1954–1958

NBI coverage of the Castle Bravo test of 1954 reflects a subtle change in the framing of the message that the danger of nuclear war emanated from the West. Whereas in the Stalin era, *NBI* focused on conspiracy theories, post-Stalinist articles on nuclear weapons and nuclear war emphasized the welfare of the individual and humanitarian concern—here, the harm done to inhabitants of the Marshall Islands. In an artist's rendition, a native woman cradling a small child in her arms was

stunned by the terrible blast, described as brighter than “ten suns.” She and two other adults were barefoot and clad only in grass skirts and leis. The vulnerability and innocence of mother and child were magnified by these inaccurate but instantly recognizable cultural associations.⁵⁸ The caption asserted that as a result of its aggression, “The U.S.A. won new enemies, and the World Peace Council, whose demand for the prohibition of all atomic and H-bomb experiments was also heard on the Pacific islands, won new friends and comrades in the struggle for peace and the happiness of humanity.”⁵⁹

“Castle Bravo” was roundly condemned in *Stern* as well. American pronouncements about this test met with bitter sarcasm: “When the head of American civil defense, O’Brien, saw the first pictures of the explosion of the hydrogen bomb on the Marshall Islands, he said, ‘All of that is so fantastic! We don’t know where to begin!’ He must mean, where will it all end [?]”⁶⁰ Six months later, an item appeared on the death of the Japanese fisherman Aikichi Kuboyama as a result of exposure to Castle Bravo fallout. The article was dominated by a large photograph of a dead or dying Kuboyama, taken secretly through the window of the National Hospital in Tokyo. The fuzzy picture gave the corpse a ghostly appearance, and it appeared to be emaciated and mangled. The autopsy revealed far greater horrors: “Radiation had destroyed all his internal organs, leaving them beyond all recognition.”⁶¹ The violation of the integrity of the body was depicted in stark terms here. The article also worked with opposites, contrasting saintly Japanese, female caregivers, with Americans, depicted as destroyers of life.

Stern articles from the ensuing period revealed a new sensibility toward radioactivity. In November 1954, British physicist and Nobel Prize-winner Frederick Soddy suggested that atomic tests and nuclear research facilities were bringing about climate change.⁶² A 1956 article rejected the basic premise behind the “atoms for peace” idea, namely that nuclear technology could be tamed and used to improve the lot of humanity. The dominant narrative here is based on the much older stories of the terrible things that befell humans when they tried to attain godlike powers: “In reality, the fireball over Hiroshima set in motion the destruction of the balance of fundamental forces in the godly economy of nature.” The effects of radiation on the human body were described in great detail, including genetic mutation. This article also saw the difficulties with disposing of radioactive waste from atomic power plants as a virtually insoluble problem.⁶³

Stern also became more overtly critical of the US government in the mid-1950s, while highly critical images of the Communist East

generally fell by the wayside. For example, one article argued that American strategic decisions were being driven by interservice rivalry, rather than by the interests of humanity. The US Air Force had come out on top in a conflict with the Army and Navy. The resulting ascendancy of air warfare sanctioned all-out use of nuclear weapons in case of Soviet nuclear attack. Even Chancellor Adenauer was upset with this new strategy.⁶⁴

The development of Inter-Continental Ballistic Missiles, or ICBM's (first successfully tested by the Soviet Union in 1957 and by the United States in 1959) greatly heightened the sense of vulnerability and of the madness of the arms race in *Stern* articles. US president Eisenhower was quoted in the title of a 1956 article as saying, "Only praying will help!" A spectacular drawing of the launching of an ICBM, huge on the big pages of *Stern*, illustrated the terrible power of this "weapon from hell" that the US and Soviet Union were then trying to develop. The grim faces of the research team working on the ICBM in the United States are shown in a photo, a US Army photo also used for a *Life* magazine cover. The article clearly embraces the thesis, found in articles on nuclear weapons, that the danger of nuclear war emanated, not solely from the Soviet Union, but from the arms race, for which both sides bore responsibility. Thus, *Stern* did not hope that the West will develop the ICBM first: "If one of the world powers wins the race, the pendulum of the world clock will point to doom."⁶⁵

Meanwhile, in the GDR, subtle but important changes took place after Stalin's death in 1953. Criticism of the Soviet Union was, as always, taboo. *NBI* regularly blamed the West for the perils of the nuclear age. But the arguments against nuclear war were more reasoned, balanced, and more focused on the needs of individuals and families (as opposed to Communists or workers). In 1957, *NBI* put the spotlight on Manfred von Ardenne's appeal against atomic war. This renowned and highly respected scientist was quite influential in the GDR, particularly since he had a private research institute and was seen as independent of SED influence. He is pictured in a professorial stance at the blackboard, the very embodiment of scientific expertise. The article included two maps showing the impact of a tactical atomic bomb and of an H-bomb on the industrial heartland of West Germany. The H-bomb would produce, according to this prognostication, a "death zone" that would encompass several major cities, such as Düsseldorf, Bochum, and Gelsenkirchen.⁶⁶ Seldom did *NBI* picture the GDR as the victim of Western attack, most likely so that the GDR would not be perceived by the West as weak. However,

a 1957 article featured one of the few maps printed in *NBI* that showed missiles fired from West Germany hitting an East German city (Dresden) and Poland.⁶⁷

Antiwar sentiment was stirred by recollections of the Second World War. In a 1955 East German article, a mother, sitting with her husband, looked over pictures of a son who perished in a 1945 Allied bombing attack. "Do you remember, Father? They couldn't find you until after midnight." A second son had survived. "Did they escape Hitler's battlefields," the article asked, "only to die on Adenauer's battlefields?" Though the characteristic anti-Western tone was present, this article emphasized the welfare of the individual and the family rather than that of the more abstract collective.

Euphoria in an Age of Peril?: Civilian Nuclear Technologies, 1954–1957

Historians have amply documented the tidal wave of utopian writings on peaceful nuclear technologies published in 1954–1956 in German.⁶⁸ Eminent Marxist philosopher Ernst Bloch, for example, wrote that the atomic bomb was a perversion of the "subatomic forces" that "in the blue atmosphere of peace [can turn] desert into arable land, ice into springtime."⁶⁹ Utopian visions of a better world created through atomic power had long been popular in socialist quarters, as evidenced by the writings of erstwhile Fabian socialist H. G. Wells. Nuclear utopianism was rife in East Germany. In West Germany, nuclear power found its most enthusiastic supporters among Social Democrats, particularly Leo Brandt. In a much-noticed speech of 1956, he conjured up visions of a "second Industrial Revolution" in which nuclear energy and automation would largely free factory workers from manual labor.⁷⁰ Many nonsocialists jumped on the bandwagon. However, there were many who, even in these years, cautioned that considerable technical difficulties had to be overcome to make civilian nuclear technologies commercially viable and safe.⁷¹

The atomic future seemed within easy grasp of the socialist world under the leadership of the Soviet Union by the second half of the 1950s. *NBI* equated technological progress, technical spectacles, and the advance of socialism in the world. An atomic jet appeared in the futuristic daydreams of East German magazine writers and illustrators in 1956.⁷² Its long fuselage separated the nose, where the passengers would sit, from the tail, where the atomic reactor was located. The "first atomic ice breaker of the world," the *Lenin*, plowed through a mighty crust of ice in another article.⁷³ The author of the captions,

Lothar Hitziger (an author of popular books on science and technology), wrote, "In numerous battles, the Soviet icebreakers have proven themselves stronger than the polar ice's powers of nature." We find here various tropes common in Soviet thinking and writing about technology: Soviet technological superiority, military imagery ("battles"), and the theme of the Soviet taming of nature.⁷⁴ *NBI* articles on atomic reactors from 1956 and 1957 equated atomic power and peace.⁷⁵

By contrast, the reaction of *Stern* magazine to Eisenhower's "Atoms for Peace" speech and the Geneva Conference of 1955 is utterly astonishing: It is virtually nonexistent. In fact, the only image of atomic power published in 1950–1964 that could in some sense be termed utopian was a 1958 advertisement for Euratom,⁷⁶ though in the mid-1950s there was some interest in the atomic jet, featured in two articles, as well as in the atomic ship.⁷⁷ Atomic power was only occasionally discussed in *Stern*, and often in a negative way. A 1955 article asked, "Is Atomic Power Superfluous?," pointing to new techniques for processing coal.⁷⁸ It is difficult to say why *Stern* ignored atomic power to such a great extent. Certainly atomic power was widely discussed in the West German press in that era, as a selection of articles from West German newspapers from 1955 and 1956 clearly shows.⁷⁹ These articles reveal a fair amount of anxiety connected with atomic power, discussing, for example, local opposition to the building of an experimental reactor in Karlsruhe.⁸⁰ Though largely positive, these articles did not at all purvey "nuclear euphoria."

However, *Stern* began reporting on nuclear accidents in this period, for example, an accident at a nuclear laboratory in Houston, Texas. The director of the laboratory had inadvertently gotten radioactive material on his clothes, contaminated his automobile, and his home. He was shown in a hospital bed, being checked over for radiation poisoning. His young son was upset by the social ostracism he experienced. "He doesn't understand what it means when the parents of his friends tell their children, 'Don't play with that radioactive [boy].'" The article's title termed radioactivity "Worse than the Plague."⁸¹

Social scientist Barbara Wörndl has argued that while West German experts, opinion makers, and politicians were swept up in an "atomic euphoria," the masses continued to associate atomic power with atomic war.⁸² My analysis of *Stern* coverage in this era contains a refinement of this thesis and hints at an explanation for this popular reticence: The West German popular press may have participated in the promotion of atomic power to a far lesser degree than has been thought. *Stern* did far less than *NBI* to popularize civilian nuclear

technologies. Promotion of official policies took a different form in the West, as can be seen in the case of the American “Atoms for Peace” exhibition.

Atoms for Peace in West Germany

US President Dwight D. Eisenhower’s “Atoms for Peace” speech of December 8, 1953, kicked off a concerted campaign abroad, involving publications, traveling exhibitions, and negotiations with foreign governments. While historian Kenneth Osgood sees it first and foremost as part of a “public relations strategy,” historian Mara Drogan has shown that the United States helped West Germany establish its nuclear power program under the “Atoms for Peace” program.⁸³

Thanks to a survey conducted by a German polling organization on behalf of the HICOG (High Commissioner for Germany) research staff, we know a good deal about reactions to a 1955 “Atoms for Peace” exhibition in Frankfurt.⁸⁴ No pictures or programs are contained in the report, but much can be gleaned from the survey material. There is no mention of utopian or futuristic depictions of atomic technologies. What stood out for visitors were “practical demonstrations, tools, and safety devices” (the favorite part of the exhibition for 42 percent of those surveyed), films (favored by 16 percent), and “lectures and explanations” (preferred by 12 percent). Visitors were first shown a film, which provided a “very instructive” and “easily understandable” overview of the subject. They then walked around the exhibition hall, which contained large models explaining, for example, nuclear fission and the functioning of an atomic reactor. The workbench of Otto Hahn was on display. And there were demonstrations of “magic hands” used to manipulate radioactive material, Geiger counters, and measuring devices. Some kind of representation of a nuclear-powered ship was on display. “I was impressed by the medical angle, that atomic energy can be used for the benefit of mankind, since I am interested in cancer therapy,” offered one participant in the survey.

According to those interviewed, the exhibition was highly effective. Over three-quarters thought that the exhibition was excellent or very good. Ninety-four percent said they had learned something they had not known before. Eighty percent said that it had convinced them that nuclear technologies could be of greater benefit to mankind than they had previously assumed. Very few saw the exhibition as the self-serving tool of US policy. Two-thirds of those surveyed came away

from the exhibition with a more positive impression of American “efforts towards peaceful exploitation of atomic energy” than they had had previously. Thus, this exhibition was a resounding success for the United States, and it promoted positive feelings concerning atomic energy and other civilian nuclear technologies.

Comments also give insight into a society that valued scientific and technical knowledge, and that expected citizens to keep up with the latest developments: “This has become part of the overall knowledge everybody is expected to have. Since it is of current interest, you are expected to know something about it.” Judging from one person’s comments, even those with a poor knowledge of science made a serious attempt to understand the scientific information being shown: “For dumb amateurs things were a little too difficult to grasp, although the staff tried hard to make everything quite clear. One should see the exhibition a number of times.” Ninety-eight percent of visitors with only an elementary school education said they had learned something from the exhibition. The hope was expressed that these new technologies would benefit people of low income, for example, making it “possible in all probability to provide low cost cancer treatment, above all, for the low income brackets.”

American booklets on nuclear technologies distributed in West Germany in this period through “America Houses” were also sober and scientific, and lacking in a utopian dimension. One such booklet contained small, unspectacular pictures of scientific and technical personnel at work, equipment, and results, such as potatoes with and without irradiation.⁸⁵ Whereas the term “radiation” did not turn up in any of the questions or comments on the Frankfurt exhibition, it was mentioned in the booklet, in an article on protective measures in atomic power plants.

Only one *Stern* article focused on the “Atoms for Peace” exhibition, and it was about the exhibition’s visit to Italy. Its tone was rather irreverent. A charming photo features two boys of about 12, with teenagers in the background, staring in fascination at a hazmat suit used at a nuclear reactor station. The caption title, “Men from Mars were not on display,” implies that the boys probably associated the suit with science fiction. Later, according to the caption, the boys asked each other, “Can you buy something like that in Rome?”⁸⁶ This irreverent use of humor undermined the prevailing consensus and added a note of skepticism to public consideration of nuclear issues. What was going on in this article was not out-and-out criticism, but merely a distancing from orthodoxies and from the stance of the United States.

Rising Nuclear Fears, 1958–1965

Fears of Nuclear War during the Berlin Crisis and Beyond, 1958–1965

The Berlin Crisis of 1958–1961 (when the Soviet Union attempted to dislodge Western forces from West Berlin) and the Cuban Missile Crisis (1962), greatly increased fear of war. Did this lead to greater loyalty to one's own bloc? A belief that a buildup of nuclear defenses was necessary? Quite the contrary. In fact, it was in the late 1950s and the early 1960s that a fundamental questioning of the arms race and Cold War conflict fully emerged. The West German press was, of course, able to go much further in questioning American and West German policies than the East German press was able to in criticizing the SED and the Soviet Union. Nonetheless, this period saw a rise in concerns about the devastation of nuclear war and the impact of radiation on the body in both East and West Germany.

In 1958, West Germany's place in the world and in US and NATO military strategies became central issues in the Bundestag debate as to whether to arm the *Bundeswehr* (West Germany army) with nuclear arms under NATO control. The Social Democrats (SPD) were opposed, while the Adenauer government was in favor of it. On the pages right after its coverage of the debate, *Stern* published a spectacular piece of investigative reporting: a major set of photographs of atomic weapons that were already stationed in Germany, under US control. The photographer was Cornell Capa, the Hungarian American brother of Robert Capa, then working for the Magnum photo agency. In the photo, an African American soldier guarded what were ostensibly atomic warheads that could be mounted on Matador missiles. He stared at the *Stern* photojournalist with what appeared to be considerable anxiety, while his guard dog lunged at the "intruder." *Stern* readers could not know that Capa had taken this and other photos with the permission of American authorities, and that the scene was thus almost certainly staged. The viewer-photographer's perspective as intruder created an imagined confrontation with the American soldier. Would average German readers in 1958 see him as a primitive, brutal figure? Or, would his ethnicity elicit sympathy? This is hard to know, though there certainly were sympathetic articles about African American soldiers stationed in Germany in *Stern* magazine around this time. In any case, the warheads were a sinister sight.⁸⁷

By the late 1950s, an internal dialogue between doves and hawks was taking on clear contours in the pages of *Stern*. The clearest

proponent of a confrontational policy toward the Soviet bloc was the American, William Schlamm, a regular *Stern* columnist. (Schlamm, originally an Austrian, migrated to the US, where he became a protégé of Joseph McCarthy. In turn, William F. Buckley became Schlamm's protégé.) In July 1959, he declared, "War cannot be 'unthinkable.'"⁸⁸ Schlamm's main argument was that prosperity has made the citizens of democratic countries soft and ushered in a period of decadence; to prevent worldwide Communist takeover, the West must throw off this decadence and defend itself in a manly way. He advocated that the United States threaten the Soviet Union with nuclear war if it did not pull out of the GDR. West Germany should also prepare itself for war.

Not surprisingly, there was a strong reaction against this extremist position. Ludwig Rosenberg, a top union leader, argued that Schlamm's program would endanger democracy far more than the Soviet Union could. Carlo Schmid, the Vice President of the Bundestag and a Social Democrat, argued that if atomic war were used to "save" Germany, there would be nothing left to save in the end.⁸⁹

A good example of the use of irony to describe the relationship between Germany and the United States can be found in the article, "Helmut Sohre against Honest John." The *Stern* reporter Helmut Sohre was sent into the midst of NATO maneuvers, dressed like a German farmer, leading a cow. His biggest problem, according to the account, was with the cow, which bucked and jabbed him with its horns. For hours, he was supposedly not noticed as a planted "saboteur" searching for an "Honest John" missile. When Sohre finally stood before the "Honest John," a guard realized that he was not really a farmer, but Sohre reportedly used Jiu Jitsu to overpower him. (In fact, Sohre was accompanied by photographer Lothar Wiedemann, making it unlikely that NATO authorities were unaware of what was going on. See [appendix I, AI.13](#)) The central photograph of this piece shows a mighty piece of military equipment—a truck carrying the "Honest John" missile with the false farmer, Sohre, and his cow nearby. This slyly humorous depiction subtly undermined any thoughts of Western invincibility.⁹⁰

A much more serious approach to the topic was to be found in an article about the American film *On the Beach*.⁹¹ A major photo spread from 1960 (across four full-sized pages) discussed the film. The article asserted that the film was "not a sermon, not an appeal, [and] not a warning," but rather "a realistic picture of the day after tomorrow, when it is too late." The focus of the article was not so much on the movie's drama or star power, but rather on the way the film brought

home what nuclear holocaust would mean to average people such as the reader. Small pictures featured scenes of major characters saying goodbye to each other and to life, notably Gregory Peck and Ava Gardner. Translated lines from the movie indeed helped the reader to imagine what it would be like to experience the end of life on earth. The film was a “beacon of hope” according to *Stern*, particularly due to its wide international dissemination, having premiered in New York and Moscow at the same time. “No one can hide from this film—not in New York, not in Moscow.” Speculations that Eisenhower had seen the film and that Khrushchev might see it fueled hopes that the political leadership would heed the message.

“Is This a Way to Survive the Bomb?” asked the cover of *Stern* provocatively in 1961. *Stern* reporters Egon Vacek and Max Scheler were visiting the United States at the height of the “shelter hysteria,” about a year before the Cuban Missile Crisis. Pictured on the cover were a young man and woman in see-through plastic suits reminiscent of raincoats, but with hoods that completely covered their faces and heads, sealed presumably to keep out radioactive materials. The man held an “Emergency Life Pack for 8 Days” in his arms. These were but two products that US manufacturers marketed to Americans who feared a nuclear attack—all of them virtually useless. *Stern* used this as a metonym for the false belief of Americans in the possibility of surviving a nuclear attack.⁹² Letters to the editor concerning this article were unanimous in their pacifistic sentiments. One reader wrote, “There is only one salvation: the destruction of all atom bombs in the entire world.”⁹³ It is striking that even after the Berlin and Cuban crises were over, nuclear war and the quest for peace continued to be major themes in *Stern*.

NBI, by contrast, continued to propagate a friend-versus-foe view of the world. “Danger!” trumpeted the title of a 1960 article. Below was the photograph of ominous-looking men in hazmat suits—symbols of the evils of West German militarism. The caption explains that these were West Germans whose job was to fill “atomic missiles” with rocket fuel. West Germans had now taken over this “handiwork” from the Americans, and had started buying their own rockets.⁹⁴

Protesters against Western militarism also continued to be depicted as part of a force for good. In a 1960 *NBI* article, a choir of young Japanese women sang their protest against atomic war, specifically against the Japan-United States Treaty of Mutual Cooperation and Security of 1960 and the expected stationing of nuclear weapons on Japanese soil.⁹⁵ As representatives of a non-Western nation, they demonstrated East German solidarity with Asia, Africa, and Latin America

(a frequent theme in *NBI*). They were dressed in white, the color of death in Japan, but carrying associations of innocence in Europe. There was no guile in their expressions, only idealism.

In other articles, the stereotype of the conservatively dressed, very proper socialist gave way to the image of the assertive, audacious demonstrator.⁹⁶ The Easter Marches, which played an important role in the peace movement in West Germany, Britain, and various other countries, received much friendly coverage in 1962–1964 (unlike in *Stern*, which did not run a single article on any peace protest in this period).⁹⁷ The depiction of peace protests had changed profoundly since the 1950s, focusing now, not on huge crowds of demonstrators, but rather individuals. In the 1960s, smiling young women were shown in a way that emphasized their individuality, along with activists wearing gas masks and carrying signs, and a Volkswagen van with a slogan written on it in foam tape. Martin Niemöller, the Lutheran minister and theologian and an important figure in Protestant resistance to the Nazis, occupied an important place in the photo layout from 1962. The Christian element was also not downplayed in articles on the 1963 and 1964 Easter March. Pictures here and in other pieces captured a bit of the humor and inventiveness of demonstrators.⁹⁸

NBI depictions of Soviet nuclear weaponry were very contradictory. A 1960 *NBI* article on an ICBM tested by the Soviet Union assured readers that the target area was far from islands, fishing grounds, or shipping routes, that there was no nuclear warhead on the missile, and that the purpose was not military, but rather related to the Soviet space program.⁹⁹ Other articles, however, trumpeted Soviet ability to defend its bloc in ever more aggressive terms. The demonstrative missiles, aircraft, and troops that paraded through the pages of *NBI*¹⁰⁰ served the same purpose as the missiles, aircraft, and troops that paraded across (and flew above) Red Square on May 1 and other celebratory occasions. “The Soviet Union seems to have won the race for the ‘ultimate’ weapon,” announced a 1957 piece, referring to the successful Soviet development of ICBM’s. “Armed with an atomic or hydrogen warhead, this multi-stage missile is the most dangerous weapon that has ever existed. Defense against it is virtually impossible.”¹⁰¹

Other media strengthened the antinuclear message, however. The film *On the Beach* was never shown in the GDR, though some East Germans may have seen it in West Berlin, since the film was released in 1959, two years before the building of the Wall. It was nonetheless reviewed in *Neues Deutschland*, the main newspaper of the SED, which praised what it saw as the movie’s positive message: That there

still was time to save the world from an atomic holocaust. The review contained surprisingly conciliatory words concerning the United States: "A film with such a perspective is something new for American [film] production. One can clearly see in it the spirit of détente developing between the two camps."¹⁰²

The first East German science fiction film, *The Silent Star*, released in 1960, addressed the topic of atomic annihilation. One of the great science fiction writers of the twentieth century, Polish writer Stanislaw Lem, authored the novel on which it was based. The film was a pioneering effort, short on special effects, but conceptually rather advanced. In it, an international crew visits Venus, whose inhabitants wanted to destroy Earth's civilizations, but instead were themselves wiped out by their own weapons. One member of the crew is a Japanese woman who was in Hiroshima when the bomb was dropped.¹⁰³

East German comics also touched on the theme of nuclear holocaust. An example is "The New Sun" from the comic book series *Mosaik*. The central characters of the series, Dig and Dag, traveling through space, discovered a planet destroyed by atomic war. They drove through the eerie, moonlit ruins of a city that bore a striking resemblance to Berlin or Dresden after the Second World War. Soon, they discovered that on this planet, indigenous capitalist forces had brought about conflict, militarization, war, and nuclear holocaust. They inspected the stock exchange, where the business transactions took place that led to war. A chaos of mangled girders, overturned and broken furniture, and scattered papers greeted them. The evil forces of capitalism "wanted to destroy others," but were killed in the war they started. The planet also had a second problem: Its double sun had almost burnt out. Dig and Dag replaced the old suns with a new, nuclear-powered sun.¹⁰⁴ This plot was inspired by novels by Stanislaw Lem and other (mainly East bloc) authors.¹⁰⁵ Such stories bolstered continued claims that peace and progress were attributes of socialism.

Hiroshima and Nagasaki in the Two Germanies

Stern and *NBI's* most searing condemnation of nuclear war took place at the height of the Berlin Crisis. In the spring and summer of 1960, *Stern* ran a long series about an American participant in the 1945 bombing of Hiroshima. Entitled "Cain, Where Is Your Brother Abel?," this novelization of historical events sought, in weekly installments appearing over the course of three and a half months, to tie together major issues of the Second World War with major issues of

the Cold War, and to explore the connection between high politics and individual responsibility in a way that West German readers could identify with.

Serialized novels were a popular staple of the 1950s and the early 1960s West German magazines such as *Stern*. This series was written by Hans Herlin, author of many bestsellers. "Hans Herlin" was actually the pen name of Engelbert Euringer (1925–1994), perhaps adopted to cover up the fact that he was the son of a Nazi writer who served as a pilot in the German air force in both world wars. Herlin took a different path. Though trained as a *Luftwaffe* pilot, he deserted and fled to Switzerland in 1944.¹⁰⁶ In the postwar period, he wrote many works about the Second World War for a popular audience, often focusing on questions of honor and guilt.

The central character of "Cain" was Claude Eatherly, the pilot of a small scouting plane that accompanied the *Enola Gay* on its mission to drop an atomic bomb on Hiroshima on August 6, 1945. Herlin employed the biblical story of Cain and Abel as a metaphor for Eatherly's life story. (The reference to Abel is also a pun, based on the use of the term "A for Abel" to identify the landing strip from which Eatherly's plane took off.) In the original biblical tale, Cain murdered his brother, Abel. When God asked Cain where his brother was, Abel replied, "I do not know; am I my brother's keeper?" Having shed his brother's blood on the ground, the soil would no longer give forth its fruits to Cain, a farmer. He was condemned to wander the earth. Fearing for his life, Cain appealed to God. God promised to wreak terrible vengeance on anyone who killed Cain. The "mark of Cain" was to be a reminder of God's protection but, at the same time, Cain's crime. This biblical analogy sets up a tale centered on the theme of guilt.

In Herlin's telling, Claude Eatherly's life slipped off the tracks in the years after Hiroshima, as he exhibited a long succession of odd and self-destructive behaviors. He publicly expressed profound feelings of guilt and remorse over his participation in the mission to Hiroshima. There is some controversy over whether he was a true pacifist hero, a con man, or simply a disturbed individual.¹⁰⁷ The *Stern* series portrays Eatherly as a man driven by memories of his participation in a terrible deed to the brink of suicide. Despite electroshock treatments, the memory of Hiroshima remained: "The memory of burning cities and of the people below in the cities, for whose deaths he felt responsible."¹⁰⁸ This wreck of a man is sharply contrasted with the happy, heroic air force officer he had been before Hiroshima, a top military man belonging to an "elite within the elite."¹⁰⁹

This interpretation of Eatherly's life goes back to a series of articles that appeared in the Fort Worth *Star-Telegram* in 1957, a story picked up by the American news magazines *Newsweek* and *Time*. A television program followed. Eatherly's story found its way into literary works. Only later (1964) did William Bradford Huie try to demolish this view of Eatherly, finding base motives (envy and a craving for fame in particular) for his behavior.¹¹⁰

Eatherly's story elicited a great deal of interest across the globe, but seems to have held a particular fascination for the German reading public. On the one hand, the parallels to the experiences of German veterans of the Second World War were clear. They had good reason to feel guilt over what they and their comrades had done during the war. On the other hand, many Germans must have felt a certain vindication in the grave psychological pain that the bombing of civilians had caused at least one American, since Germans, too, had greatly suffered under Allied bombing attacks during the war.

Eatherly displayed exemplary masculine behavior and honorable military conduct, yet was destroyed by the violent deeds forced upon him by war. Herlin only hints at the cruel contradiction here—if preservation of masculinity, courage, and discipline are positive attributes, why do they lead to self-destruction? The answer seems to lie, not just in an abstract notion of the cruelty of war, but also more specifically in the inhumane attitudes of the political and military leadership. The selection of a city almost untouched by the bombing—Hiroshima—is depicted as particularly cruel. In Herlin's account, Eatherly looks down at Hiroshima in the minutes before the bomb was dropped, thinking about the people below, going about their business on a bright, clear morning. The inhabitants of Hiroshima thought themselves lucky because their city, unlike many others, had not been subjected to firebombing. The detonation of the bomb is depicted as something never before experienced, and very difficult to describe, a light more intense than any other ever seen, followed by a mushroom cloud, and fires in strange colors. Everyone who participated in this mission was to return a changed man.¹¹¹

The sense of identification with the Japanese is palpable in this article. The feeling that Germany narrowly escaped Japan's fate is reflected, for example, in the juxtapositioning of photos of Berlin and Hiroshima in August 1945. The caption, positioned between the two pictures, reads "Berlin-Hiroshima. Eighty-nine days after Germany's capitulation, when in the ruins of German cities (below) the first signs of life appeared, an entire city died in Japan in a second. The photo (above),

taken after the dropping of the bomb in an outlying district, was found by an American soldier."¹¹² (It is questionable as to whether the photo of Hiroshima is authentic; radioactivity would presumably have ruined the film. However, that is not the issue here). Thus, one wonders if the German author, as well as many German readers, was not thinking of the terrors of firebombing in Germany when they read descriptions of Hiroshima after the bombing: "The story of Hiroshima's demise is well known. But even the thousands of stories don't convey the harrowing screams of the victims, who were beyond all help; they don't show the dust, the ashes, that fell on the burned bodies, which writhed in excruciating agony, nor the desperate search for water, by creatures who a short time before had been human beings. There are no words for the overwhelming, suffocating, nauseating smell that did not emanate from the dead, but from those who were burnt alive."¹¹³ Here, Germans were reliving the horrors of the bombings of German cities, a topic not widely discussed in Germany until rather recently. Agony tied Germans to the Japanese.

A comparison with an article from the East German *NBI* is instructive. Hiroshima was a recurrent theme in *NBI*. The example here is a 1961 article entitled, "Aber die Entscheidung fällt wo anders" (The Decision Is Made Elsewhere). The title is a reference to the Pentagon, which is held responsible for the dropping of atomic bombs on Japan. The article contains grisly descriptions and images of human suffering caused by the bombing of Hiroshima, by an eyewitness. The impact of the atomic bomb on human bodies could not be more graphic: "With me scurried, crawled, stumbled creatures unlike human beings, horribly disfigured, without faces. Others writhed, moaning, with jerking, torn-up limbs on the burnt earth. Before me, a child ran, her bleeding, burned little arms stretched out in front of her. She screamed pitifully. The terrible cries still ring in my ears, 15 years later. There were corpses everywhere, horribly mangled, corpses were floating in the river."¹¹⁴

How do depictions of Hiroshima and Nagasaki in this GDR publication compare with those in the West German *Stern*? In *NBI*, guilt was ascribed to the imperialist "Other." By contrast, the *Stern* series on Eatherly treated guilt in a much more complex way. Two kinds of identification were going on in the latter article: on the one hand, Germans were offered identification with Japanese bombing victims; but, on the other hand, they could identify with an American officer who had had experiences like those of German soldiers and officers. He went off to war, a manly, heroic, soldierly patriot. He did his duty and followed orders. The horror of the consequences of his actions

left him deeply guilty, broken, and suicidal—as was true of German officers featured in earlier Herlin novels. Was this not the idealized narrative of so many German men's lives? Thus, the story about Eatherly could serve Germans both as a piece of self-justification and as a warning that even well-intentioned individuals and governments could commit atrocities in the age of new military technologies.

Masculine identity is pictured differently in the photographs accompanying the two articles. The East German article shows a male victim of the dropping of the atomic bomb. There are at least two possible interpretations of this picture. Number one: His is horribly mangled, but yet he has preserved his masculinity. His wife adores him, and he has produced a child. The expression on his face conveys terrible suffering, but also a defiant affirmation of life. Could this be a member of the working class, standing up to Western aggression? However, the picture seems too horrifying to allow such an optimistic interpretation. There is a second possibility. One might see the victim as a frightening figure, an almost werewolf-like creature. The reader could feel both pity and fear, thus accentuating the message of destruction of humanity and human identity through nuclear war. The caption indeed says that fear of radiation-induced illness has poisoned their joy over their baby.

Whichever interpretation of the *NBI* picture one adopts, there is a clear contrast between depictions of masculinity in *NBI* and in *Stern*. The latter shows Eatherly after his mental breakdown. His face is oddly pockmarked and smeared, his eyes have a strange expression. The caption refers to his “damaged face.” His masculinity has been severely compromised by his mental anguish. The image of the man robbed of his masculinity, either reduced to a blubbering idiot or immobilized by fear, is a recurring one in Cold War popular culture.¹¹⁵

These images of broken masculinity underscore and magnify the core message of immense human suffering, understandable on an individual level. The almost tactile physicality of suffering makes these articles intensely unsettling and unlike anything else in these magazines. There is no beauty to this suffering, no aestheticization¹¹⁶—it is raw, demeaning, and ugly. Stories about Hiroshima and Nagasaki presumably had such resonance because they helped Germans to work through memories of WWII, memories both of victimization and of victimizing. By 1960, *Stern* was also publishing articles about the Holocaust, such as three articles about Adolf Eichmann (captured in May 1960), featuring rather explicit photographs of victims of the Holocaust.¹¹⁷

Neither the pockmarked face of Eatherly nor the horrible laugh of the badly scarred Hiroshima survivor evoked the nobility of suffering or heroism, but only a sense of revulsion. Radiation maimed without glory or glamour. Identification with Japanese victimhood—however self-serving—led to a deeper condemnation of nuclear war than ever before.

Wonders and Terrors of Atomic Energy, 1958–1965

Despite these extreme depictions of the horrors of nuclear war, nuclear utopias lived on in the pages of *NBI*. What would humankind do with the money, a 1961 article asks, if total disarmament were possible? A socialist utopia could emerge across the globe, one largely based on modern technology: advanced medical care, modern housing complexes, and atomic power. The caption reads, “Out of the billions (in savings) from disarmament, one or several atomic reactors could be built for every African country.”¹¹⁸ The socialist planners and builders of atomic reactors in the jungle are masters of technology and organization, as their instruments and blueprints indicate (see [appendix I, AI.11](#)). Remarkable, however, is their colonial gear. One native seems to be looking to the European for guidance, or perhaps is waiting for orders. He is passive, and is holding what looks like a bamboo pole. Racial and cultural hierarchies are very clear here. This does not seem to be a manifestation of specifically socialist racism so much as a resurfacing of much older imperialist fantasies, linked to an ideology of socialist modernization.¹¹⁹

Only one West German article was similarly utopian, and it was not about nuclear power based on fission, but on fusion-based energy production—a technology that has eluded scientists and engineers down to the present time. *Stern*’s 1960 depiction of a fusion-powered “city of the future” was in keeping with futuristic visions of urban development in that period. A city of 10 million would be built in concentric circles around a communications tower sitting on top of an underwater fusion reactor located in the middle of an artificial lake. This “radiation-free” form of energy would, so it was hoped, make it possible some day to power an entire city “with a glass of water.”¹²⁰

The East German *NBI* had far more extensive and positive coverage of nuclear power than the West German *Stern*. A 1960 article opened with a large photograph of the Rossendorf nuclear research facility. A scientist (Director Heinz Barwich) stood on a balcony going around the test reactor. He leaned over the balcony in a relaxed,

but commanding pose. Below him was sparkling new laboratory equipment. This was the new face of the GDR. Here, socialism and technology came together to propel society forward, into a new era. The article praised the production of radioactive isotopes for medicine, industry, and science in Rossendorf. This institute also produced equipment for use in nuclear research. An attractive young woman was shown, using equipment at the research facility. The healthy female body remained intact because it was in a safe, socialist environment.¹²¹

Stern, by contrast, contained anxious articles on the health impact of radiation. The subject of a 1958 article was the use of compulsory mass x-ray screenings (mainly to detect tuberculosis).¹²² The article referred to a UN study warning against unnecessary x-rays that exposed the population to radiation. Other forms of exposure to radiation, including fallout from atomic tests and atomic power plants, were said to make up a smaller part of average radiation than exposure to x-rays. Here, the healthy, young female body was endangered by radiation. The issue's cover asked "Through Naked Force to the X-ray Machine?" and it featured a young woman in her underwear. Attractive, well made-up, and coifed, she could be the "normal" female consumer whose image, according to scholar Erica Carter, helped to stabilize identification both with the market economy and with the nation in West Germany.¹²³ The inside article told of a case in which a judge forced a citizen to undergo an x-ray examination. The scolding judge in his black robes looked like a holdover from an older authoritarian society that was in need of reform. Radiation was a threat in the hands of that old order.

Another 1958 article had a very different take on the subject of radiation. This article also prominently featured a young, nubile woman threatened by radiation, but the message was very different. In this case, the woman, Rosa Ristic, along with five male colleagues, was exposed to a high dose of radiation during a reactor accident in Yugoslavia. All five were flown to Paris, where a French surgeon gave them bone marrow transplants, which was then an experimental procedure. Radiation destroyed the bone marrow of the five, but in doing so, made it possible to give them new life. Their bodies' immune system would have rejected the bone marrow transplant, so the total destruction of their bone marrow made the transplant possible. In follow-up articles from 1959 and 1960 it is explained that Rastic along with four of her colleagues survived (one died) and were now "in excellent health," thanks to the wonders of modern medicine. Radiation was a killer, but also a life-giving force. The atomic

age, in this account, was an age of terrors and wonders. The body was at the center of this drama. It was seized by a coercive force (radiation), but then—miraculously—restored to a pristine state.¹²⁴

These two 1958 stories contain two very different representations of radiation. The first featured pretty, modern young women, and thus placed this technology in the context of a consumer-driven society. Danger was posed by the unthinking obdurateness of German officialdom. *Stern* implicitly urged the reader to assert her- or himself as a consumer citizen. This was what *Stern* magazine represented: an irreverent, critical view of the Federal Republic and a profit-driven view catering to the tastes of the readers. The second story originated from outside Germany, and it presented a transnationally transmitted drama about the dangers and wonders of modern technology, in which the body was unmade and remade.

The body also became a theme in East German depictions of radiation. Though the positive articles about atomic power implied a harmonious confluence of science and socialism, radiation was also—as in the West—depicted as a profound danger to the integrity of the body and the individual. Nuclear weapons tests had caused fallout of Strontium 90, which got into the food and water supply and could cause birth defects and cancer, particularly in children, according to a 1958 article. Another article featured a picture of a father and his children running in the rain. It asserted that due to Western atomic tests, radioactive contamination had been spreading, often by rain.¹²⁵ In both of these articles, *NBI* was picking up on West German public discussions of this period.¹²⁶ Though these items fit into the overall political message, they personalized the message of the dangers of radioactivity, and spoke to the very real fears of parents for the health of their children. This more personalized discourse opened the way for a detachment of fears of radiation as a phenomenon from any political message and carried with it the danger of undermining the cultural foundations of the official East German promotion of atomic power and East German military defense.

Conclusion

Mass-market publications read by average Germans provide a different perspective on the nuclear age than the works of intellectuals, experts, and other elites. The skepticism of the West German population toward nuclear power, as evidenced by a series of public-opinion polls, has presented historians with a bit of a puzzle. Why did the masses remain relatively resistant to “nuclear euphoria”? A careful reading of

Stern suggests that at least one segment of the West German media landscape gave far greater prominence to military nuclear technologies than those for civilian use. Futuristic images were not uncommon in *Stern*, but seldom (if ever) did they depict fission power. Moreover, the discussion of the health impact of radiation exposure from nuclear weapons tests opened the way for a discussion of the dangers of nuclear power. An awareness of nuclear reactor accidents was growing. Radiation was also depicted as a very insidious danger to the integrity of the body and of nature. East German media, however, promoted utopian visions of building a better world with the help of peaceful nuclear technologies. In this, one can see the hand of East German Communist officialdom, as well as the influence of a long tradition of socialist technological utopianism. However, *NBI* also picked up on international discussions about the dangers of radioactive fallout resulting from atmospheric tests of nuclear bombs. Risks posed by atomic reactors were, by contrast, forbidden subjects.

The presentation of the military side of the atomic age also evolved in the years under study. A shift took place in *Stern* articles from a perception of danger as emanating solely from “the other side” to a sense of systemic and moral threats resulting from Cold War conflict and technological developments. Black-and-white thinking receded somewhat as popular culture displayed a greater openness to subtle distinctions and contradictions not only in West Germany, but also, to a certain extent, in the East. Whereas oppositions completely dominated the popular journalistic discourse around 1950, other literary devices—particularly irony—began to play a more important role by the late 1950s in the West German press. Stark gender oppositions softened somewhat between 1950 and 1960 in the articles on atomic themes in the two magazines. And depictions of atomic warfare as a *collective* threat gave way to a more *individualized* sense of the impact of radiation on the body. These developments were more pronounced in West Germany, but were also noticeable in East Germany, despite East-West conflict and tight control over the media by the political leadership. Thus, East and West Germany existed in different mental worlds with regard to the nuclear age, but there were connections between these worlds.

One of the most pronounced differences between East and West Germany was in the use of peaceful applications of nuclear technologies as an antidote to fears of nuclear war. Nuclear utopianism was rampant in East German media, and it formed a crucial element in a larger argument about the humanist use of technology under socialism and the superior ability of the socialist system to create a better world. Socialism made nuclear power, not nuclear war, the argument

went. When deemed necessary, however, Soviet-bloc nuclear armaments were justified, directly and crudely. *Stern*, by contrast, saw its role, not in stabilizing the Western system, but in criticizing it. It, therefore, constantly warned of the danger of nuclear war. Nuclear power could not in any way justify or redeem military technology. In fact, the discourse about the dangers of radiation, which emerged in connection with discussion of the testing of nuclear weapons, increasingly came to encompass nuclear power. Returning to the theme touched upon at the beginning of this chapter, we should also ask whether the nuclear age was a different world from our own, one characterized by radically different values. *Stern's* critical stance and *NBI's* cautious opening to some of these arguments about radiation and war are indicative of shifts that point in the direction of a rethinking of Cold War orthodoxies.

Notes

1. Leopold von Ranke, preface to *Geschichte der Romanischen und Germanischen Völker von 1494 bis 1514*, 3rd edn. (Leipzig: Duncker & Humblot, 1885), VIII.
2. Kenneth Osgood, *Total Cold War: Eisenhower's Secret Propaganda Battle at Home and Abroad* (Lawrence, KS: University Press of Kansas, 2006), 154–174. Opposing views in Mara Drogan, “Atoms for Peace, U.S. Foreign Policy and the Globalization of Nuclear Technology, 1953–1960” (PhD diss., S.U.N.Y. Albany, 2011); Richard G. Hewlett and Jack M. Holl, *Atoms for Peace and War, 1953–1961: Eisenhower and the Atomic Energy Commission* (Berkeley, CA: University of California Press, 1989).
3. Joachim Radkau, *Aufstieg und Krise der Deutschen Atomwirtschaft 1945–1975. Verdrängte Alternativen in der Kerntechnik und der Ursprung der Nuklearen Kontroverse* (Reinbek: Rowohlt, 1983), 92. My translation here and throughout.
4. See Dolores Augustine, *Red Prometheus: Engineering and Dictatorship in East Germany, 1945–1990* (Cambridge, MA: MIT Press, 2007).
5. See Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon, 1985), 107–132.
6. See Radkau, *Aufstieg und Krise*, 89.
7. NARA (National Archives, United States), USIA (United States Information Agency), RG 306, “German Attitudes on Selected National and International Issues,” 16.
8. See Mark Walker, *German National Socialism and the Quest for Nuclear Power 1939–1949* (Cambridge, MA: Cambridge University Press, 1989); Charles Frank, *Operation Epsilon: The Farm Hall Transcripts* (Berkeley, CA: University of California Press, 1993).

9. Radkau, *Aufstieg und Krise*.
10. See Mike Reichert, *Kernenergiewirtschaft in der DDR* (St. Katharinen: Scripta Mercaturae Verlag, 1999), 91–130, 141–144; Burghard Weiss, “Nuclear Research and Technology in Comparative Perspective,” in *Science under Socialism. East Germany in Comparative Perspective*, ed. Kristie Macrakis and Dieter Hoffmann (Cambridge, MA and London: Harvard University Press, 1999), 303.
11. Reichert, *Kernenergiewirtschaft*; Weiss, “Nuclear Research,” 217–220; NARA, FBI (65/230/86/15/07/105), File # 134040, CIA teletype dated October 15, 1964. See my interpretation in Augustine, *Red Prometheus*, chapter 4.
12. See Heinz Barwich and Elfi Barwich, *Das Rote Atom* (Frankfurt am Main and Hamburg: Fischer Bücherei, 1970), 139–140.
13. Michael Meyen and William Hillman, “Communication Needs and Media Change. The Introduction of Television in East and West Germany,” *European Journal of Communication* 18/4 (2003): 465.
14. NARA, USIA, RG306/250/67/04/02–04/Box 7, report 214, “Written Media in West Germany: A Study of Public Reactions and Extent of Penetration,” 59, 61, 65, 77.
15. On 1950: NARA, USIA, RG 306 Records of the United States Information Agency, Office of Research, Reports and Related Studies 1948–1953, Germany, West, Box 29, “Germany: Media Impact Study I,” 63. On 1960: *Stern* Archives, Gruner + Jahr, Media-Forschung und—Service, “Basisdaten des *Stern*.”
16. NARA, USIA, RG306/250/67/04/02–04/Box 7, report 214, “Written Media in West Germany,” 64.
17. NARA, USIA, RG306/250/67/04/02–04, Box 1, report 14, “Readership of Heute and Other Illustrated Periodicals,” 6.
18. See Corey Ross, *Media and the Making of Modern Germany: Mass Communications, Society, and Politics from the Empire to the Third Reich* (Oxford, UK, and New York: Oxford University Press, 2008), 32, 44.
19. NARA, USIA, RG306/250/67/04/02–04/Box 7, report 214, “Written Media in West Germany,” 62.
20. See Otto Haseloff, *Stern: Strategie und Krise einer Publikumszeitschrift* (Mainz: v. Hase & Koehler, 1977), 453, 893, 896; Daniela Münkler, *Willy Brandt und die “Vierte Gewalt.” Politik und Massenmedien in den 50er bis 70er Jahren* (Frankfurt am Main: Campus Verlag, 2005).
21. Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1988), ix. See Erica Carter, *How German Is She?: Postwar West German Reconstruction and the Consuming Woman* (Ann Arbor, MI: University of Michigan Press, 1997).
22. See Michael Meyen, *Denver Clan und Neues Deutschland* (Berlin: Christoph Links Verlag, 2003), 138.
23. See Simone Barck, Martina Langermann, and Siegfried Lokatis, “Jedes Buch ein Abenteuer” *Zensur-System und Literarische Öffentlichkeiten*

- in der DDR bis Ende der Sechziger Jahre* (Berlin: Akademie-Verlag, 1997); Julia Martin, "Der Berufsverband der Journalisten in der DDR (VDJ)," in *Journalisten und Journalismus in der DDR*, ed. Jürgen Wilke (Cologne: Böhlau Verlag, 2007).
24. Example in SAPMO/Barch (*Stiftung Archiv der Parteien und Massenorganisationen der DDR im Bundesarchiv*, Foundation of the Archive of the Parties and Mass Organization of the GDR in the Federal German Archives) DY 30/IV 2/9.02 37, Krüger of the SED division for security questions to Sindermann of the SED division for Agitation/Propaganda dated December 1, 1960. On cooperation with Soviet counterparts: SAPMO/Barch DY 30/IV 2/9.02 58, 128–129.
 25. SAPMO/Barch DY 30/IV 2/9.02 119, "Hinweise für Presse, Rundfunk und Fernsehfunk," dated May 3, 1962.
 26. See Clemens Heitmann, *Schützen und Helfen? Luftschutz und Zivilverteidigung in der DDR 1955 bis 1989/9* (Berlin: Ch. Links Verlag, 2006), quotation on 100.
 27. "Ganz Grosses Geschäft," *NBI*, 26/1950, 14.
 28. "Feind Adenauer," *NBI*, 50/1953, 3.
 29. "Strandgut des 3. Weltkriegs?," *NBI*, 48/1952, 7.
 30. "Biographie eines Militärverbrechers," *NBI*, 24/1952.
 31. "Ächtet die Atombombe," *NBI*, 20/1950, 7; "Unser Ruf nach Frieden ist Keine Bitte," *NBI*, 26/1950, 2–3; "Keinen Dritten Weltkrieg," *NBI*, 5/1958, 7; "Zur Gleichen Zeit," *NBI*, 5/1960, 9.
 32. "Ami Go Home," *NBI*, 37/1950, 2; "Besser Aktiv als Radioaktiv," *NBI*, 32/1957, 6–7; "Weg mit der Wehrpflicht," *NBI*, 37/1957, 6; "Nein, Nein, Nein," *NBI*, 18/1958, 3–5; "Bonn Beschloß Atom-Aufrüstung—Ganz Berlin Gab Antwort," *NBI*, 19/1958, 6–7; "Im Bundestag Luert der Tod," *NBI*, 14/1958, 6.
 33. "Ganz Deutschland im Nationalen Widerstand gegen Krieg und Kolonisierung," *NBI*, 35/1950, 3.
 34. "Ami Go Home," *NBI*, 37/1950, 2.
 35. "Sie Spüren ihre Schande!," *NBI*, 8/1952, 3.
 36. "Weil Sie Friedenskämpfer Sind," *NBI*, 6/1953, 2–3; "Briefe aus dem Totenhaus," *NBI*, 31/1953, 14; "Briefe aus dem Totenhaus," *NBI*, 32/1953, 14; "Briefe aus dem Totenhaus," *NBI*, 33/1953, 13.
 37. "Ein Erdteil Verändert Sein Klima," *NBI*, 51/1949. On Soviet technological gigantomania, see Paul R. Josephson, "'Projects of the Century' in Soviet History: Large-Scale Technologies from Lenin to Gorbachev," *Technology and Culture* 36/3 (July 1995), 519–559; Loren Graham, *What Have We Learned about Science and Technology from the Russian Experience?* (Stanford, CA: Stanford University Press, 1998).
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 39. "Major Andrejew Kam aus Loto-Bo," *Stern*, September 9, 1951, 4. There have been many claims as to the true location of the Biblical Garden of Eden. Kazakhstan is not one of the top contenders.

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41. "Atombombe auf Korea," *Stern*, March 7, 1954, 3.
42. "6 davon Vernichten Deutschland," *Stern*, May 28, 1950, 6.
43. "Ich habe Keine Angst vor der Atombombe," *Stern*, May 18, 1952, 11, 26–29.
44. *Ibid.*, 27, 11.
45. "Und wenn die Atombomben Fallen," *Stern*, March 8, 1953, 34.
46. "Was Haben Wir für eine Sonnige Jugend!," *Stern*, December 24, 1950, 2.
47. See David Blackburn, *The Conquest of Nature: Water, Landscape, and the Making of Modern Germany* (New York: W. W. Norton, 2007).
48. "Was ist im Äther los?," *Stern*, October 18, 1953, 4–5.
49. See *Gegen den Tod: Stimmen Deutscher Schriftsteller gegen die Atombombe*, ed. Bernward Vesper-Triangel (Stuttgart: Studio Neue Literatur, 1964).
50. "In 3 Stunden 27 Minuten—zum Mond! Erster Teil," *NBI*, 1/1946, 2–3.
51. Walter Heise, "Luftbrücke von Morgen," *Stern* 7/1949.
52. "Bombe oder Stein der Weisen?," *NBI*, 1/1947, 4–5.
53. "Wir Erkannten Heil- und Pflegeanstalt Grafenberg als Maßstab," *Stern*, July 9, 1950, 8–9.
54. Gaston Uzlin, "Atomcocktail gegen Krebs," *Stern*, March 9, 1952, 4–5.
55. "Atomschuß ins Gehirn," *Stern*, April 26, 1953, 10–11.
56. See Ilona Stölken-Fitschen, *Atombombe und Geistesgeschichte: Eine Studie der Fünfziger Jahre aus Deutscher Sicht* (Baden-Baden: Nomos Verlagsgesellschaft, 1995), 109–119.
57. See Radkau, *Aufstieg und Krise*, 78–89. Different take in Stölken-Fitschen, *Atombombe*, 163–165, 188–196.
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59. "Es War, als ob Zehn Sonnen Aufgingen," in "Zeitgeschehen im Bild," *NBI*, 25/1954, 3.
60. "Wehe wenn Sie Losgelassen," *Stern*, April 11, 1954, 48–49.
61. "Nur außen noch ein Mensch," *Stern*, October 10, 1954, 3.
62. "Prof. Soddy Sagt: 'Atommüll Macht das Wetter Schlecht,'" *Stern*, November 14, 1954, 6–7.
63. "Die Radioaktive Sintflut ist schon im Steigen," *Stern*, July 7, 1956, 7.
64. "Erst Sterben—Dann Siegen?," *Stern*, August 4, 1956, 4–5.
65. "Da Hilft nur Beten!," *Stern*, June 2, 1956, 6.
66. "Massentod durch Massenvernichtungswaffen," *NBI*, 20/1957, 3–5.
67. "Nein, Nein, Nein," *NBI*, 18/1958, 4.
68. See Stölken-Fitschen, *Atombombe*, 166–179; Radkau, *Aufstieg und Krise*, 78–88.

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71. See Barbara Wörndl, *Die Kernkraftdebatte. Eine Analyse von Risikokonflikten und Sozialem Wandel* (Wiesbaden: Deutscher Universitäts Verlag, 1992), 41.
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76. “Die Zukunft Europas,” *Stern*, July 5, 1958, 25.
77. “Nonstop-Flug um die Erde,” *Stern*, November 13, 1955, 61; “A-Maschinen Proben am Himmel von Texas,” *Stern*, January 22, 1956, 8–9.
78. “Atomenergie Überflüssig?,” *Stern*, December 11, 1955, 12–13.
79. “Grossbritannien Baut sein Erstes Atomkraftwerk,” *Berliner Morgenpost*, April 25, 1955; “Atomenergie für die Industrie,” *Frankfurter Rundschau*, June 4, 1955; “Atomstadt zwischen Rhein und Schwarz,” *Koelnische Rundschau*, August 4, 1955; “Ein Atom-Kraftwerk,” *Frankfurter Rundschau* August 7, 1955; “General Electric Baut Atomkraftwerk,” *Amerika-Handel*, August 1955; “Energie aus Atomkernen,” *Bonner Rundschau*, September 3, 1955; “Atommeiler Bergen den Tod!,” *Die 7 Tage*, September 9, 1955; “Neuyork wird Atombeleuchtet,” *Koelnische Rundschau*, October 26, 1955; “Wolfgang Weber Besuch auf der, ‘kritischen Reise’” Westdeutschlands jungste Behörde,” *Neue Illustrierte*, December 10, 1955; “Roter Atommeiler bei Dresden,” *Ost-West-Kurier* December 17, 1955; “Rheininsel wird Atommeiler,” *Der Fortschritt* January 2, 1956; “England Baut Zwölf Atomkraftwerke” *Telegraf*, April 5, 1956; “Durch diesen Atom-Schornstein” *Der Tag*, July 1, 1956. From the collection of the Landesarchiv Berlin.
80. R. Gerwin, “Schwieriges Ja zum Ersten Deutschen Atommeiler,” *Zeitung für Kommunalwirtschaft*, October 1955.
81. “Schlimmer als die Pest,” *Stern*, September 21, 1957, 11–13, 74.
82. Wörndl, *Die Kernkraftdebatte*, 38.
83. Osgood, *Total Cold War*, 155, 156; Drogan, “Atoms for Peace,” 120–151.
84. NARA, USIA, RG 306, 250/67/04/02–04, Box 7, Report 208, “Frankfurt Visitors Appraise the Atomic Energy Exhibit ‘Atoms for Peace,’” February 15, 1955, 4.

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89. "Für und Wider den Deutschlandbericht," *Stern*, July 9, 1959, 24; "Carlo Schmid Antwortet William S. Schlamm," *Stern*, August 1, 1959, 40.
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91. Günter Dahl, "Die Letzten Tage Unseres Lebens," *Stern*, January 8, 1960, 6–9.
92. Egon Vacek and Max Scheler, "Amerika Gräbt sich ein," *Stern*, November 26, 1961, 18–26, 68–71.
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121. "Phönix aus der Asche," *NBI*, 7/1960, 3–5.
122. "Mit Gewalt vor den Röntgenschirm?," *Stern*, August 23, 1958, 12–13.
123. See Erica Carter, *How German Is She*.
124. "Erst wenn der Tod kommt, Kann das Leben Siegen," *Stern*, December 13, 1958, 8–9.
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Chapter 5

“Dawn—Or Dusk?” Britain’s *Picture Post* Confronts Nuclear Energy

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During the Second World War, British scientists made pivotal contributions to the creation of the first atomic bombs. In February 1940, Rudolf Peierls and Otto Frisch composed their seminal “Frisch-Peierls Memorandum” that was crucial for getting serious nuclear weapons programs underway in Britain and the United States.¹ British scientists then made considerable contributions to the British nuclear arms project—code-named Tube Alloys—and later the joint Anglo-American–Canadian Manhattan Project.² After the war, Britain’s stature in world politics decreased to the rank of a second-class power despite its permanent membership in the United Nations (UN) Security Council. This loss of influence, which revealed itself dramatically in the 1956 Suez crisis, was in particular the result of the United States’ and the Soviet Union’s emergence as the superpowers in the Cold War as well as the dissolution of the British Empire.

At the same time, nuclear energy presented Whitehall with a promising opportunity to redress this imbalance in favor of Britain.³ Alongside national prestige, the McMahon Act (1946), which ended wartime Anglo-American nuclear cooperation, led the Attlee Government to secretly pursue its own nuclear weapons and energy programs from 1947, making Britain the world’s third atomic and thermonuclear power in 1952 and 1957, respectively. The project included nuclear testing in Australia and the South Pacific.⁴ But Britain also became a world leader in civilian applications of atomic power by establishing the United Kingdom Atomic Energy Authority (UKAEA) in 1955. This move led to the opening of one of the first reactors to produce electricity for the national grid in 1956 (It had been preceded by a small Russian one in Obninsk in 1954, with a capacity of 5 MW.

The one in Calder Hall was 40 MW).⁵ Unlike the American or Canadian nuclear energy projects, the British government imposed a strict secrecy and security regime on its early program to avoid leakage of information.⁶ While civilian applications of atomic energy appeared to better the living conditions, growing fears of nuclear war sparked public protests against atomic weapons that culminated in the formation of the Campaign for Nuclear Disarmament (CND) in 1958 and its first Easter march from London to the Atomic Weapons Research Establishment at Aldermaston. Protests remained at a high level until 1965, making Britain also a leading nation in this respect.⁷

This chapter sets out to analyze representations of nuclear energy in Britain's leading illustrated magazine *Picture Post* from August 1945 until its last issue in June 1957. Like the other chapters in this volume, it focuses on four main areas of investigation: nuclear weapons; peace and protest; commemorations of Hiroshima and Nagasaki; and civilian applications of nuclear energy. Given that the magazine folded in 1957, this chapter explores each of these four key topics chronologically. Alongside *Picture Post*, this study relies on reports from British national daily and weekly papers, newsreels, feature films, cartoons, opinion polls, and British editions of key texts that were primarily published in the United States and are relevant to the topic to embed articles and photographs from *Picture Post* within their wider sociocultural context. The chapter opens with an introduction to the magazine that is followed by a section on its first coverage of nuclear energy to introduce the four main themes. Four sections on the key areas follow, before a conclusion sums up the main findings, and a brief overview of key events in Britain between 1957 and 1965 concludes the chapter.

Picture Post

As Britain's leading illustrated magazine, *Picture Post* represented a crucial forum for disseminating knowledge about atomic energy prior to television's emergence as a mass medium. British publishing tycoon Sir Edward Hulton launched it in October 1938.⁸ Nineteen twenties' German illustrated papers exerted a strong aesthetic and stylistic influence on *Picture Post*, and German-speaking émigrés, especially its first editor Stefan Lorant, played a crucial role in establishing its format.⁹ *Picture Post* generally pushed a social agenda that was situated left-of-center, as in its seminal "A Plan for Britain" issue (January 4, 1941) that argued for social reform and betterment.¹⁰ Cutting-edge

photography, reports on the lives of "ordinary" Britons, and the willingness to take political stances, especially on social injustice, without advocating party politics, were its chief trademarks.¹¹

Shortly after its launch, *Picture Post* sold about 1,350,000 copies per week, exceeding the sales of *John Bull*, the leading weekly of the 1920s.¹² By 1948, *Picture Post* had an estimated readership of 8,160,000 or 22.7 percent of the entire British population over 16 years and remained the most popular illustrated weekly magazine, ahead of *Illustrated* (5,930,000), *Lilliput* (4,670,000), and *John Bull* (4,350,000).¹³ The estimated readership dwindled to 5,910,000 in 1953, remaining ahead of *Illustrated* (5,050,000).¹⁴ By 1956, *Picture Post* ranked fourth among all weekly papers (6,555,000 or 18 percent of the estimated British population over 16 years of age) behind *Radiotimes* (63 percent), *Week-end Reveille* (30 percent), and *Mid-week Reveille* (21 percent) but ahead of *Week-end Mail* (16 percent), *Illustrated* (15 percent), and *John Bull* (14 percent).¹⁵ *Picture Post's* readership was by and large highbrow, primarily from middle-class backgrounds, with a slightly higher percentile in the upper classes initially. It enjoyed particular popularity among readers aged under 44 years, especially singles under 35 years, and was more popular among men (21 percent) than women (15 percent). The magazine was particularly popular in Scotland (22 percent), followed by the Southwest and Wales (20 percent), London and the Southeast as well as the North and the Northeast (each 19 percent), and both the Midlands (14 percent) and the Northwest (14 percent).¹⁶ Between August 1945 and June 1957, *Picture Post* dedicated 86 articles and items to nuclear energy. While coverage of peaceful applications remained relatively steady throughout (with a slight increase after Britain launched a civilian nuclear energy program in 1955), military applications initially dominated its coverage of nuclear issues and increased again with the coming of the hydrogen bomb. The same held true for peace and protest, with peaks in 1946 and after massive American thermonuclear testing in 1954, while reports on Hiroshima and Nagasaki generally were extremely few (see [appendix II, AII.5](#)).

In spite of its relative success, *Picture Post* folded in June 1957. Hulton cited increasing production costs as a result of rising paper prices and increasing wages of magazine staff as well as the rise of television as mass medium as chief reasons for its cancellation.¹⁷ While the BBC had only taken up its television service again in 1946, the number of TV licenses rose from 15,000 in 1947 to 760,000 in 1951 to 4.5 million by 1955 to 8 million by 1958 and 12 million in 1963. Estimates suggest that the BBC reached 85 percent of the British

population with its telecast of Queen Elizabeth II's Coronation in 1953. By 1956, about 53 percent of households also received a second TV channel, ITV,¹⁸ and television had severely impinged upon the market for illustrated magazines.

"Man Enters the Atom Age," August 25, 1945

Picture Post first confronted nuclear energy in its "Man Enters the Atomic Age" issue of August 25, 1945. The cover photograph showed a child on a beach in twilight, with the caption "Dawn—Or Dusk?." "The harnessing of atomic energy is probably the greatest event of our lifetimes," the introductory article stated, that "opens up wide new horizons of both hope and horror." Under the title "The Man Who Predicted the Atom Stirs Up the Mud in a Pond," Ford Maddox Brown's painting of John Dalton, the English chemist who had come up with the theory of atomic matter some 250 years before the atomic bomb arrived, illustrated the piece.¹⁹ The high degree of ambiguity inscribed into these words and images, especially the metonymy between atomic utopia and dystopia, remained a chief characteristic of *Picture Post's* coverage of atomic energy.

Picture Post addressed the four key themes that form the basis for analysis in this chapter with varying intensity. Given Hiroshima and Nagasaki's immediacy, articles on the atomic bomb, especially the science and scientists behind it, dominated this number. An interview with Sir John Anderson, the government minister in charge of Tube Alloys, by military expert Lewis Hastings, offered deeper insight into the new weapon, along with a picture gallery of key scientists, including Patrick Blackett, Niels Bohr, Sir James Chadwick, J. D. Cockcroft, Enrico Fermi, Ernest Lawrence, Lise Meitner, Marcus Oliphant, J. Robert Oppenheimer, Rudolf Peierls, Sir George Thomson, and Franz (Francis) Simon.²⁰ Scientists as "access points," as Anthony Giddens calls them, to the complex field of nuclear science and technology frequently appeared in *Picture Post* until 1957.²¹ Other articles concerned major developments in nuclear science that led to the creation of the atom bomb and located it within the history of weaponry.²² Finally, an article on the British politician, diplomat, and writer Harold Nicolson referred to his 1932 novel *Public Faces* in which he had already used the term "atomic bomb" as H. G. Wells before him and imagined the effects of a nuclear explosion.²³

The strong presence of nuclear weapons in *Picture Post* is indicative of wider trends in British culture. While newspapers were among the first media to inform Britons in detail about the new weapon,

Whitehall published its version of the making of the first atomic bombs, *Statements Relating to the Atomic Bomb*, later in 1945. But the booklet received little recognition, as it dwarfed in size by comparison with its American counterpart, Henry DeWolf Smyth's *Atomic Energy for Military Purposes*.²⁴ In 1947, the first British edition of *New York Times* journalist William Laurence's popular history *Dawn over Zero* appeared.²⁵

The second theme, peace and protest, initially received little attention in *Picture Post* and only emerged as a dominant topic after American president Harry S. Truman had announced in February 1950 that his administration would pursue the development of the hydrogen bomb. The "Man Enters the Atom Age" issue's introductory article called for the international control of any atomic research that might have military applications.²⁶ In an alarmist way, a second article emphasized the importance of the opinion of "common people" in establishing a system of collective security to avoid an arms race with the Soviet Union at any cost. To reinforce the need for action, it included textual and visual evidence that demonstrated the atom bomb's incendiary effects on the human body. Alongside a transcript of a report on the situation in Hiroshima shortly after the bombing by a local Japanese radio station, it featured pictures of a burning Japanese soldier who had been incinerated by a flamethrower that had previously appeared in *Life* magazine, to demonstrate the incendiary effects of the atom bomb, albeit on a much smaller scale.²⁷

Textual and visual references to Hiroshima and Nagasaki figured as a warning against the human cost of atomic warfare in many *Picture Post* articles on both military and civilian applications of nuclear energy. Yet, very few essays exclusively commemorated these bombings. A blurry photograph of the mushroom cloud rising over Hiroshima marked their chief visual representation in the nuclear age issue. Below, in the left-hand corner, it contained an aerial photograph of columns of smoke over Tokyo after the 1923 earthquake. Under the heading "Nature's Ruin—And Man's," the caption attempted to put both images into perspective. The article evoked religious feelings and called on "the ordinary people of the world" to ensure that "the new sources of power available to us for good or evil" be used constructively. Three apocalyptic drawings by Leonardo da Vinci accompanied the text to emphasize its Manichean message.²⁸ Mushroom clouds remained a recurring symbol of nuclear energy's destructive potential in *Picture Post* until its demise.

Unlike later issues, in particular after the foundation of the UKAEA, the "Man Enters the Atom Age" number devoted only one

page to the peaceful atom. Edward Neville da Costa Andrade, professor of physics at the University College London and a BBC science broadcaster, offered some modest suggestions regarding the feasibility of industrial applications of nuclear energy such as atomic power stations in the foreseeable future.²⁹ In this, da Costa Andrade provided a corrective to nuclear fantasies about endless benefits from nuclear energy that had originated for the most part in the United States with popular science writers such as David Dietz whose book *Atomic Energy in the Coming Era* was first published in Britain in 1946.³⁰

Military Applications of Nuclear Energy

Three nuclear-arms-related themes featured predominantly in *Picture Post*: strategy; nuclear weapons development, testing, and delivery technology; as well as espionage and national security. The first article to address military strategy appeared in October 1947. Martin Chisholm examined Operation Crossroads—the first two postwar atomic tests that the United States conducted at Bikini Atoll in the South Pacific in July 1946, code-named Able and Baker—to reach conclusions about future British naval planning and strategy. It relied excessively on the metonymy of mushroom-cloud imagery by including photographs of the Baker test. Captions such as “‘The Cauliflower’ Blooms over a Doomed Fleet” and “It Breaks Downwards and Spreads Destruction” indicate a good amount of pessimism over the nuclear future on the author’s part. In addition, a photograph of Hiroshima survivor Kiyoshi Kikawa warned readers against the human cost of atomic warfare.³¹ Unlike many American cultural commentators, who viewed Operation Crossroads metaphorically as a main intersection for mankind, Chisholm’s article focused on the doomed way.³² In Britain, the Bikini tests elicited considerable interest, and the BBC even broadcast the Baker test live over the radio.³³ In 1949, the British edition of David Bradley’s alarming eyewitness account of the Bikini tests, *No Place to Hide*, also appeared.³⁴ The tone of articles on nuclear strategy in *Picture Post* during the 1950s, especially by military expert Lidell Hart, remained skeptical of official British, United States, and NATO nuclear doctrine and often argued against the tactical use of nuclear weapons, particularly after the arrival of the hydrogen bomb, as their deployment could escalate into all-out thermonuclear war.³⁵

Alongside strategy, nuclear weapons development, testing, and delivery constituted the second key area of coverage, in particular the Truman Administration’s H-bomb announcement, the first British

atomic test in 1952, and the impact of atomic testing on the weather. Truman's statement and the prospect of a new and more powerful type of nuclear weapon, attracted considerable attention by the British media.³⁶ In its February 18, 1950, issue, *Picture Post's* chief science correspondent Derek Wragge Morley explained the hydrogen bomb's operational mode and impact in alarmist words, stressing that there was "*no theoretical limit to the size of the bomb which can be constructed* [original emphasis]." To reinforce the H-bomb's vast destructive potential, an aerial photograph of the London area detailed the anticipated impact of a thermonuclear attack on the city. It imitated an image that had appeared in *Life* in 1945, and similar pictures appeared later in German *Stern* and Dutch *Panorama* (see [appendix I, AI.2](#)).³⁷ A superimposed mushroom cloud over Westminster marked the hypothetical ground zero. Alongside the names of major London boroughs, landmarks, and towns in its vicinity, the picture featured superimposed concentric circles to visualize the explosion's effects on the entire area. "If a hydrogen bomb were dropped at Westminster, everything within 8 miles would be completely destroyed," Morley stated, "No person or building would survive." A map of Southeastern England placed these effects on a national scale.³⁸

Besides their blast and heat effects, Morley pointed to hydrogen bombs as a means to disperse large amounts of fallout into the atmosphere as a form of warfare.³⁹ That American scientists publicly debated this scenario during a nationally broadcast radio program of the University of Chicago Roundtable Conference less than two weeks after the publication of Morley's article underlines the credibility of this threat at the time.⁴⁰ A similar "doomsday device" later featured in Stanley Kubrick's 1964 satire *Dr. Strangelove*.⁴¹ To humanize his fairly abstract notion of the radioactive dust bomb, Morley included two photographs relating to the experience of Nagasaki survivor Takashi Nagai, who became an influential writer against atomic weaponry and whose book *We of Nagasaki* was published in Britain in 1951.⁴²

By contrast, a celebratory tone characterized the coverage of Britain's first atomic test in October 1952. The cover of the October 11, 1952, issue depicted a "Nevada Mushroom" from an American aboveground test. Although the accompanying "Atom Parade" article featured a photograph of a Hiroshima victim as a warning of the potential price of nuclear war, it was largely factual in nature and gave brief biographical blurbs and pictures of key British, American, and Soviet figures in atomic history up to 1952, including Sir John Cockcroft, Sir Roger Makins, William Penney, Harry S. Truman,

William S. Parsons, and Lavrenti Beria.⁴³ Given the national prestige of Britain's entry into the "nuclear club," a picture of the test featured in *Picture Post's* review of the year 1952.⁴⁴ In 1951, the magazine had already used mushroom-cloud iconography in a similarly positive context and printed the photograph of a woman wearing "the atomic hair-do." But this remained a rare case of positive depictions of the mushroom cloud and gendered representations of atomic energy in *Picture Post*.⁴⁵

Starting in August 1953, *Picture Post* investigated a possible causal link between nuclear testing and poor weather in which many Britons believed at the time. Whereas French physicist Charles-Noël Martin, who saw a connection between atomic testing and aberrations in the weather, published his latest findings on the subject in the magazine, two further articles in *Picture Post* dismissed any such connection.⁴⁶ As part of its coverage of nuclear weapons, *Picture Post* also looked at advances in delivery vehicles, in particular missiles, for atomic warheads in Britain, West Germany, and the United States. Articles on this subject were by and large factual and focused simply on technological niceties.⁴⁷

Finally, *Picture Post's* coverage of nuclear weapons dealt with national security and atomic espionage. Klaus Fuchs' confession in February 1950 that he had passed on sensitive nuclear information to the Soviet Union during the time he worked on the British and later Allied nuclear weapons programs and the outbreak of the Korean War produced a sense of crisis and made the "Communist threat" appear more "real."⁴⁸ Given that Germany represented, as Thomas Lindenberger terms it, a "border region of the Cold War," the Korean War amplified fears of a Soviet invasion of the Federal Republic of Germany (FRG) and had an impact on ongoing debates about rearming the newly founded FRG in Britain, the United States, and France.⁴⁹ Lieutenant-General Sir Brian Horrocks addressed the scenario of a Soviet invasion of West Germany from the military expert's point of view in the August 12, 1950, issue. Unlike Lidell Hart in his essays on nuclear strategy, Horrocks played down the perils of nuclear warfare and argued in favor of tactical nuclear weapons.⁵⁰ A 1951 article on Hollywood also commented on the Communist and atomic threats with a picture of an advertisement poster for a "Lifesafe Movie Set Model Atomic Bomb Shelter" and the caption: "Since Korea Hollywood has become very atom-bomb-conscious and 'Red'-conscious."⁵¹

The connection between these two scenarios of threat also dominated *Picture Post's* coverage of atomic espionage. The "Atom Parade"

of October 11, 1952, featured pictures and short biographical articles on William Skardon, to whom Klaus Fuchs confessed, and Bruno Pontecorvo, an Italian-born émigré who defected to the Soviet Union in 1950.⁵² The Fuchs and Pontecorvo cases undermined confidence in British homeland security, especially MI5, at home and abroad, particularly in the United States, and affected Anglo-American intelligence relations.⁵³ "For seven years Klaus Fuchs had been a Russian agent," reported *Picture Post*, "handing over the details of the bomb," in particular "its conception, construction and explosion."⁵⁴ With its assessment of the value of Fuchs' espionage and the view of the science behind nuclear weapons as one secret formula, the article picked up on a secrecy mania that prevailed in stories in the American popular media, including *film noirs* such as *Notorious* (1946), *The House on 92nd Street* (1945), and *The Atomic City* (1952).⁵⁵

Fuchs' name came up again in Rebecca West's article on the electrocution of the alleged Soviet spies Julius and Ethel Rosenberg, to whom Fuchs' investigation had eventually led the FBI, in 1953. The previous year, West had published a revised edition of her influential 1945 book *The Meaning of Treason*, which appeared as *The New Meaning of Treason* in the United States in 1964. West's article, "The Hearts of Traitors," discussed the Rosenbergs' motivations and acts of espionage, with occasional slanders on campaigns such as the National Committee to Secure Justice in the Rosenberg Case.⁵⁶ The fact that a staunch anticommunist such as freelance journalist Rebecca West wrote for *Picture Post* underlines the magazine's commitment to being a forum for different ideas and opinions without affiliating itself with one side or political party.⁵⁷

Peace and Protest

As with nuclear weapons, *Picture Post* dedicated considerable attention to the issue of peace and protest, in particular questions of achieving and securing peace, often from a philosophical or theological angle; the international control of nuclear power and a world government; as well as protests against the H-bomb. Reports on the hydrogen bomb centered on two subthemes: fallout from weapons testing and effective defense against it. Over time, articles presented these matters in an increasingly bleak tone.

In three articles in 1946, Edward Hulton addressed the question of achieving and securing peace. He called on peace education to avoid mankind's complete annihilation and addressed existential philosophical questions about human nature and progress in the Western

world in the so-called atomic age.⁵⁸ After a four-year hiatus, Anglo-Irish writer and philosopher Leslie Paul blamed Western nations for the tense international situation because “the atom bomb was only the culmination of centuries of pursuit of greater and greater military might”⁵⁹ *Picture Post* continued to look to intellectuals to lessen tensions between the superpowers, in particular after Truman’s H-bomb announcement. On the fiftieth anniversary of the Nobel Foundation in 1951, *Picture Post* staff member Robert Kee examined the role of Nobel laureates as moral guides in achieving peace.⁶⁰ Similarly, a 1954 article referred to former Royal-Air-Force-pilot-cum-philanthropist Leonard Cheshire whose experience as official British observer of the Nagasaki bombing led him to oppose nuclear weaponry and found the Leonard Cheshire Disability charity as a moral example.⁶¹

Beginning with the publication of the six-part forum “The Most Hopeful Road to Peace” by experts from various fields in July 1954, textual and paratextual treatments of the subject became increasingly dystopian. Arthur Wragg’s apocalyptic black-and-white illustrations for the series are particularly indicative of this trend. Bertrand Russell, who came to play a decisive role in mobilizing the antinuclear mass movement through his coauthored “Russell-Einstein Manifesto” (1955), opened the forum. In his view, overcoming mutual distrust between East and West and the establishment of a world government were the prerequisites for guaranteeing peace.⁶² The second installment saw Liddell Hart object to the concepts of tactical nuclear weapons and limited nuclear war, as they could escalate into an all-out nuclear war. Moreover, he condemned the rationale behind President Eisenhower’s New Look policy that relied on the doctrine of Mutual Assured Destruction as suicidal.⁶³ Parts three and four appeared in slightly different format as two opposing views: Donald Soper, a leading member of the Methodist Church, wrote from the pacifist point of view, calling on Christians worldwide to achieve peace and advocating a world government. By contrast, Sir John Slessor, the marshal of the Royal Air Force and former chief of air staff, approached the topic from the military standpoint, defending the H-bomb as a deterrent to safeguard peace and freedom.⁶⁴ In the fifth installment, industrialist Harry Ferguson, a pioneer in the development of tractors, approached the achievability of peace from an economic perspective and argued that national arsenals of weapons of mass destruction and stable economies were preconditions for any settlement that would eventually lead to global disarmament.⁶⁵ The Archbishop of York, Cyril Garbett, concluded the forum with an examination of churches’ views on war and peace. Garbett abandoned the just war doctrine in

the face of nuclear arms, envisioned "the promotion of world peace" as the churches' key objective and sympathized with Russell's proposals. Borrowing its title from Proverbs 29, Verse 18, Arthur Wragg's drawing "Where there is no vision, the people perish," offered a cynical comment on the churches' role in the peace process.⁶⁶

The United States' Castle Bravo test of March 1954, which demonstrated the fatal consequences of fallout in the *Lucky Dragon* incident, played a considerable part in this shift toward a more pessimistic tone in *Picture Post*.⁶⁷ The following month, a Gallup Poll listed the H-bomb as the British government's main problem (24 percent), ahead of foreign policy (18 percent) and the cost of living (17 percent).⁶⁸ In his weekly BBC radio program *Letter from America*, Alistair Cooke called the test "a turning point in history that cannot be shrugged off or pacified with appeals of decent feeling."⁶⁹ Since the release of official images of the first American H-bomb test, Operation Ivy, coincided with the Castle Bravo test, it provided the British media with spectacular images for illustrating the news of the 1954 test.⁷⁰ *Gaumont British News* (April 8, 1954, episode 2114) dedicated a feature under the bleak title "Pacific Inferno" to Operation Ivy that referred to the test's mushroom cloud as "an umbrella of doom." The program showed a montage of the New York skyline with a superimposed photograph of the Ivy-Mike explosion to demonstrate its effects within a familiar setting.

Thanks to the H-bomb, peace remained a key issue in *Picture Post* that welcomed the following year with the headline "1955—Atomic Power for Life or Death?" The accompanying article included a photograph of Albert Schweitzer, along with a quote from his Nobel Prize acceptance speech in which he warned: "Man has become a superman" but "has not raised himself to that superhuman level of reason."⁷¹ Winston Churchill's announcement in February 1955 that his government would pursue the development of thermonuclear weapons gave the question of achieving peace even greater urgency.⁷² Politicians' and voters' attitudes to the H-bomb therefore formed an important part in *Picture Post*'s coverage of the 1955 general election.⁷³

Practical proposals for the international control of nuclear energy and the establishment of a world government marked *Picture Post*'s second area of coverage on peace and protest. Again, opinionated articles often presented readers with extreme choices between pro and contra, nuclear dystopia and utopia. *Picture Post*'s review of 1945 touched upon international control and heavily opposed the American atomic monopoly, polemicizing: "The imperialists and Russia-haters who form a small but powerful section of America would like to use

the threat of the atom bomb to further American world supremacy.”⁷⁴ So much emphasis did the magazine place on achieving international control that an article made its success the litmus test of the UN’s first General Assembly in London in January 1946. “Whatever the delegates do will become history,” it concluded in a somber tone, “but their failure would almost certainly make it the last page in the book.” A photograph of an empty bench in London’s St. James’s Park near the UN General Assembly on which a sign reading “CITY OF WESTMINSTER: DANGER: UNEXPLODED BOMB” rested visualized the message.⁷⁵

As in the United States, nuclear scientists took a leading role in promoting international control in Britain where they organized in the Atomic Scientists’ Association (ASA). Unlike its American counterpart—the Federation of American Scientists—the ASA officially refrained from making political statements.⁷⁶ When the arrest and conviction of Soviet atomic spy Alan Nunn May in 1946 raised questions about the permissible amount of freedom of science in the national security state, which formed a major precondition for installing international control, the ASA’s Nevill Mott and Bertrand Russell presented their opposing views on the issue in *Picture Post*.⁷⁷ But by mid-June 1946, international control had practically failed with the Soviet veto of the so-called Baruch Plan, the official American proposals on international control to the UN Atomic Energy Commission’s first session.⁷⁸

Given the UN’s incapacity to reach an agreement, *Picture Post* reported in March 1950 that Winston Churchill had proposed during his election campaign that British and American leaders approach Stalin directly “man-to-man.” Two pictures of the Potsdam Conference, one showing Churchill, Truman, and Stalin and one depicting Attlee and the two Allied leaders, alluded to the spirit of the Big Three. *Daily Mail* editor Frank Owen and Sydney Elliott, former editor of *Reynolds News* and the *Evening Standard*, discussed the feasibility of Churchill’s proposal, while Gerald Bailey, the executive chairman of the International Liaison Committee of Organisations for Peace, urged readers that only “a bold and sustained attempt to establish a true world unity . . . will suffice” to bring American and Soviet views together after Truman’s H-bomb announcement.⁷⁹

As a means of implementing international control and safeguarding peace, the world government movement, which originated in the United States, enjoyed great popularity in Britain, so that, in 1947, the first British edition of Dexter Masters’ and Katharine Way’s seminal collection of essays *One World or None* appeared.⁸⁰ In September

1948, *Picture Post* reported on two world government conferences held in Luxembourg and in Interlaken, Switzerland, idealistically calling for the adoption of a "new science," based on tolerance and "objectivity," to overcome ideological and religious barriers and establish a world government.⁸¹ Later in the same year, an article on an ASA meeting suggested that atomic scientists take leading roles in securing peace. It presented two diametrically opposing views on world government and international control: Patrick Blackett, British scientist, 1948 Nobel laureate, and author of *The Military and Political Consequences of Military Power*, advocated a world government and warned of a preemptive nuclear strike by the United States on the Soviet Union. Frederick Osborn, the American deputy representative on the UN Atomic Energy Commission, by contrast, defended the atom bomb's role as a deterrent against conventional attack by numerically superior Soviet forces. "What the Row Is About: The Bouquet of the Atom Bomb Blossoms over Bikini," cautioned the caption of an accompanying mushroom-cloud photograph.⁸² Popular culture, too, addressed the responsibility of nuclear scientists in the Boulting brothers' film *Seven Days to Noon* (1950) where a British atomic weapons scientist steals and threatens to detonate a nuclear device in Central London unless the British government gives up its atomic arms program.

Finally, the H-bomb constituted a key part in *Picture Post's* coverage of peace and protest. Again, the coming of the new weapon signified a watershed and after Truman's H-bomb announcement, the tenor of articles became increasingly dystopian. Several articles concerned thermonuclear weapons directly, in particular the defenselessness against their destructive force and the health hazards from weapons testing, especially fallout. On February 18, 1950, *Picture Post* featured statements by British scientists, including several ASA members, and the Bishop of Birmingham, Ernest William Barnes, on the hydrogen bomb. While most ASA members refrained from taking a clear stance, Barnes called for abandoning the H-bomb program.⁸³ The bishop's condemnation of Truman's policy demonstrates the extent to which the Church of England had regained its position as a moral guardian that it had lost after Hiroshima through its participation in the British Council of Churches' impartial report *The Era of Atomic Power* (1946).⁸⁴ The following month, *Picture Post* reported on a televised expert panel on the H-bomb in the United States whose participants included scientists J. Robert Oppenheimer and Hans Bethe, who were involved with a group of scientists urging Truman to renounce the preemptive use of the H-bomb, as well as political

decisions makers David Lilienthal, chairman of the United States Atomic Energy Commission, and Senator James McMahon, chairman of the Joint Congressional Committee on Atomic Energy.⁸⁵

Within *Picture Post's* coverage of the H-bomb, Britain's defenselessness against thermonuclear attack assumed an important place. Several articles analyzed and often criticized Whitehall's civil defense program. The Civil Defence Act (1948) regulated the Civil Defence Corps as the government service in charge.⁸⁶ In October 1952, John Stobbs decried the unpreparedness of Britain's civil defense operations and called for a massive expansion of the country's capabilities reminiscent of the Second World War effort.⁸⁷ Two years later, the magazine reported on the controversy between the home secretary and the Coventry City Council over the latter's decision to abandon Coventry's civil defense program in the aftermath of the Castle Bravo test. The article questioned the concept of civil defense per se and exposed official government policy as inconsequential: whereas the Home Office planned to scrap the Civil Defence Corps' Mobile Column, which represented in *Picture Post's* view the most effective, Whitehall propagated the effectiveness of civil defense measures.⁸⁸ Whitehall's insistence on civil defense, even after the secret "Strath Report" (1955) had confirmed that an efficient defense against thermonuclear attack was impossible, has to be seen within the context of its decision to acquire the H-bomb.⁸⁹ Although the government viewed the hydrogen bomb as a deterrent against which there was no working defense, it continued to officially promote the effectiveness of civil defense, albeit with a focus on inexpensive measures, not to jeopardize public support for its thermonuclear program.⁹⁰ Matthew Grant has thus exposed the British civil defense program as a "façade."⁹¹

In what was perhaps the most cynical take on civil defense, if not representations of nuclear energy altogether, *Picture Post's* American correspondent Jack Winocour reported in a photo-essay in July 1955 on one of several Operation Alert civil defense drills that took place in the United States between 1954 and 1960. "Is this a dress rehearsal for doomsday?" he asked in a sarcastic tone. "This proud pinnacled city of New York dies in a flash, and a roar, at 2.5 this afternoon," Winocour quipped, "I may be one of New York's 2,991,285 dead. The staticians have calculated the figure to the nearest human digit with actuarial exactitude. Or luckier—or unluckier, depending on what you think about radiation sickness—I may be one of the city's 1,776,899 injured." Photographs showed President Eisenhower in his command bunker, evacuees, decontamination procedures on Broadway, civil defense workers, and the evacuation of the Pentagon

in Washington, DC.⁹² Winocour's cynicism resembled famed cartoonist Vicky (Victor Weisz), who mocked the official British government civil defense booklets *Nuclear Weapons* and *The Hydrogen Bomb*, particularly their attempts to play down the effects of thermonuclear war.⁹³

Alongside defenselessness, *Picture Post* covered the issue of fallout from weapons testing. By the mid-1950s, fallout from extensive American and Soviet nuclear testing programs had become an international problem.⁹⁴ Shortly after Whitehall's hydrogen bomb announcement, *Picture Post* addressed the fallout issue in two articles in its April 23, 1955, issue. Geneticist and evolutionary biologist John Burdon Sanderson Haldane, who was one of the founders of population genetics, argued that continued nuclear testing at the 1955 rate "will mean literally hundreds of millions of deaths in future generations." Photographs of a worker at the Atomic Energy Research Establishment (AERE) Harwell in radiation protection gear and the mushroom cloud from Operation Ivy, bearing the caption "Shall We, One Day, Have to Live Like This?," visualized Haldane's point.⁹⁵ The diagram of a stylized female body followed the piece to illustrate how radiation affected the human body, including a close-up shot of two germ cells, one healthy and one suffering the effects from radiation. The diagram represented one of the few gendered representations of atomic energy in *Picture Post*. The second article appealed to scientists' responsibility and contained excerpts from Lord Adrian's presidential address to the British Association for the Advancement of Science, an article from the *British Medical Journal* and one by the ASA's Joseph Rotblat. All items backed up Haldane's claim and emphasized the serious implications that fallout might have on future generations.⁹⁶ Afterward, the fallout issue came up again in two brief articles about Japanese protests against the first British thermonuclear test off Malden Island in the Pacific in 1957.⁹⁷ Another response to the fallout debate and the theme of mutation was the British Hammer Films production *X the Unknown* (1956). The horror film centers on a British army unit that awakens a subterranean creature that lives on radioactive substances during radiation detection exercises and subsequently haunts the area in search of "food."

Commemorating Hiroshima and Nagasaki

Although references to victims of Hiroshima and Nagasaki as a warning against the consequences of nuclear war appeared in many *Picture Post* articles, the magazine followed an ambivalent course in

its coverage of commemorations of these two events. Paradoxically, with time, articles assessed the impact of the atomic bombings in a more positive light, while *Picture Post's* coverage of thermonuclear testing, fallout, and the defenselessness against the hydrogen bomb struck an increasingly dystopian tone.

Initially, *Picture Post* stressed Hiroshima's and Nagasaki's epochal character and the atomic bombings ranked as "by far the greatest" events in its 1945 annual review issue, including a giant picture of the Nagasaki mushroom cloud.⁹⁸ The celebratory tone vanished soon as more details of the attacks emerged. In its October 4, 1945, installment, *British Gaumont News* (episode 1226) showed moving images of the bombings, including aerial and panorama shots of devastated Hiroshima and Nagasaki along with footage from the preceding Trinity test in New Mexico, the world's first atomic explosion. The following year then saw public opinion on the prospects of nuclear energy turn more pessimistic. In a Gallup poll of May 1946, 46 percent of the respondents agreed that nuclear power would do "more harm than good" in the long run.⁹⁹ In addition, more gruesome details about the bombings of Hiroshima and Nagasaki emerged. On the eve of the United States' first Bikini test in July 1946, the British government published a report by a British team that had visited Hiroshima and Nagasaki in November 1945.¹⁰⁰ *The Effects of the Atomic Bombs at Hiroshima and Nagasaki* informed the public in detail about the bombings, featuring a photo section that specified the damage.¹⁰¹ Even the *New York Times* commented on the booklet.¹⁰² Additionally, the British release of John Hersey's book *Hiroshima* in August 1946 and its subsequent broadcast over the BBC helped humanize the victims of the Hiroshima bombing.¹⁰³

Contrary to this public climate, *Picture Post* started to present the consequences of the atomic bombings in a more positive light. A short article in August 1946 looked at the ongoing reconstruction effort in the two cities. It featured an aerial photograph of newly built houses in Hiroshima bearing the—almost biblical—subtitle "How Man Comes Back to Hiroshima" that seemed to emphasize mankind's civilizing mission. The article refuted bleak predictions by experts about the uninhabitability of the two Japanese cities immediately after their bombing as being "dismally—or perhaps hopefully—wide of the mark" because "they underestimated the resistance of both Man and Nature." A photograph of a vegetable garden among the ruins of Nagasaki evidenced this claim. "The atom bomb is not the Last Weapon after all," the report concluded ambivalently, "That may or may not be a source of consolation."¹⁰⁴

It took then almost a decade until *Picture Post* dedicated another full article to Hiroshima and Nagasaki. The British release of Kaneto Shindō's film *Children of Hiroshima* (*Genbaku no Ko*, 1952) about the effects of the atomic bomb prompted the magazine to publish a review. The article praised the picture's subtle and moderate approach as "propaganda in a good sense." The fact that its release coincided with Churchill's H-bomb announcement gave it a sense of urgency.¹⁰⁵ But this seeming return to a rather sober tone in commemorations of the atomic bombings was short lived, for journalist Trevor Philpott's and photographer John Chillingworth's photo-report on life in Hiroshima in 1955 took optimism about the attacks' medium-term effects to a new, unprecedented level. "In Hiroshima now there is hardly a sign that even a little bomb was ever dropped there," Philpott observed and praised the city's modern buildings and infrastructure. "This is the first lesson offered by Hiroshima," he concluded, "that a city can be an atomic desert in 1945, its debris littered with one hundred thousand peeled corpses; and ten years later it can be bigger and brighter and better than it ever was." Although Philpott was more cautious in his speculation about the medical effects of the atomic bomb such as possible genetic defects than the article in *Picture Post*'s August 24, 1946, issue, he reached an optimistic conclusion that "perhaps that is another lesson of Hiroshima—that humanity isn't going to be so easily blotted out, even in the Atomic Age." Several pictures of everyday life in 1955's Hiroshima by John Chillingworth, including men playing on pinball machines (Pachinko), a traditional music parade and "healthy" students engaging in physical exercise, the Peace Memorial, and the headquarters of the Atomic Bomb Casualty Commission accompanied the piece and visually instilled optimism in the reader.¹⁰⁶

Civilian Applications of Nuclear Energy

Picture Post's coverage of civilian applications of nuclear energy was less ambivalent than reports on Hiroshima and Nagasaki. Articles generally emphasized its potential for social betterment and sometimes took pride in Britain's role as a world leader in nuclear technology. At the same time, they frequently reminded readers of the closeness of peaceful and military uses of atomic energy. Articles focused on two key themes: social advancement, including American president Dwight D. Eisenhower's Atoms for Peace program, and the British atomic energy project. In addition, the magazine reported on developments in Commonwealth nations and Europe, nuclear fuels and basic research, including cosmic rays.¹⁰⁷

In late October 1945, *Picture Post* featured an interview with nuclear scientist Marcus Oliphant about the prospects of peaceful atomic energy in Britain. Oliphant prophesied that, within five years, any nation's economic power and standing in the world would depend on its ability to harness the atom for its industrial production. "Whatever plans for social betterment our Government may have," Oliphant argued, "the key to them must lie in atomic power, for in it lies the potential for increasing the wealth-producing power of every worker—on which, in the long run, all social progress depends." To illustrate this ideal of equality, the text featured a picture of "Scientists and Mechanics Who Work as a Team of Equals."¹⁰⁸ Oliphant's statement resembled government programs aimed at postwar reconstruction and social reform, especially through the creation of the National Health Service in 1946.¹⁰⁹ The article's title "An Atomic Plan for Britain" alluded to *Picture Post's* seminal "A Plan for Britain" issue. To reinforce atomic energy's constructive role, the piece featured a black-rimmed photograph showing a burned Hiroshima survivor, with the caption "The science which made this horror possible is now available for enriching all humanity."¹¹⁰ In a similar fashion, an article in March 1946, entitled "Spring in Atomic Year One," looked at atomic energy to prevent the starvation of an estimated 60 million people during the same year. "Even atomic war, the concentrated essence of Man's effort at destruction, could achieve no more than Nature threatens," it put these estimates into perspective, concluding, "It may be that the yet only glimpsed potentialities of atomic power can ultimately give back fertility to soils long starved and robbed, even challenge the vagaries of weather."¹¹¹

With time, *Picture Post* reported more cautiously on peaceful atomic energy. In April 1951, Derek Wragge Morley investigated the state of civilian nuclear energy research. He criticized that many governments prioritized research into its military applications over its peaceful uses. Although Morley foresaw nuclear fuel as a cost-efficient alternative to coal, he was skeptical of its immediate availability, as governments, apart from Britain, neglected research into civilian atomic energy. He also warned of its environmental impact. To give Morley's arguments more weight, his essay featured statements by leading international atomic scientists, including Lew Kowarski of the French Atomic Energy Commission, leading Soviet scientist Peter Kapitza, Britain's Sir John Cockcroft, and the Italian-born Chicago-based émigré Enrico Fermi.¹¹²

A few months later, Morley and Edgar Ainsworth published a humorous article in which they imagined "The Atomic World-to-Be"

in 2951. Their piece included a photograph of devastated Hiroshima that served as a warning against nuclear energy's destructive potential. What made Ainsworth's and Morley's article so remarkable was the fact that they envisaged hydrogen fusion technology to be the future of atomic energy. This replication of solar heat on earth "could revolutionise the industrial and social life of the world," they argued, envisioning atomic house cleaning and climate control that "could turn igloo settlements in arctic wastes into garden cities . . . and transform thousands of square miles of arid useless deserts into lush and fertile lands." Apart from tremendous social and economic benefits, they speculated about "Atomic birth control" and "atomic heredity control (by imposed and controlled mutations)" to ensure the continuation of the nuclear family as the core of society. "And just hope that your descendants of A.D. 2951 will be living in the Atomic Age of Plenty," Morley and Ainsworth quipped in an "Irreverent P. S.," "they might, after all, be reduced to hunting breakfast with a plain, knobbly, un-atomic club."¹¹³

Picture Post also addressed Atoms for Peace. In August 1955, Sylvain Mangeot reported from the International Conference on Peaceful Uses of Atomic Energy in Geneva, which was one of the chief outcomes of President Eisenhower's Atoms for Peace program, warning that the program might signify the start of a trade war.¹¹⁴ The same month, several experts illuminated Atoms for Peace's possible implications for Britons. Sir Christopher Hinton, a delegate to the Geneva conference and managing director of the UKAEA's Industrial Group opened the trilogy with his assessment of industrial applications of nuclear energy that presented in his view the prerequisite for Britain remaining a leading world power. Hinton referred to the new reactors at Calder Hall that were to open in late 1956, and that were commonly, though incorrectly, as we have seen, claimed to be the world's first nuclear power stations.¹¹⁵ The second article by two scientists, Henry Seligman and Robert Roberts, looked at ways the atom could be harnessed to preserve food and exterminate microbes.¹¹⁶ Finally, D. W. Smithers, professor of radiotherapy at the University of London, looked into medical applications of nuclear energy, especially in cancer treatment and using radioisotopes as tracers in the human body.¹¹⁷

In May 1955, the United States Information Agency (USIA) had already organized an Atoms for Peace exhibition in cooperation with the UKAEA that toured Britain for five months.¹¹⁸ It formed part of a larger USIA effort to promote Atoms for Peace through travelling exhibitions in European countries, including Germany, Italy,

the Netherlands, and Spain, as well as in India, Pakistan, and Brazil.¹¹⁹ Prior to *Atoms for Peace*, the Science Museum in London had hosted the Atomic Energy and Uranium exhibition in 1946, and Chapman Pincher had organized the *Daily Express* Atomic Age Exhibition the following year.¹²⁰ With the help of the Ministry of Supply, other government offices, and private companies, the ASA organized the Atom Train exhibition in 1947. With 146,000 visitors and traveling the United Kingdom for 168 days in 1947–1948, the Atom Train was a huge success and educated Britons primarily about peaceful nuclear energy.¹²¹ It later toured Scandinavia, visited Paris, and participated in a UN Educational, Scientific, and Cultural Organization conference in Beirut, Lebanon.¹²² During the 1951 Festival of Britain, the Exhibition of Industrial Power in Glasgow also featured an extensive display of nuclear energy in its Hall of the Future.¹²³

Alongside peaceful nuclear power more generally, *Picture Post* focused on Britain's nuclear energy project. In December 1945, it introduced the town of Harwell, where the country's central research laboratory was to be constructed, as the "Atom Village."¹²⁴ Because of Whitehall's strict secrecy policy toward atomic research, public attention focused on the AERE so that it subsequently came to embody the entire civilian nuclear energy project. During the project's early days when success was not immediately visible, this led to public misconceptions about the state and scope of the country's atomic energy program.¹²⁵

In December 1946, Clifford Troke examined government plans to develop nuclear power stations to secure Britain's energy demands. While he painted an optimistic picture of the nuclear future, he ended his piece on a sober note by pointing to the interconnectedness of peaceful and military applications of atomic energy. If nuclear war came, Troke concluded, "Then a time will come when, to the relics of Stone and Bronze which lie around Harwell, will be added another—a queer concrete ruin, forlorn and rather puzzling memento of the brief Atomic Age."¹²⁶ In 1950, Derek Wragge Morley reported about work at Harwell. He stressed the health and safety measures in place at "the best-planned atomic laboratory in the world" to protect scientists and workers as well as the environment and population around the installation from radiation. The article featured a picture story about the filtration of water from the laboratory before its release into the Thames to ascertain readers' confidence in the AERE's public safety measures.¹²⁷

With the opening of the first British nuclear reactors approaching, *Picture Post* dedicated four articles to the topic that all stressed their

importance for Britain's energy security, the high safety standards that applied to the British nuclear energy program, and Britain's role as a world leader in civilian nuclear technology. In July 1956, Fyfe Robertson reported on the construction of the world's first small fast reactor in Dounreay, Scotland, that became operational in 1959. "The adventurers of the new Elizabethan Age are the nuclear physicists," Robertson gushed, who "bring us . . . a thing more precious than gold—power, our industrial life-blood, the prerequisite of a new leap in living standards." Several accompanying photographs by Charles Hewitt depicted the construction site.¹²⁸

The opening of the Calder Hall reactors on the Windscale site (today's Sellafield) in Cumbria by Queen Elizabeth II in October 1956 attracted particular media attention.¹²⁹ As early as February 1956, a *Picture Post* article by Kenneth Walker had linked this impending event with prophecy belief, arguing, "It would almost seem that Providence, or God . . . is taking an interest in Nature's human experiments."¹³⁰ A year later, Fyfe Robertson's two-part mini-series on Calder Hall appeared. In the first part, Robertson stressed the importance of Britain's civilian nuclear energy program to achieve energy security and social betterment, stressing, "Britain is moving not only first, but fast, into the Nuclear Age." It included photographs of UKAEA senior administrator Sir Christopher Hinton, workers and engineers as well as a graphic of the power station. What is striking is Robertson's awareness of Calder Hall's real purpose: to produce plutonium for Britain's nuclear weapons project, "with electricity as a by-product."¹³¹ His second article looked at future reactor development and was optimistic about atomic energy's potential for raising living standards in Britain and elsewhere, dubbing it "the biggest weapon in the fight against poverty." With a sense of national pride, Robertson declared, "And once again, this old country leads the world."¹³²

The British government, too, propagated Britain's role as world leader in civilian nuclear technology through the publication of several books by the AERE's Kenneth Jay, including *Harwell* (1952), which was also published in the United States, *Britain's Atomic Factories* (1954) and *Calder Hall* (1956), also published in the FRG.¹³³ In 1955, Leonard Bertin's popular science book *Atom Harvest* further chronicled the history of Britain's nuclear energy program and later saw publication in the United States.¹³⁴

Apart from Britain, *Picture Post* paid attention to developments in the Commonwealth and Europe. An article in November 1953 addressed the Canadian government's decision to launch a civilian

nuclear energy project.¹³⁵ In 1957, the magazine heralded the ratification of the European Economic Community treaty and the agreement on the European Atomic Energy Community (EURATOM), which formed part of a Western European vision of independence from the United States, as the “Birth of a New Europe.”¹³⁶ In this, *Picture Post* was much more enthusiastic about EURATOM than the British government which favored Anglo-American nuclear cooperation and dreaded the development of French nuclear weapons as a consequence of close European nuclear cooperation. In fact, the United States State Department used EURATOM during the late 1950s to focus West German and French atomic research on peaceful applications, and EURATOM eventually led to the United Kingdom’s loss of its position as a leading country in the development of civilian nuclear technology.¹³⁷

Conclusions and Outlook, 1957–1965

By the time *Picture Post* folded in June 1957, it had provided readers with a range of articles on nuclear weaponry, peace and protest, commemorations of Hiroshima and Nagasaki, and civilian applications of nuclear energy. Britain’s leading illustrated magazine never followed one editorial line but rather offered readers a potpourri of different, at times diametrically opposing views on nuclear power, especially weaponry. Overall, the coverage of both military and peaceful uses of nuclear energy drew an ambiguous picture between utopia and dystopia—dawn and dusk. But even articles that offered optimistic views on atomic energy often included a cautionary note to remind readers of the human cost of atomic warfare. The articles dealing with nuclear weapons and peace and protest became increasingly pessimistic in tone after Truman’s H-bomb announcement and the Castle Bravo test. Whereas survivors of Hiroshima and Nagasaki frequently appeared as a warning of the human cost of atomic warfare in articles, commemorations of the nuclear attacks on the two Japanese cities paradoxically became less pessimistic about their effects as time moved on. Articles concerning peaceful uses of nuclear energy discussed a wide spectrum of opinions about possible applications of atomic power in the future and were especially focused on social reform and betterment as well as Britain’s nuclear energy program.

After *Picture Post* had folded, Britain witnessed several crucial, nuclear-energy-related events. In October 1957, a fire struck one of the Windscale reactors and marked the world’s first major atomic accident. The government subsequently played down the release of

radioactivity so as not to jeopardize its atomic power and weapons projects.¹³⁸ It was then in the following year that growing fears of nuclear war led to the emergence of a strong antinuclear mass movement under the aegis of the CND.¹³⁹ Stanley Kubrick's bleak nuclear satire *Dr. Strangelove* and Peter Watkins' docudrama *The War Game* (1965) addressed this angst, too. Watkins' film detailed a hypothetical thermonuclear attack and its aftermath. While the film won an Oscar and the BBC had commissioned Watkins to produce and direct the picture, the BBC subsequently deemed its contents too controversial and banned it from television screens until 1985 so that it only received theatrical release.¹⁴⁰ In contrast to Kubrick's and Watkins' pessimistic films, the James Bond film series, especially *Dr. No* (1962), *Goldfinger* (1964), and *Thunderball* (1965), belittled the effects of nuclear weapons and radiation and often appeared to resemble official British civil defense propaganda. By 1965, the first cycle of British antinuclear mass protests had faded.

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Chapter 6

Nuclear Power, World Politics, and a Small Nation: Narratives and Counternarratives in the Netherlands

Dick van Lente

Introduction: A Small Country in the Nuclear Age

When articles about nuclear power appeared in Dutch illustrated magazines, they usually reported on developments taking place in the leading countries, and hardly reported those in the Netherlands itself, even though Dutch scientists and technicians made some contributions to nuclear physics and technology.¹ The same can be said of popular fiction about atomic matters: the action always took place either in some nondescript place, or in the United States, Britain, or France. This international orientation was colored, however, by the Netherlands' specific position in the nuclear age: highly advanced in science and technology, rapidly industrializing and therefore increasingly dependent on foreign oil, wielding very little influence in international politics, and, with its large international port in Rotterdam and a marine base in Den Helder, clearly a potential target for nuclear attack.

During the first postwar years, Dutch media dealt with nuclear power by framing it in well-worn images: as a product of technological progress, to be used for either constructive or destructive purposes. While weapons dominated the public image of nuclear technology during the first postwar years, in the course of the fifties, the picture changed. Peaceful applications began to receive more coverage, but at the same time, fears of radiation and contradictory statements by scientists created uncertainty, an increasing distrust of authorities, and a feeling of powerlessness and cynicism. After 1960, the "Peaceful Atom" practically disappeared from view, and very pessimistic attitudes came to prevail.

Nuclear Policy and Public Opinion

Immediately after the war, the Netherlands started its own nuclear research program, in spite of American and British efforts to monopolize the field.² The Dutch government and the scientific establishment were convinced that in order to be competitive in the new postwar order, the Netherlands had to have a well-developed institutional infrastructure for scientific and technological research. Because particle physics was one of the fields in which Dutch science had excelled before the war, institutions for nuclear research were created. Dutch scientists were lucky to have ten tons of “yellow cake” (raw uranium) at their disposal, which the Dutch government had acquired at the prompting of one of them, shortly before the war broke out in 1939, and which had been hidden successfully both from the German occupiers and the American liberators. One of the projects started, in cooperation with Norwegian scientists, was a research reactor at Kjeller, close to Oslo, which used the Dutch uranium and Norwegian heavy water. From the outset, politicians and scientists agreed that nuclear research should steer clear of military applications.

From 1950, nuclear physicists, the government and the research institute of the electrical utility companies, KEMA (originally an acronym for N.V. tot Keuring van Elektrotechnische Materialen), discussed plans for building a nuclear power plant. The scientists sent a proposal to the government in January 1954 to build an energy reactor of 10 MW. They argued that energy consumption in the world would increase tenfold during the next 50 years, leading to depletion of fossil fuels and a gradual transition to nuclear power. Unless the Netherlands built its own power plants and developed the expertise to run them, it would become “frighteningly dependent” upon imports of coal and oil, and lag behind other countries in nuclear research.³ Half a year later, a bill was passed by Parliament that created the Reactor Centrum Nederland (RCN). Two American made research reactors were imported, under the arrangements of the Atoms for Peace program. The minister of economic affairs, at the installation of RCN, repeated the cliché that “the development of nuclear physics, together with, among others, those in electronics, will have an effect similar to the English industrial revolution in the eighteenth century.”⁴ After the Suez crisis, October 1956, had reinforced worries about the country’s dependence on oil, the government decided to invest heavily in nuclear energy, which in the late fifties became one of the largest government funded technological programs.⁵ A large exhibition, *Het Atoom*, was held at Schiphol Airport in the summer of 1957, in order to convince the public of the need of this investment.

But over the next few years, the tide turned. Abundant oil deposits were found in the Middle East in the late fifties, and in 1959, a huge amount of natural gas was discovered in the north of the country.⁶ Studies revealed that nuclear power was not as cost-effective as it had seemed.⁷ The power utilities and industrial firms started to pull back. They kept a foothold in nuclear technology by building a small reactor, which was completed in 1968, but the project lost its momentum. The high tide of public attention for nuclear energy was therefore in the late fifties. Before and after that period, nuclear technology was mainly associated with bombs, radiation, and the threat of nuclear war.

Dutch governments during this period consistently supported American international politics.⁸ Dutch soldiers fought on the side of the Americans in the Korean War in 1950, and at the request of the United States, the defense budget was very substantially expanded, up to 20.4 percent of the total national budget in 1955. The government routinely kept key decisions outside parliamentary scrutiny and public debate, arguing that these involved technically complicated matters or things related to national security that had to be kept secret. In 1956, Parliament accepted without discussion the government's acceptance in principle of the stationing of nuclear arms on Dutch territory, and protested only weakly when the government concluded agreements on nuclear weapons and energy with the United States without prior parliamentary debate. The decision of the ministers of Defense and Foreign Affairs in April 1959 to actually station Honest John missiles in the Netherlands was taken even without consulting the cabinet—a big difference with the heated debates the West Germans had conducted a year before (see Augustine's chapter).

Outside Parliament, resistance was almost as weak.⁹ The churches, unlike their British and American counterparts, did not take up the issue actively. The Communist party, which had gained 10 percent of the votes in 1946, supported the Soviet-led Stockholm Appeal (1950), but saw its electoral base decline rapidly. The Dutch organization of critical scientists, some of whom were involved in the Pugwash movement, was the most important oppositional force, but a popular movement, like the Easter Marches in Germany and Britain, did not emerge. A pacifist party, founded in 1957, gained 2 seats (out of 150) in the parliamentary elections of 1959, and 4 in those of 1962. In January 1961, some 1000 people participated in a demonstration in Amsterdam. Subsequent demonstrations never drew more than a few thousand people.

This lukewarm response did not mean that the Dutch took a relaxed attitude toward nuclear weapons.¹⁰ On the contrary, there are indications of widespread fear throughout the period analyzed in this book.

At the end of 1945, 50 percent of the population, when asked by pollsters, expected another world war, and 32 percent expected it to break out within ten years. In 1948, after the Prague coup and during the Russian blockade of Berlin, these figures rose to 71 percent and 52 percent, respectively. Fears subsided a bit after 1948, but in 1951, government officials still spoke of a “fear neurosis” and “apathy” among the population, and in 1958, they spoke of a “latent mood of panic.” Sociological studies during the fifties noted a widespread sense of powerlessness. Most people felt they had no political influence at all, an attitude that was reinforced, of course, by the undemocratic attitude of governments and top bureaucrats, mentioned above. Events in international politics, such as the loss, in 1949, of the Indonesian colony under American pressure, and the Suez crisis, drove home the message that the Dutch government, let alone the public, was powerless in international politics.¹¹ Gerard Vermeulen, who during the fifties and sixties was one of the editors of *Panorama*, the magazine we will analyze in the next section, probably hit the mark when he reminisced about his readers, “the mass of people,” in 1973:

The mass of people is deluged daily by incoherent informations [*sic*], decisions of the government, war and peace, dramatic events, politics, people doing strange things—and these people believe that they cannot influence any of this . . . Someone who belongs to the masses is not part of history, because he is an unimportant zero in this society run by talented scientists, powerful bosses and free ranging madmen.¹²

Evidence such as this is too sketchy to reconstruct the thoughts and feelings of Dutch people of various ages and social strata. But a great deal of what these people saw and read in popular magazines and other print media has been preserved, and in a few cases, we even have some evidence of their reactions to this material. To these popular representations and public reactions we now turn.

Panorama

Panorama was the most popular of what were aptly called family magazines: weekly publications that entertained and instructed men, women, and children, and were mostly read in a family ambience.¹³ Before television became widespread in the Netherlands, in the course of the sixties, such magazines were many people’s “windows on the world.” Because *Panorama* tried to reach as many readers as possible, it shunned ideological commitments. With a print run of about

300,000, for a total population that grew from about 9 million to 11 million between 1947 and the early sixties, *Panorama* had a larger audience than any newspaper. Most readers were subscribers, and 40 percent of the copies were handed on to neighbors and friends, increasing the readership far beyond the print run. Besides serialized fiction, cartoons, puzzles, and reports on movie stars, disasters, and distant countries, *Panorama* reported regularly on technological innovations. Airplanes and air travel were particularly popular, but nuclear power, automation, spaceflight, and medical innovations were also covered.

Competition between *Panorama* and other illustrated magazines was fierce, which had two consequences. First, the magazine probably more or less reflected the moods and interests of a large part of the Dutch population. Second, the publishers had to cut costs, which apparently was partly done by taking over photographs, and sometimes entire articles, from foreign sources, to a much larger extent than other magazines analyzed in this book. *Panorama* used material not just from other illustrated magazines such as *Life*, *Picture Post*, and *Stern*, but from popular books as well. Sometimes it mentioned its sources, more often it did not. The result was that *Panorama* looked a bit like a cheaper version of its more famous foreign counterparts. But all this borrowing also gave it a slightly more international orientation. Other popular media used in the following analysis similarly looked across the borders when talking about nuclear technology.

The attention *Panorama* paid to nuclear themes was remarkably even over time and similar to that in other countries. Overall, there was a slight increase in the fifties and a more significant decrease during the sixties (see [appendix II, AII.6](#)).¹⁴ There were, however, considerable shifts in the subjects treated. During the first decade after the war, attention focused on military aspects: Hiroshima and Nagasaki, bomb tests, shelters, and so on. Civilian uses were occasionally mentioned, but from about 1955, these began to crowd out the military themes. From 1961, attention shifted to nuclear weapons again, as well as to the protest movement. The magazine therefore reflected more or less the pattern of public discussion and popular opinion described in the previous section. We will now take a closer look at the three periods suggested by this “attention pattern,” 1945–1955, 1955–1960, and 1960–1965. Besides *Panorama*, we will analyze a theatre play and some other literary works that reached a large audience, the exhibition *Het Atoom* (1957), reactions to the movie *On the Beach* (1959), and popular comics.

1946–1955: Crossroads and Cultural Lag

Panorama

The first postwar issue of *Panorama*, in June 1946, carried an extensive eyewitness account of the first nuclear test, which had taken place a year earlier. It was based upon articles by *New York Times* reporter William Laurence, the only journalist allowed to watch the test.¹⁵ The title of the story was “The Birth of a New Age,” and it set the tone for *Panorama’s* reporting on nuclear tests in subsequent years. Following Laurence, the writer elaborated on the stormy weather, the thunderbolts that seemed to be nature’s warning to man not to violate her most dangerous secret, and the frightening beauty of the explosion. The bomb was a triumph for the scientists, but nature had given its warning. A new age had started, and nobody knew what it would lead to. This image of ambivalent progress, heading toward doom or paradise, dominated the first ten years of *Panorama’s* reporting.

During the following years, *Panorama* devoted a few articles to Hiroshima and Nagasaki, with images of the two cities reduced to empty plains of rubble. The pictures of wounded and dying victims that appeared in 1952 in *Asahigraph* and *Life* (see the chapters by Utsumi and Zeman in this volume) were not published in *Panorama*, but in 1951 the magazine did publish the story of a former Dutch prisoner of war who had survived the Nagasaki attack. He described the blinding light of the explosion, the peeling off of his skin, the pain, the panic in the city, and people around him dying slowly and painfully.¹⁶ Usually, however, *Panorama* emphasized survival and renewal, and praised the Japanese for their energetic rebuilding of the cities and for their beautiful rituals of commemoration. Remarkably, the Japanese were never portrayed as the aggressors in a terrible war, only as victims and exemplary survivors.¹⁷ Pictures of “Hiroshima maidens,” Japanese women who had recovered from radiation disease in American hospitals and were about to marry or return home,¹⁸ underlined this optimistic message of recovery from even “the most complete destruction ever inflicted by human hands.”¹⁹

Panorama did not present an optimistic picture of the prospects of nuclear war, however. In November 1946, borrowing from *Life*, it described the coming of the “pushbutton war,” in which an attack would automatically be answered by a counterattack, carried out by electronically guided ships, airplanes, and missiles. All American and European cities would be destroyed within 24 hours.²⁰ Two years later, two pages of cartoons spelled out the inevitable spread of nuclear weapons, the impossibility of defense, the instability of a situation in

which several countries could cause massive destruction, and the only realistic solution: an international regime banning nuclear arms—the “one world” message proclaimed by nuclear scientists in the United States in the spring of 1946.²¹ In 1950, shortly after Eisenhower had announced the development of hydrogen bombs, *Panorama* published a photomontage showing a nuclear explosion in the middle of Amsterdam, and a brief description of the damage an atomic or a thermonuclear weapon would cause: one hydrogen bomb would erase the city and cause destruction in the rest of the country.²² The argument following this scenario, that no aggressor would use these weapons, considering the terrible effects of the counterattack that would inevitably follow, did not sound very reassuring. Similar articles, with a similar illustration, had, by the way, already appeared in *Life*, *Picture Post*, and *Stern*.

Panorama carefully avoided a political analysis of the military and political interests and maneuvering involved in the nuclear arms race. It preferred to present the problem as something that had happened to “mankind,” which now stood “at the crossroads.” Technological progress had run ahead of ethical progress (an old argument, called “cultural lag” by the American sociologist William Ogburn), so the task at hand was for mankind to create some kind of international regime for keeping the atom under control.²³

The Atom on Stage

On October 1, 1949, a few weeks after the world learned about the first Russian atomic test, the play *De wereld heeft geen wachtkamer* (*The world has no waiting room*) by the Dutch writer Maurits Dekker had its opening performance.²⁴ Within less than a year, it had been staged more than a hundred times to enthusiastic publics—very unusual for a work by a contemporary Dutch author. The play tells the story of a group of American nuclear scientists who have just discovered a new fissionable material, which is much more powerful than plutonium. A conflict develops between the head of the lab and his son and collaborator, who has increasing moral misgivings about the military uses of the group’s scientific work. He tries to persuade his father not to hand over the report on the new material to the state (personified in a general). His father answers that since the state pays for the research, it has the right to the results, and that scientists should leave political and military decisions to the authorities. The turning point comes when the cadmium regulators in the research reactor get stuck and heat starts to build up. The son prevents an explosion by entering

the inner part of the reactor and inserting the rods with his bare hands, knowing that he will receive a deadly dose of radiation. While his son lies dying, the father changes his mind: he refuses to hand over the report and is arrested.

Several critics pointed out the literary weaknesses of the play, which put well-worn arguments, phrased in bookish language, into the mouths of rather flat characters, but the “frenetic” enthusiasm of the public showed that Dekker had lent expression to thoughts that were on many people’s minds. Some ideas that would be elaborated ten years later, with the rise of the antinuclear movement, were already clearly expressed here. First, distrust in scientists and the military-academic complex. The leader of the lab was portrayed as a brilliant but irresponsible, childlike person, a view expressed both by the general and the professor’s housemaid, an elderly woman. The latter exclaims, when someone says that no one can be sure if the young man will survive, “Good heavens, they are not sure. And then they happily mess around with that dangerous stinking stuff! They should lock you up, all of you!”²⁵ She also has noticed how the militarization of science has changed the atmosphere among scientists: “No longer do the students come, who laugh and make fun, but bigwigs in uniform, who have secrets and suddenly shut up when you enter the room. Your father has become a different man. No friendly words come from him anymore, he hardly eats and at night he paces his room and swallows tablets because he cannot sleep. What for? Why don’t people simply live?”²⁶ A second feature is a strong sense of powerlessness. While the young man lies dying, the sound of the factory horn is heard in the distance, and he is well aware that he has not only saved the lives of thousands of people, but also the bomb producing facility. One of the engineers expresses the cynical conclusion: the world is a carousel that you cannot get off, even if it makes you sick. In the preface of the novella version of the play, the well-known church minister Buskes wondered, “What can a single human being do?” Being part of a huge machine that moves on inexorably creates a feeling of paralysis, he observed, and the sense of responsibility erodes. He argued that the play was a protest against this fatalism, because it demonstrated the possibility to say no—an answer echoing the then fashionable existentialism, but which evaded the cynicism of the engineer and the sound of the factory horn.²⁷ Third, the play foreshadowed the social structure of the opposition movement that emerged later: female common sense opposed to male scientific irresponsibility and militarism, and youth against an older corrupted generation—dichotomies that reasserted the old romantic criticism of a mechanistic, technocratic, male-dominated, and, ultimately, destructive culture.²⁸

Comics

Unlike Maurits Dekker (and Harry Mulisch, whose work will be discussed in the next section), most Dutch literary writers were not interested in problems of technology and politics, but tended to focus upon the personal and psychological. In popular comic books, the case was opposite: here new technologies often propelled the story, much like magic devices in fairy tales. Such stories add to our understanding of contemporary hopes and fears because, like all works of the imagination, they allow for a freer exploration of thought and feeling than discursive texts do. While Dekker remained close to rational discourse, some comics were probing deeper waters.

The foremost example is Marten Toonder's very popular "Tom Poes" series, about a lovable but vain and naive gentleman-bear called Bommel, who plunges himself and the world around him into dangerous adventures, and his levelheaded friend the cat Tom Poes, who avoids danger, but when called upon is a brave and brilliant last-minute defuser of explosive situations. Toonder's stories appeared in about 50 national and local newspapers, as well as in several illustrated magazines. The world of Bommel and Tom Poes included two natural scientists: Professor Prlwytzkowsky, leader of the government laboratory and university professor, an enthusiastic but rather unimaginative and socially inept man, and the brilliant but malicious Sickbock, a freelance researcher, who for undisclosed reasons has been excluded from the university. He bears the world, and academia in particular, a terrible grudge. These men have a kind of counterpart in the dwarf Kwetal (his name means something like "Know-it-all"), an eternal inventor who lives underground.

Kwetal made his debut in Toonder's most searching story of these years, "Kwetal de breinbaas" (1950). In this story, he has invented a "dimension siphon," which by means of invisible rays can make things disappear into the fourth dimension. He gives the machine to Bommel, after having demonstrated its efficacy by making Tom Poes' cottage disappear. Bommel shows it to Professor Prlwytzkowsky, who is so impressed that he wants to get Bommel an honorary degree. But Sickbock intervenes to show that Bommel is an impostor. With the help of Kwetal, Sickbock develops an even more powerful dimension siphon. In front of a curious crowd of professors, he is about to siphon the whole city off to the fourth dimension, but Tom Poes prevents this with a complicated trick. The machine explodes and the dwarf falls into the crater that Tom Poes quickly fills with stones, locking Kwetal up underground, where he has come from. Bommel is angry about having missed out on his doctorate, but Tom Poes shows him an

article on the hydrogen bomb (which Truman had announced shortly before the story appeared) in the newspaper and tells his friend that Kwetal's invention was very similar. In the end, everyone is happy that the world has been saved from such a terrible thing.

The figure of Kwetal is the key to understanding Toonder's view of technology. The dwarf is thousands of years old and he lives under the ground, where he experiments with the basic powers of nature. As his name implies, he is driven by a boundless desire to know as well as to invent and build new things. He differs from human scientists and engineers in three ways. First, he exhibits a total lack of vanity, being all too aware of the limits of what he calls his "thinkframe" confronted with the mysteries of the universe. Second, he has no thoughts of practical applications of his inventions: they are serious play. And third, as he does not inhabit the human world, Kwetal has no moral awareness. This explains why this courteous and humble figure has no scruples about siphoning off Tom Poes' little house and helping Sickbock construct his deadly machine. Kwetal represents the primal drive to know and to construct. The story shows what happens when this kind of brainpower is not connected with basic moral sense or is exploited by people driven by hatred or lust for power. Kwetal's superior intellect, connected with the basic forces of nature, is a strong metaphor of nuclear technology. In Toonder's view, such powers are better kept underground, both literally, as in the case of uranium, and metaphorically, in the sense of certain kinds of technical intelligence. The scene where Tom Poes shows Bommel the newspaper article about the hydrogen bomb clearly demonstrated to the reader that in the real world, nuclear science and technology will definitely remain above the ground: they cannot be "un-invented." As often in Toonder's stories, the ostensibly happy ending was in fact profoundly disturbing. Most comics did not display Toonder's profundity, but there are a few other comic stories in which dangerous inventions are "unmade" in the end.²⁹

During the first postwar decade, therefore, the destructive aspect of nuclear power was emphasized, and it was commonly framed in terms of the uneven development of science on the one hand, and morals and regulating institutions on the other. *Panorama* usually generalized this theme in terms of "mankind at the crossroads," probably in order to avoid political commitment. The fictional works personalized the problem, as the moral dilemma of science and scientists. Dekker's play and the comics made explicit some insights that are less visible in the magazine: the power of science over the minds of brainy people, usually but not necessarily men, luring them

away from common sense and decency, which is preserved by people outside this system—women usually, or the sexless but homey hero Tom Poes. Given the misbalance between the overwhelming power of nuclear energy and the interests of military and academic institutions on the one hand, and the weakness of human wisdom on the other, it is not surprising that Church Minister Buskes wrote of “a sense of complete powerlessness . . . We are simply ground to pieces between the cogwheels of world history,”³⁰ and that sociologists and government officials spoke of a dangerous “fear neurosis” and “apathy” among the population.

1955–1960: Peaceful Atom Tales, Spoiled by Radiation

By 1955, the nuclear arms race was in full swing, while peaceful applications were also being developed. As both roads were now travelled busily, the crossroads image had become obsolete. Western governments, the Dutch among them, started to propagate another narrative: one in which nuclear weapons were a fact of life, which would hopefully be tamed by diplomatic efforts, while at the same time the great promises of peaceful applications would be realized. Eisenhower set the tone in his powerful “Atoms for Peace” speech in December 1953, which was amplified and sent around the world in a massive propaganda campaign.

Panorama

Although *Panorama* had occasionally reported about peaceful, or not directly military, uses of nuclear technology from 1948, this theme became more prominent after 1954. Three long articles extolled the wonders of the atomic future. In 1955, *Panorama* predicted that in 50 years, food would be preserved by irradiation, homes would be heated by atomic power, airplanes and cars would have atom motors, and warm water would be pumped from the Pacific into the Arctic Ocean in order to create a friendlier climate there. Hunger would be eliminated and illnesses cured by radiotherapy.³¹ “Scientists,” the author said, “create the future in their labs,” again framing the theme in a way that allowed *Panorama* to sidestep problems of political choice.

While this article was simply naive, the other two were plain propaganda. In April 1959, the magazine published a translation of an interview with Edward Teller, from the American *This Week Magazine*, in which he propagated his “Plowshares” project: the use

of nuclear explosions for creating harbor basins, redirecting underground rivers in order to irrigate dry areas, and so on. The biblical name of the project suggested that “swords” would belong to the past now that science had turned nuclear explosions into “plowshares.”³² The other article was a report about the exhibition *Het Atoom*, organized by the city of Amsterdam and the local Chamber of Commerce at Schiphol airport in the summer of 1957.

***“The Atomic Age Is Far Ahead of Its Citizens”:
Exhibition Het Atoom, 1957***

According to its organizers, the exhibition’s main purpose was to create “a healthy public atmosphere” for the parliamentary debate on the government’s nuclear investment plan (discussed above), which was introduced a few weeks after the exhibition started.³³ Several top nuclear physicists were involved in the preparations and professor Aten of the University of Amsterdam wrote the script. The organizers emphasized that it was crucial to take away the public’s “unmotivated fears,” and to foster interest in the new technology among the young. In order to maintain its economic position in the world, the Netherlands needed “a reservoir of scientists and technicians.”³⁴

The exhibition’s carefully constructed rhetoric consisted of three stories, two historical and one scientific. The first historical tale sketched the development of energy use from prehistoric times to the present, with a tremendous growth in recent years. This would lead inevitably to the depletion of fossil fuels, poverty, and the collapse of civilization. The second story was the development of natural science, culminating in nuclear physics, which produced the only viable solution to this problem: nuclear energy. In addition to providing limitless energy, nuclear technologies would be applied in agriculture and medicine, creating an entirely new world. The third narrative explained the perfect safety of nuclear power by means of a rather thorough lesson in nuclear physics, culminating in a remarkable *non sequitur*: since nuclear energy was based on simple electrical phenomena that had been known for a long time, it was also simple to control.³⁵ Demonstrating the harmlessness of nuclear power was also the purpose of the exhibition’s main attraction: a working nuclear reactor, which afterward would be installed at the technical university in Delft. It was a so-called swimming pool reactor, the same type that had been exhibited at the Geneva conference in 1955. Visitors were invited to gaze into the concrete basin filled with water, in which the radiating uranium rods created a wonderful blue glow. Because

the rods were seven meters under water, no radiation could reach the visitors. Visibility and alleged simplicity were therefore presumed to dispel atomic power's aura of mystery and danger. "Under no conceivable circumstance can this reactor create dangerous situations," the guide assured visitors.

One room at the exhibition showed the history of flight, a topic quite unrelated to nuclear power, but very effective in illustrating how quickly a new technology could become a much-appreciated part of modern life. Fifty years from now, the visitors were told, we will realize that we were experiencing the beginning of the atomic age, just as the previous generation witnessed the beginning of the age of flight—a clever use of metonymy, transferring attributes of the much admired airplanes to nuclear technology.

In a glowing review of the exhibition, *Panorama* used even stronger rhetoric.³⁶ While the exhibition simply denied the dangers of radiation and completely ignored nuclear war, the magazine squarely confronted these fears. Echoing president Lilienthal of the American Atomic Energy Commission ten years earlier, the author said that nuclear power was as frightening as fire and electricity had appeared when they were just invented. Still we would not want to miss them now, and so it would go with nuclear power. "The atom is no longer the awful bomb . . . it is a power for peace, useful in your daily life and everyone else's. The atom is the world's fear, while it should be its pride." Science marched on: "Suddenly, there is a submarine fuelled by atomic energy, a city is lit up and a patient is cured by it." The small neutrons will bombard our lives and split our existences, *Panorama* said, boldly reversing these images of fear. "The atomic age is far ahead of its citizens," who are still the captives of anxiety. It was a pleasant variety of cultural lag: one only had to catch up with the times to enjoy the wonders of the new atomic age.

A remarkable aspect of both the exhibition and *Panorama's* report was the prominence of pretty young women in them. The poster for the exhibition did not show atomic airplanes or a shining white city, but simply a young lady looking back at us, with the text "A look into the future." Young women also dominated the photos in the *Panorama* article, admiring General Electric's "atomic kitchen," or listening to a young, male, white-coated scientist. Without archival material documenting why the organizers chose to feminize the atomic future in this way, we can only speculate, but remembering the role of the old lady in Dekker's theatre play discussed above, it seems obvious that the female presence had to refute the image of the atomic future as harsh, technocratic, and threateningly male.

Were visitors converted to this nuclear utopia? The organizers spoke of a huge success: 750,000 people had visited the exhibition, and hundreds of articles had appeared in newspapers and magazines, most of them copying the press releases prepared by their public relations department. But there are indications that not everyone was convinced. One of the 80 students who served as guides told a newspaper reporter that many visitors were curious about radiation and that the detectors that people working around the reactor were wearing on the lapels of their uniforms contradicted the message that there was no radiation hazard. A female journalist found the atmosphere chilling and the scientific explanations complicated: typically a men's world, she wrote. Another journalist sneered at the complete absence of references to hazards and nuclear weapons, the things that were most on people's minds. "As if we are fools," he wrote. He even noticed scorn in the laughing faces of departing visitors, and speculated that the effect of exhibition might be the opposite of what the organizers had intended.³⁷

Worrying about Radiation

While *Panorama* did its part spreading the message of the Peaceful Atom, this happy news was overshadowed by a continuous flood of articles and photographs in the same magazine that spelled out the dangers of radiation and subtly undermined the optimistic view. The main concern in the late fifties was with radiation. By simply documenting accidents with nuclear reactors and cases of radiation disease, *Panorama* not only blurred the distinction between peaceful ("safe") and military ("dangerous") applications that was the lynchpin of the Peaceful Atom rhetoric, but also undermined trust in the only people who really understood the new technologies, the nuclear physicists and engineers. As elsewhere, the Lucky Dragon incident in 1954 marked the beginning of an obsession with radiation in *Panorama*.

Radiotherapy seemed to be a perfect example of a peaceful and beneficial application of nuclear energy. Between 1950 and 1956, *Panorama* carried four articles on cancer treatment with radioactive isotopes. One article that appeared in 1955 and was taken from *Stern* was entirely positive. It reported on the successful treatment of a five-year-old girl in southern Germany who suffered from a brain tumor that threatened her eyes. The pictures contrasted the girl's large, innocent eyes with the determination and dedication of the doctors, who aimed their "peaceful atomic canon" at the tumor.³⁸ The other three articles also described the healing power of radiation,

but spoke about dangers as well. Pictures of protective concrete walls and doctors with goggles and heavy gloves gave radioactive treatment a sinister look (see [appendix I, AI.12](#)).³⁹ Radiation disease was a recurring theme from 1952.⁴⁰ *Panorama* described the sufferings and death of young women workers who during the twenties had applied radium to watches in a factory in New Jersey, the death of Los Alamos physicist Louis Slotin in 1946, the Japanese fishermen of the Lucky Dragon, the burial, in 1956, of Irène Joliot-Curie, the famous researcher who died from acute leukemia, an American physicist suffering from “neutron cataract” caused by radiation from a cyclotron, the treatment in a Paris hospital of five victims of radioactive contamination in a Yugoslavian research facility in 1958, the illness of a nuclear technician and his family in Houston in 1958, and the lives of the Japanese *hibakusha* (a long article by the famous journalist Robert Jungk in 1961).

One effect of these articles was that the authority of nuclear experts was undermined, which in turn damaged the status of everything nuclear: if even scientists contracted radiation disease, nuclear energy apparently was not as much under control as the authorities claimed. The erosion of trust is illustrated well in the account of the reactor accident in Windscale in northern England, in October 1957.⁴¹ *Panorama* told the story from the perspective of a farmer woman, Mrs. Hewitson, in the village of Calderbridge, close to the reactor. The people of Calderbridge were proud of the creamy, silent building, and when working on the land they waved to the guards. When a travelling salesman told them that plutonium for bombs was being made there, the reactor started to lose its innocence: “the men hurrying across the grounds were nuclear scientists—mysterious figures, who held the fate of humanity in their hands.” One evening, policemen came to tell the villagers to leave their homes. No explanation was provided, but they need not worry. Upon their return, however, they were told to dump their milk into the sea. A man who had helped extinguish the fire had fallen very ill. People lost faith in the authorities. The whiteness of the building, the milk, and the scientists’ coats no longer symbolized modern purity to Mrs. Hewitson: “the lily-white atomic center, silent like a graveyard by day and by night, frightens her.”

All these years, bomb tests continued and fear of nuclear fallout increased. *Panorama* reported on the Russell-Einstein manifesto (summer 1955) and the warnings of other prominent scientists on the effects of radiation.⁴² In December 1959, it published a long summary of the film *On the Beach*, which was to be shown the next year

in the Netherlands. The film depicted the extinction of humanity by radiation after a nuclear war.⁴³ The Dutch civil defense organization first tried to prevent the film from being shown in the Netherlands, and then sent a message to newspapers quoting anonymous scientists, who said that the film overrated the amount of radiation that would be released in a nuclear war. The organization said the film reinforced “alarmism and fatalism” among the population.⁴⁴ Some newspapers countered that the public had been misled by scientists before, and that doctor Albert Schweitzer had strongly recommended the film.⁴⁵

Thus, radiation thoroughly spoiled the story authorities had spun around the Peaceful Atom, by connecting the categories “peaceful—military,” which the government and some scientists tried so hard to distinguish. Nuclear energy was probably one of the first areas in which famous experts openly contradicted one another (e.g., Teller against Szilard and Pauling), or fell victim to the technology they worked with, leaving the public confused and scared.⁴⁶ *Panorama*, with no political program whatever and only exploiting popular sensationalism, therefore, contributed significantly to undermining the authority of scientists and public officials.

The Impossible Utopia: Edgar Jacobs’ and Toonder’s Comics

We find the same basic pessimism in popular comics. When *Panorama*’s editor imagined his readers’ view of the world as dominated by “talented scientists, powerful bosses and free ranging madmen,” he was practically describing the world of secret agent Blake and physicist Mortimer, the heroes in a Belgian comic strip that also appeared in a Dutch magazine. It was very popular among older schoolboys and young male adults. The madmen in these stories were often mad scientists and the bosses were totalitarian rulers, helped by gangsters. The two heroes defended the free world against their sinister schemes.

In *Lénigme de l’Atlantide* (*The riddle of Atlantis*, 1955), the free world is Atlantis, founded at the bottom of the Atlantic Ocean by scientists from ancient Greece after a natural disaster. Ruled “with knowledge and wisdom” by a cloaked and bearded king, it is a completely artificial, high-tech, and peaceful Athens, powered by radiation from a mineral mined in the region. Flying saucers provide transportation and survey mankind (the “terranians”), whose wars and stockpiling of nuclear weapons worry the Atlantides. Atlantis is attacked by brown-skinned “barbarians,” another submarine people, which tries to attain world domination. The Atlantides escape to the other end of the galaxy

in a fleet of spaceships, but before they do, the king's son tells Blake and Mortimer that mankind is on the threshold of a new age, full of brilliant possibilities. But happiness cannot be achieved by science and military power, but only by banning hatred and madness from one's heart: the old idea of neutral technology and cultural lag.⁴⁷

Toonder returned to the nuclear threat in *De spliterwt* (*The split pea*, 1957), in which he repeated the message that dangerous materials should be left underground, because they confer power that humans cannot handle. Jacobs' and Toonder's stories can be interpreted as comments upon the Peaceful Atom project. While Jacobs believed that powerful technologies could be used for the benefit of man, and that "powerful madmen" would always be resisted by the intelligent and morally upright, Toonder was much more pessimistic. His stories showed, again and again, that men would drop all moral scruples when tempted by power, and that the invention of tools conferring such power should therefore somehow be reversed—not a reassuring message in a world where "uninvention" does not happen.

1960–1965: Bombs Again, the Protest Movement, and Escape

After 1960, Peaceful Atom rhetoric disappeared from *Panorama* altogether. The frightening themes remained: radiation disease, radioactive pollution, bomb shelters, the new French atom bomb, and the prospect of further nuclear proliferation. Belatedly, *Panorama* also started to pay attention to the peace movement.

Atomic Attack and Civil Defense, 1960–1961

Ten years after the article about an atomic attack on Amsterdam, *Panorama* carried a similar picture of a nuclear explosion in the center of Rotterdam.⁴⁸ Opening with a description of the Hiroshima inferno by a Japanese survivor, the article then explained that in a war involving NATO, nuclear missiles would definitely be used. These weapons were fast and accurate and defense against them was impossible. The head of the civil defense organization in Rotterdam, interviewed in the article, stated that if a 10 megaton warhead struck the city, there would be no hope. But in the more likely event that a smaller weapon were used, his organization could help prevent much damage and suffering, provided that the population was well prepared and did not allow itself to be "paralyzed by fear."

A year later, September 1961, the civil defense organization distributed a booklet with the same message, which met with a very skeptical response from the Dutch population. Bart van der Boom, who has studied the Dutch civil defense organization and the public debate about it, argues that the Dutch people sensed the insincerity of the booklet, the aim of which was only to prevent a mood of fatalism. Van der Boom shows that from about 1955, the government and the top leaders of the civil defense organization were aware that in a war involving NATO, the Dutch population would very likely be wiped out by several thermonuclear bombs. Attempts to mitigate the suffering would be doomed, and civil defense was a deliberate lie, designed to keep up morale.⁴⁹ The novelist Harry Mulisch wrote a savage satire, using the Biblical Apocalypse story: *Hints for Judgment Day*,⁵⁰ in which he alternated descriptions of cruel death amid blood and fire from the *Book of Revelation* with suggestions for self-protection with pails of sand and ice cubes.

The Peace Movement

Given this widespread “sense of absolute powerlessness,”⁵¹ how did *Panorama* respond to the movement against nuclear tests that sprang up in the late fifties? *Panorama* clearly felt uncomfortable with the subject. Unlike the German magazine *Stern*, it apparently felt it could not ignore the movement, but as before, it wanted to avoid taking a political stand. The result was very inadequate reporting on the beginning of British movement, and no reporting at all about the Dutch and the German movements (perhaps *Panorama* ignored the German movement because there were no *Stern* articles to take over). In the late fifties, a few articles appeared on the Russell-Einstein manifesto and on the old British Quaker Harold Steele, who attempted to sail to Christmas Island in the Pacific where the British were to detonate their first hydrogen bomb in May 1957.⁵² But after 1960, the magazine published only photographs with captions, often with an aesthetic and ironic approach (e.g., showing the smallness of a demonstrator on an American submarine, or a pretty girl on Trafalgar Square with a cardboard bomb).

Nuclear Power as a Metonym: From a Sick Society to Paradise

A new tendency in the articles of the early sixties was to associate the dangers of radiation, or nuclear power more generally, with other

troubles of advanced Western societies. Radiation was only one of an increasing number of pollutants showering down with rain and snow, and threatening especially young children.⁵³ The threat remained after atmospheric testing had stopped in 1962: reactors, research labs, and hospitals all dumped their radioactive waste into the rivers and the sea, demonstrating, again, that in this respect there was no fundamental difference between military and nonmilitary applications. *Panorama* started to publish stories about “Robinsons of the atomic age,” young people escaping “civilization,” with its scheming politicians, the threat of war, and atom bombs, to settle on some tropical island, where they could “start anew.”⁵⁴ Nuclear power had become a metonym of a sick society, feeding fantasies of escape.

These articles demonstrate the final demise of the opposition that had ruled the discourse on nuclear power ever since Hiroshima and Nagasaki: that there was a choice between military and peaceful uses, between destruction and progress toward a better world. In December 1961, a few months after the civil defense booklet, *Panorama* noted that most people were resigned to the possibility of nuclear war and the impossibility of defense.⁵⁵ It quoted a man in an Amsterdam tram, “where the voice of the people can be heard as it can be nowhere else,” who said that there was only one possibility of survival: get away. Progress was no longer problematical, it was reversed: the young “Robinsons” returned toward an age of innocence. Pictures of their tropical island showed large, peaceful, antediluvian looking lizards in the sun. Even the sharks, it was claimed, were harmless there.

Conclusions

The predominant image of nuclear technology in Dutch popular media was a very bleak one. The horrors of Hiroshima and Nagasaki were told and retold throughout the period. Most of the time, *Panorama* was not optimistic about chances of survival in a nuclear war, in spite of civil defense propaganda. Other sources we have examined were still more pessimistic. In the immediate postwar years, the discourse on nuclear power was structured in the way many great innovations in the past had been talked about: as neutral instruments, products of the progress of human ingenuity, to be used for good or bad purposes. Mankind tended to produce its instruments before developing a sense of how to use them constructively, with the consequence that there always was a “cultural lag” to be bridged. A related image of those early years was the fork in the road: “mankind” could chose between war and peace.

In the mid-fifties, the government and nuclear physicists started to propagate the prospect of a bright atomic future, in the slipstream of the American Peaceful Atom initiative. In its more exaggerated forms, the optimistic narratives suggested that nuclear arms would be replaced by peaceful applications. This narrative of progress contained a double threat as a subtext: without nuclear power, civilization would collapse from a lack of energy sources; and in the race between nations, a country without nuclear technology would be “like a sailing vessel in the age of steam ships,” as one article said. Fears of radiation were countered with the argument that it was an essentially simple phenomenon that was under complete control of the scientists.

It is unlikely that this strategy was successful. The lapidary evidence we have of reactions to the exhibition suggests that fears of radiation were difficult to overcome. Popular media such as *Panorama*, comics, and a few widely read literary works all reinforced these fears. *Panorama* did not do this intentionally, or because of a political point of view, but because radiation disease and nuclear disasters simply made good voyeuristic copy. Sophisticated authors with a wide audience such as Toonder, Dekker, and Mulisch were all very pessimistic, and less profound writers such as Jacobs did not cheer up their readers either. One reason for this pessimism was that bomb tests and the Cold War crises (Suez, Berlin, and Cuba) kept fears of a sudden outbreak of the final war alive. Another was that even peaceful applications were clearly shown to be dangerous. The fact that scientists often disagreed, and that several of them fell victim of radiation disease, undermined trust in these experts and in their works. By the early sixties, the hope that progress toward an abundant atomic future was an option seems to have disappeared altogether. Nuclear power had become one of the symptoms of a lethal sickness of Western society.

Notes

1. The best known example is Jaap Kistemaker's work on ultracentrifuges.
2. J. A. Goedkoop, *Geschiedenis van de Noors-Nederlandse samenwerking op het gebied van de kernenergie* ('s-Gravenhage: Reactor Centrum Nederland, 1968); J. A. Goedkoop, *Een kernreactor bouwen. Geschiedenis van de Stichting Energieonderzoek Centrum Nederland. Deel 1: periode 1945–1962* (Bergen: Beta Text, 1995); J. van Splunter, *Kernsplijting en diplomatie. De Nederlandse politiek ten aanzien van de vreedzame toepassing van kernenergie, 1939–1957* (A'dam, dissertation political science, 1993); A. Lagaaij, G. Verbong, *Kerntechniek in Nederland 1945–1974* (Den Haag, Eindhoven: Kivi, SHT, 1998).

3. Noord-Hollands Archief Haarlem, archief Kamer van Koophandel Amsterdam, nr 13, J. M. W. Milatz, W. J. Beekman, "Korte inleiding tot en korte samenvatting van het FOM-plan tot bouw van een reactorcentrum in Nederland," s.d.s.a.
4. Zijlstra cited in Goedkoop, *Een kernreactor bouwen*, 49.
5. Gemeentearchief Amsterdam, archief Internationale Tentoonstelling Het Atoom, toegangsnummer 259, nr 144, "A Summary of the Memorandum on Atomic Energy Which the Netherlands Minister of Economic Affairs Presented to the States-General on 4th July 1957"; *Achtste nota inzake de industrialisatie van Nederland* (Den Haag, 1963), 43; W. J. Dercksen, *Industrialisatiepolitiek rondom de jaren vijftig* (Assen, Maastricht: Van Gorcum, 1986), 203.
6. J. P. Smits, B. P. A. Gales, "Olie en gas," in J. W. Schot (red), *Techniek in Nederland in de twintigste eeuw*, Volume II (Zutphen: Walburg Pers, 2000), 67–89.
7. Lagaay, Verbong, *Kerntechniek*, 41.
8. Bart van der Boom, *Atoomgevaar? Dan zeker B. B. De geschiedenis van de Bescherming Bevolking* (Den Haag: Sdu Uitgevers, 2000), 12–17; Van Splunter, *Kernsplijting*, chapter 3; M. G. Bongers, *De politieke en maatschappelijke acceptatie van het atoomwapen in de periode 1945–1960* (Utrecht: Wetenschapswinkel Letteren, 1991).
9. Van der Boom, *Atoomgevaar?*, 106; Ph. P. Everts, "Het maatschappelijk verzet tegen de kernbepapening: "Ban de Bom,"" in *Indeschaduw van de muur. Maatschappij en krijgsmacht rond 1960*, ed. B. Schoenmaker and J. A. M. M. Janssen, (Den Haag: Sdu Uitgevers, 1997), 100–115; B. J. Brouwer, *Er zijn tenslotte grenzen: de Nederlandse kerken en het vraagstuk van de moderne oorlog 1945–1965* (Kampen: Kok, 1993).
10. Van der Boom, *Atoomgevaar?*, 26–27, 56, 221; "Morale" in the Netherlands and five other countries was measured by pollsters commissioned by the CIA. See Roosevelt Study Center, Middelburg, Record Group 469 (Marshall Plan), reel 7, nr 405, "European Morale Survey," spring 1951, commissioned by the CIA; Nederlands Instituut voor de Publieke Opinie, Bericht nr. 772 (March 21, 1960); J. Goudsblom, *De nieuwe volwassenen. Een enquête onder jongeren van 18 tot 30 jaar* (Amsterdam: Querido, 1959), chapters X, XII, and XIII, and the tables pp. 175, 178, 183–185. P. Valkenburgh, *Mensen in de koude oorlog: sociologische bijdrage tot onze kennis van internationaal-politieke conflictsituaties* (Meppel: Boom, 1964), 230.
11. H. Daalder, *Politisering en lijdelijkheid in de Nederlandse politiek* (Assen: Van Gorcum, 1974), 12–18, 26–28; A. Lijphart, *Verzuiling, pacificatie en kentering in de Nederlandse politiek* (Amsterdam: De Bussy, 1979), chapter 9.
12. Introduction by Gerard Vermeulen in L. de Vries, *Panorama. Een fascinerende selectie uit de jaargangen 1913–1973* (Laren: Skarabee, 1972), 5–6.

13. On the readership of *Panorama* and other popular magazines: *Enquête voorjaar 1949. Publiekstijdschriften. 1949*, Publicatie nr 1 of the Documentatiebureau Tijdschriftenwezen der Nederlandse Organisatie van Tijdschriftuitgevers; NIPO, *Rapport betreffende het onderzoek naar de betekenis als advertentiemediën van dagbladen en tijdschriften verspreid in Amsterdam* (Amsterdam: Nederlands Instituut voor de Publieke Opinie, juli, 1952); *De Spiegel—Panorama—Katholieke Illustratie. Documentatiegegevens* (Haarlem, Wageningen [1961]); Attwood Statistics, *Revue: lezerskringonderzoek. Algemene analyse van de lezerskring* (Amsterdam: De Geïllustreerde Pers, 1961); NIPO, *Op bezoek bij de abonnees van Panorama / Katholieke Illustratie* (Amsterdam: NIPO, 1961); Nederlandse Stichting voor Statistiek, *De onbekende markt. Prad Twieneronderzoek* (Amsterdam: Prad n.v., 1967); Nederlandse Stichting voor Statistiek, *Tijdschriftenlezerskringonderzoek Nederland 1967*, 2 Volumes (s.l., Bonaventura en five other publishers, 1970). Algemene Bank Nederland, *De uitgeverij in Nederland. B. Tijdschriften* (Amsterdam: Algemene Bank Nederland, 1970). See also: J. Hemels, R. Vegt, *Het geïllustreerde tijdschrift in Nederland. Bibliografie*, Deel 2: 1945–1995 band B (Amsterdam: Cramwinckel, 1997), 847, 933, 983; G. -J. Johannes, M. Cohen de Lara, *Van Haarlem naar Manhattan. Veertig jaar VNU 1965–2005. Een uitgeverij in de lage landen wordt internationaal informatie- en mediaconcern* (Amsterdam: Boom, 2005), 31; E. M. van den Brink, *Economische structuur en ontwikkeling van de informatiemediën in Nederland, 1938–1985* (Leiden: Stenfert Kroese, 1987), 440. Documents on *Panorama's* editorial policy are only scantily preserved. See the market analyses of the sixties and the editor in chief's discussions with the commercial managers of the publisher in Noord-Hollands Archief Haarlem, Archief Drukkerij De Spaarnestad, box 4: files on editors Stuifbergen en Vermeulen; box31: files on *Panorama*.
14. The lower figures for the early years are accounted for by the fact that at that time the magazine was much thinner and appeared only every two weeks. It became a weekly magazine in August 1948. For the sixties, the opposite applies: A fatter magazine with decreasing attention to nuclear, as well as other technological themes. The high figure for 1961 is caused mainly by photographs of the antinuclear movement.
15. Laurence's articles were collected in W. L. Laurence, *Dawn Over Zero. The Story of the Atomic Bomb* (New York: Knopf, 1946). See especially chapters 1 and 13. See also Zeman's chapter in this volume.
16. *Panorama*, March 16, 1951, 19.
17. *Panorama*, November 9, 1951, 20–21; similar in *Panorama*, August 6, 1955, 40–42.
18. *Panorama*, December 25, 1953, 33; June 30, 1956, 30.
19. *Panorama*, November 9, 1951, 20–21.

20. *Panorama*, November 8 1946, 6–7. The author also speaks of poison gases. Another article on guided missiles and the prospect of a “pushbutton war”: *Panorama*, November 21, 1952, 28–29.
21. *Panorama*, November 25, 1948, 12–13. On “one world,” cf. Zeman’s and the final chapter in this volume.
22. *Panorama*, March 3, 1950, 20–21.
23. J. H. J. van der Pot, *Steward or Sorcerer’s Apprentice: The Evaluation of Technical Progress: A Systematic Overview of Theories and Opinions* (Delft: Eburon, 1994), 772–789.
24. Maurits Dekker, *De wereld heeft geen wachtkamer. Toneelspel in drie bedrijven* (Hoorn: West-Friesland, 1949). See also the eponymous novella (Amsterdam: Het Wereldvenster 1950). I have used the file on *De wereld heeft geen wachtkamer* at the Theater Instituut Nederland, Amsterdam, containing clippings of about 110 reviews from several Dutch newspapers.
25. Dekker, *De wereld heeft geen wachtkamer*, play version, 49–50.
26. *Ibid.*, 38–39.
27. Dekker, *De wereld heeft geen wachtkamer*, novella-version, 10–12.
28. On the social composition of the antinuclear movement see L. S. Wittner, *The Struggle against the Bomb, Volume 2: Resisting the Bomb: A History of the World Nuclear Disarmament Movement 1954–1970* (Stanford, CA: Stanford University Press, 1997), 299, 464. On women in the antinuclear movement and gender symbolism, see also S. R. Weart, *Nuclear Fear. A History of Images* (Cambridge, MA: Harvard University Press, 1988), 202, 245, 348–351, 367.
29. Examples of very popular comics with this theme: Willy Vandersteen, *Suske en Wiske: Het Sprietatoom* (Antwerpen: Standaard Uitgeverij, 1948); E. Jacobs, *Blake en Mortimer: Het geheim van de zwaardvis* (Brussel: uitgeverij Blake en Mortimer 2003, First edition 1946); Marten Toonder, “De atoomtrillingen,” in *Ons Vrije Nederland*, September 22, 1945–August, 3, 1946. Thanks to my colleague Hein Klemann for calling the latter story to my attention.
30. In Dekker, *De wereld heeft geen wachtkamer*, novella version, 9.
31. *Panorama*, November 12, 1955, 32–34.
32. *Panorama*, April 25, 1959, 12–15.
33. The following is based upon the archive of the exhibition at the Amsterdam Municipal Archives. Especially useful were the exhibition’s official guide booklet; the report made up after the exhibition closed: inventarisnummer 144: “Verslag van de Stichting Internationale Tentoonstelling Het Atoom, Amsterdam, Schiphol 28 juni–16 september 1957”; and inventarisnummers 150–155: five albums containing newspaper clippings. The preparation of the exhibition can be traced in the archive of the Amsterdam Chamber of Commerce: Noord-Hollands Archief Haarlem, Toegangsnummer 453, Inventarisnummer 1213, Dossier 796D.

34. Noord-Hollands Archief Haarlem, archive of the Amsterdam Chamber of Commerce, Dossier 796D, speech by Delprat at the opening of the exhibition, June 28, 1957; Speech by socialist delegate Den Uyl in Amsterdam municipal council, *Gemeentebblad Amsterdam*, 1956 afdeling 2, 475–505.
35. Amsterdam Municipal Archives, archive of Het Atoom, inventarisnummer 144 B, “Handleiding voor de rondleiders.”
36. *Panorama*, August 10, 1957, 20–23.
37. These reactions are from newspaper clippings on Het Atoom at the Municipal Archives in Amsterdam. *Het Parool*, July 2, 1957; *Kennemerland*, July 20, 1957; *Katholieke Illustratie* August 27, 1957.
38. *Panorama*, March 19, 1955, 2–3.
39. *Panorama*, October 6, 1950, 2–3; June 15, 1951, 26; December 15, 1956, 28–29.
40. *Panorama*, December 5, 1952, 12–13; May 1, 1954, 19–21; April 7, 1956, 30; November 24, 1956, 15–19 (taken over from *The New Yorker*); January 11, 1958, 24–27; June 11, 1960, 29–31; September 30, 1961, 51–54; October 7, 1961, 15–19.
41. *Panorama*, November 30, 1957, 24–27. Compare the report in *Panorama*, July 7, 1956, 20–21, on a similar but less serious accident in Chalk River in Canada, that occurred in December 1952.
42. *Panorama*, February 2, 1957, 18–19; June 15, 1957, 30–31.
43. I have used the newspaper clippings on the film at Filmmuseum Amsterdam. *Algemeen Handelsblad*, December 17, 1959, on the reasons why the film at first was not shown in the Netherlands.
44. *Algemeen Handelsblad*, December 17, 1959; *De Waarheid*, December 19, 1959, *Algemeen Handelsblad*, March 5, 1960.
45. *Haagsche Courant*, February 27, 1960; *Telegraaf*, March 5, 1960.
46. Cf. *Panorama*, December 5, 1952, the article on the “radium girls,” mentioned in note 40, who were misinformed by doctors who wanted to calm them; and December 23, 1961, 52: anonymous open letter to scientists, complaining of their contradictory pronouncements on radiation and several other hazards, such as smoking and artificial fertilizers. “Radioactive fallout is dangerous or it is not. As laymen, we cannot judge. If we are to arrive at a reasonable insight into this, we are entirely dependent upon people who are supposed to be able to know. We are sorry to say this, scientists, but if you go about things like this, we will lose confidence in your competence!”
47. See also Jacobs’ *Le piège diabolique* (*The diabolic snare*, 1962), in which a totalitarian regime using advanced weapons and mind control technology is miraculously overthrown.
48. *Panorama*, February, 6, 1960, 14–17.
49. Van der Boom, *Atoomgevaar?* 116, 209–211; Valkenburgh, *Mensen in de Koude Oorlog*, 231.

50. H. Mulisch, *Wenken voor de jongste dag* (Amsterdam: De Bezige Bij, 1967, First edition 1961). See also his short absurdist play “De knop” in the same volume.
51. In the same article on the attack on Rotterdam, *Panorama*, February 6, 1960, 14–17.
52. *Panorama*, February 2, 1957, 18–19; June 15, 1957, 30–31.
53. *Panorama*, August 7, 1965, 16–17; cf. October 8, 1960, 23–25.
54. *Panorama*, October 8, 1960, 23–25; December 16, 1961, 23–26; May 26, 1962, 40–42; April 6, 1963, 27.
55. Van der Boom, who has studied reactions to the brochure, argues that most Dutch people ignored the advice, because they did not believe that the promise of a chance of survival was realistic. See B. van der Boom, “‘Een atoomexplosie kunt u herkennen aan een zeer felle lichtflits.’ De *Wenken voor de bescherming van uw gezin en uzelf*,” in *In de schaduw van de Muur. Maatschappij en krijgsmacht rond 1960*, ed. B. Schoenmaker and J. A. M. M. Janssen (Den Haag: Sdu Uitgevers, 1997), 148–151.

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Chapter 7

Nuclear Power Plants in “The Only A-bombed Country”: Images of Nuclear Power and the Nation’s Changing Self-portrait in Postwar Japan*

Hirofumi Utsumi

The Great Divide: Atoms for Peace and Atoms for War

The Japanese government conducted the first public-opinion poll on the utilization of nuclear power in 1968. It was significant in two aspects.¹ First, by emphasizing the difference between military and nonmilitary uses, it had the plainly propagandistic aim to state the potential and safety of peaceful nuclear technologies. Second, the outcome showed two tendencies. Approximately 70 percent of the respondents associated nuclear power not with “peaceful use” but with fear of “atomic and hydrogen bombs, Hiroshima and Nagasaki, or war”; also, almost 70 percent approved of promotion of “nuclear energy for peaceful use,” even though they distrusted the safety of nuclear power plants and felt some anxiety about radiation. The former tendency indicated that a majority of the Japanese people in the mid-1960s had a negative image of nuclear technology for military use; the latter showed that most had a positive image of peaceful uses, in spite of some doubts and fears. These attitudes persisted until quite recently. In a poll conducted by Nippon Hoso Kyokai (Japan Broadcasting Corporation) in 2010, almost 80 percent of the respondents opposed both the possession and the use of nuclear weapons.² In another poll taken by the government in 2009, nearly 80 percent expressed their approval of promoting or maintaining production of nuclear electric power.³

How are we to interpret these two attitudes toward nuclear technologies? Do they contradict each other, or is there some sort of coherence connecting them? The purpose of this chapter is to find answers

to these questions by analyzing the transformation of Japanese popular images of nuclear power between 1945 and 1965. My main source for this purpose is a Japanese weekly illustrated magazine, *Asahi Gurafu* (*Asahigraph*). This magazine was not only “one of the most popular illustrated magazines in Japan,”⁴ but also the first mass medium to publish a series of visual images of the damage caused by atomic bombs in Hiroshima and Nagasaki. In addition to the magazine, I will use some popular fictional media such as manga, animation, and cinema that also played an important role in diffusing images of the atom.

The following analysis differs from the mainstream of Japanese research on nuclear technologies in two respects. First, rather than limiting the inquiry to either nuclear weapons or nuclear reactors—as is usually done—I deal with images of all nuclear technologies. Second, this chapter will relate these images to national self-images. In most studies, the concept of the nation is not analyzed, but regarded as a self-evident background. I will argue that the national self-portrait changed, and served as a framework that made the above-mentioned divided climate of opinion both possible and coherent.

A Short History of *Asahigraph*

The history of modern Japanese magazines goes back to 1867, and in the 1920s, this medium entered its golden age. Published for the first time by the Asahi Shimbun Company in January 1923, *Asahigraph* was modeled after *The Daily Mirror* in Britain, and *The Daily News* and *Mid-Week Pictorial* in the United States.⁵ After a temporary suspension caused by the Great Kanto Earthquake, *Asahigraph* was restarted as a weekly illustrated magazine in November 1923. The magazine groped for its own style, eventually creating a hybrid of the Western and the Japanese, printing photographs about subjects ranging from national elections and sports to modern women, and carrying an array of comic strips, such as the American “Bringing Up Father” by George McManus. The magazine is credited with having “established the foundation of modern illustrated journalism in Japan.”⁶

The beginning of the Second Sino-Japanese War in 1937 boosted *Asahigraph*'s role as a news-reporting medium. Due to its high popular appeal and profit rate, it became one of the most important print media for the Asahi Shimbun Company, and gradually turned into a propaganda journal, a “poster promoting the holy war.”⁷ And while many print media disappeared during the war, *Asahigraph* stayed on until the very end.

After the Second World War, *Asahigraph* changed dramatically once more. Distancing itself from its propagandistic wartime performance, it summarized its new editorial policy with the slogans “criticism and entertainment,” and “satire, wittiness, irony, parody, and humor.”⁸ By introducing multicolored printing, increasing the number of pages, and also publishing news from abroad, *Asahigraph* survived the “weekly magazine boom” of the 1950s as well as the advent of television in the late 1950s, and became “the champion of periodical (illustrated) magazines.”⁹ It had a circulation of over a hundred thousand. The special issue about the Tokyo Olympic in 1964 even had a print run of over 1 million.¹⁰

Although it is difficult to specify what sort of people read *Asahigraph*, generally speaking, “Weekly illustrated magazines were standard fare in the waiting rooms of banks and dentists.”¹¹ Therefore, its readership must have far exceeded its fairly modest print run. *Asahigraph* was not read by any specific social stratum. It tried to avoid extreme points of view, and therefore can be regarded as more or less reflecting the opinions of the general public.

Nuclear Technology in *Asahigraph* 1945–1965: General Tendencies

From the end of Second World War to the end of 1965, 1,041 issues of *Asahigraph* appeared. Of these, 188 issues contained in all 281 items on nuclear matters, including reports, photographs, and cartoons.¹²

The graph in [appendix II](#) (see [appendix II, AII.7](#)) shows the change over time of the number of items appearing in *Asahigraph* on the themes on which this volume focuses: Hiroshima and Nagasaki (79 articles), military use of nuclear power (110 articles), nonmilitary use of nuclear power (59 articles), and protests against nuclear power (30 articles). Three articles do not fit in any of these categories: they were about subjects such as fireworks or a beauty contest, and used nuclear images metaphorically.

As the graph indicates, the number of items increased dramatically after 1952, when the San Francisco Peace Treaty restoring Japan to full national sovereignty was enacted. With respect to the themes just mentioned, the following four tendencies may be discerned:

- The theme of Hiroshima and Nagasaki followed a path similar to nuclear weapons in the 1950s, but in the middle of the 1960s, it soared, breaking apart from its prior connection with war.

- Not a single article presented military uses in an affirmative light, except for a small number appearing during the occupation period. The theme has three marked peaks, in 1952, 1954, and the late 1950s.
- However, there were no articles expressing a negative attitude toward peaceful uses of nuclear technology. For example, there were no articles at all covering accidents with nuclear reactors in Chalk River in 1952 and Windscale in 1957. The peak of this theme was in the late 1950s.
- Protest against nuclear power was, therefore, always directed against military applications. This topic peaked in the late 1950s.

From Defeated Aggressor to Victimized Nation, 1945–1954

The atomic bombings of Hiroshima and Nagasaki on August 6 and 9, 1945, were reported by Japanese newspapers right after they occurred. The articles described the destruction of the cities in a second, killing many “innocent people,” and criticized the “new bombs” for their cruelty. Emperor Hirohito’s announcement on radio of his acceptance of the Potsdam Declaration on August 15, 1945, which ended the war, referred to atomic bombs in a similar vein. “The enemy has begun to employ a new and most cruel bomb, the power of which to do damage is, indeed, incalculable, taking the toll of many innocent lives.” Two weeks later, on August 25, *Asahigraph* also carried articles on the Emperor’s speech, accompanied by photos of the devastated Hiroshima.

During the occupation by the Allied Nations from August 1945 to April 1952, the number of newspaper reports on the atomic bombings decreased. Partly, this was because of the press code imposed by General Headquarters, the Supreme Commander for the Allied Powers (GHQ/SCAP), but even after the dissolution of GHQ/SCAP’s Civil Censorship Detachment in 1949, self-censorship by Japanese mass media and the government continued to prevent the information from spreading.¹³ A rare exception is the publication in 1946 of five photos of Hiroshima, taken right after the bombing by Yoshito Matsushige for the local newspaper *Yukan Hiroshima* (*Evening Paper of Hiroshima*); the same photos were later carried in *Life* in 1952, together with photos taken by Yosuke Yamahata in Nagasaki.¹⁴

During the occupation period, the general public was informed about the atomic bombings mainly by individuals, especially the surviving

atomic bomb victims, *hibakusha*.¹⁵ Without even knowing what the clouds they saw on those days in August 1945 were, they retrospectively tried to discover the meanings of their experiences and coin expressions to describe them, making public statements even though they often felt as if they were risking their lives in doing so. Among those who published valuable documents about their experiences were poets, such as Sankichi Toge, *Genbaku Shishu* (Atomic Bomb Poems, 1951); writers, such as Yoko Ota, *Shikabane no Machi* (The City of Corpses, 1948) and Toyofumi Ogura, *Zetsugo no Kiroku* (Letters from the End of the World, 1948); journalists, such as John Hersey, *Hiroshima* (translated into Japanese in 1949); educationalists, such as Arata Osada, *Genbaku no Ko* (Children of Hiroshima, 1951); and physicians, such as Takashi Nagai, *Nagasaki no Kane* (The Bells of Nagasaki, 1949). Drawings and illustrated books, for example, by Iri and Toshi Maruki (*Toshiko Akamatsu, Genbaku no Zu* [The Hiroshima Panels]; *Pikadon*, 1950) were also published.

Besides these individual attempts, collective activities emerged. The first Hiroshima Peace Memorial Ceremony was held in 1947, under the Mayor of Hiroshima, Shinzo Hamai. The ceremony was flawed, because it focused on the reconstruction of Hiroshima, rather than addressing the painful situation of the *hibakusha*, who were left without any support, but the prime minister, Tetsu Katayama, and Douglas MacArthur sent their messages nonetheless. After the release of the Moscow inspired Stockholm Appeal by the World Peace Council in 1950, there were signature-collecting campaigns demanding a ban on atomic bombs. A song and a movie, based on Nagai's bestselling *Nagasaki no Kane*, became very popular. In 1951, the first comprehensive exhibition on nuclear power, *Genbaku Sogoten*, was held at the initiative of students at Kyoto University. It addressed the theory and practice of atomic warfare and its effect on the human body, and displayed the series of drawings called *Genbaku no Zu* (The Hiroshima Panels) by Iri and Toshi Maruki. The exhibition drew over thirty thousand visitors, and abbreviated versions traveled the neighboring cities during the following years.

These publications and activities did not result in setting the public against nuclear weapons, however. Looking back on the period, an editor of *Asahi-graph* noted in 1959, "The overwhelming majority of the people thought that the postwar situation was a kind of 'Mei fa zi' [no way out], which was a buzzword at the time, and they had to accept everything because of their defeat in the war."¹⁶ Political and economical democratization led by the GHQ/SCAP, and the International Military Tribunal for the Far East from 1946 to 1948

made the Japanese realize clearly that their country was a defeated former aggressor, occupied by a foreign force. The atomic bombings and their victims, the *hibakusha*, were therefore not a matter of special concern, but merely part of countless other inevitable consequences of their own actions and defeat. “Concealment” of the plight of the *hibakusha* by the Allied Nations, and their “abandonment” by the Japanese government impeded any change in their situation.¹⁷ Most people regarded the atomic bombings in ways similar to natural calamities or the bombings of other cities, and had at best a rather abstract impression, accompanied by a picture of a huge mushroom cloud. Typical of this view of the atomic attacks were articles in *Asahi-graph* on the atomic bomb test at Bikini Atoll in 1946, Operation Crossroads, which offered only a very general description, and another one on the rapid reconstruction of Hiroshima and Nagasaki.

The situation changed dramatically on August 6, 1952, when *Asahi-graph* published photographs showing the damage inflicted by the atomic bombs (see [appendix I, AI.1](#)). It has been said that “even in Japan, it is due to this issue that many people came to know the fear of atomic bombs for the first time.”¹⁸ This special issue, entitled “The First Publication of the Damages by Atomic Bombs” and using the Emperor’s phrase “Taking the toll of many innocent lives” as a subtitle, included 20 pages of photographs, showing people with severe burns, keloid scars, a clock stopped at the time of the bombing, a collapsed concrete building, numberless burned corpses in a dried-up riverbed, a shadow of a body imprinted on the ground, and so on. The images of physical injuries made the bomb’s destructiveness much more palpable than the “mushroom cloud” had done. Sales of about seven hundred thousand copies show that the issue created a true sensation. Innumerable readers wrote supportive letters to the editors, and newspapers started a campaign with slogans such as “Say no to atomic bombs, keep the peace!” The Junior Chamber of Commerce and Industry, the Japan P.E.N. Club, and the Japanese association of the National Federation of UNESCO sent the special issue to various organizations overseas.

However, the revulsion aroused by this publication did not develop into an active movement against nuclear weapons or anger toward the country that had dropped the atomic bombs. Probably, the prevailing self-portrait of Japan as a defeated aggressor blocked such a reaction. But the publication drastically changed the image of the bombings of Hiroshima and Nagasaki. Henceforth, they became events of national importance in Japan, representing the brutality of war in the nuclear age.

The Daigo Fukuryu Maru (Lucky Dragon) incident occurring on March 1, 1954, caused the next great shock, and led to a massive reaction against nuclear weapons. Women's associations, reading circles, parent-teacher associations, labor unions, and other organizations collected more than 30 million signatures. These served as the basis for the first World Conference against Atomic and Hydrogen Bombs, held in 1955, and Gensuibaku Kinshi Nihon Kyogikai (the Japan Council against Atomic and Hydrogen Bombs, also known as Gensuikyo) was established as a national nonpartisan organization propagating a ban on nuclear weapons. Supported by these movements, Nihon Gensuibaku Higaisha Dantai Kyogikai (Japanese Confederation of A- and H-Bomb Sufferers Organizations, or Nihon Hidankyo), a national organization led by *hibakusha*, was also established in 1956. *Asahigraph* published more than ten articles about the Lucky Dragon during the months following the incident. The tragic tone of the articles reached its climax when Aikichi Kuboyama, the ship's radiotelegraph operator, died in September 1954. The obituary said, "Mr. Aikichi Kuboyama died, even though eighty million people were praying for him. His death fell as a menacing shadow not only on the remaining twenty-two crew members of the Lucky Dragon, but on all people across the world."

There are two explanations for this massive response. First, radiation attracted a great deal of attention. After the bombings of Hiroshima and Nagasaki, Japanese people had become familiar with the words "genbaku sho" (radiation sickness) and "genbaku burabura byo" (a feeling of fatigue common among the atomic bomb survivors). Very few people, however, understood the meaning of these words, and not many worried much about them. But the new focus on radiation changed the very image of the nuclear bomb, from a vague "extreme power" to that of a weapon capable of killing at great distances. News about "atomic tuna" and contamination of vegetables that "caused a sort of panic in Japanese society," indicated this change in perception.¹⁹ *Asahigraph* visualized the terror of radiation by showing the closing down of a fish store, measurements of radioactive fallout, victims with radiation burns and a loss of hair, rubber radiation suits, and films depicting the dangers of radiation.

The second reason was the fact that these fishermen were entirely innocent. While Japanese people still regarded themselves as defeated aggressors when thinking about Hiroshima and Nagasaki, the crew of the Lucky Dragon suffered without having committed any sin. Japanese people therefore felt justified in criticizing nuclear weapons and those using them. The sense of injustice being done to the

Japanese was reinforced by statements by high American officials, including the Secretary of State John F. Dulles, that the Japanese were “allergic” to the atom, that the Lucky Dragon crew consisted of spies, and that the cause of their illness was not radiation sickness at all but serum hepatitis. The Lucky Dragon incident, therefore, gave the Japanese an opportunity to reconfigure their self-portrait, from a defeated and humiliated aggressor to an innocent victim, to the extent of making the country a kind of moral victor, albeit a dubious one, in the nuclear age.

The rise of criticism of nuclear weapons and tests in the late 1950s was reflected in the increasing coverage in *Asahigraph*. The number of articles about Hiroshima and Nagasaki also increased, especially those covering the lives of the *hibakusha*. Articles about them were placed side by side with those covering nuclear tests and protests. For instance, a 1956 issue contained articles about the second World Conference against Atomic and Hydrogen Bombs held in Nagasaki, a *hibakusha* who committed suicide after being rejected by his fiancée’s parents, and the establishment of the Japan Confederation of A- and H-Bomb Sufferers Organization, accompanied by photographs of the Bikini Atoll nuclear test. A 1958 issue contained articles on married *hibakusha* couples, a new remedy for acute radiation syndrome, the anniversary of the Hiroshima and Nagasaki bombings, and radiation exposure of two ships of the Japan Coast Guard, caused by an American test. For the first time, not only the casualties of the bombings and the reconstruction of the two cities were discussed, but the lives of *hibakusha* as well. Perhaps, however, the depiction of the *hibakusha* merely served to back up the critique of nuclear tests. Images of Hiroshima and Nagasaki, and especially those of *hibakusha*, became a metonym for Japan as a victimized nation in the nuclear age, enabling the shamed defeated aggressor to become a moral victor of sorts in the postwar era.

The first *Godzilla* movie, which appeared in 1954, and Ken Domon’s book of photographs, *HIROSHIMA*, published in 1958, further document this changing atmosphere. *Godzilla*, which appeared shortly after the Lucky Dragon incident, was a big hit. It was a complex film, expressing criticism of nuclear tests, fear of radiation, and distrust of domestic and international politics. It questioned military applications of science and technology, repainted the previous war as tragic and stupid, and left the viewer with a “Mei fa zi” feeling of helplessness against war and nuclear weapons. Of its many ironies, the most easily discernable was that the monster-hero, a victim of nuclear weapons, attacked the Japanese people, who were also

victims, and in the end was killed by the Japanese by means of a new technology. The film also showed and criticized a tendency among the Japanese public to slip into an attitude of acceptance of nuclear weapons as an inevitable fact of life. One sociologist wrote, "Godzilla acts violently at the risk of his own life, in order to prevent us, at any cost, from ever stopping to think about nuclear weapons."²⁰

The book *HIROSHIMA* by Domon criticized nuclear testing more directly. By focusing on the *hibakusha*, it documented the "forgotten" or "hidden" Hiroshima, and elevated the standing of its victims, who were assigned a role in supporting criticism of the super-powers. The success of the book clearly shows that many Japanese people now saw themselves as a nation that was a victim, not so much a cause of the World War, and that this qualified them to unhesitatingly criticize nuclear weapons. As one photographer and critic observed, "The book was welcomed at the time not because it presented the problems that Japanese people needed to face, but because it gave a powerful explanation for ineffable experiences."²¹

Godzilla, therefore, raised questions about nuclear weapons, which *HIROSHIMA* answered, and together these works illustrate the transformation of popular thought about nuclear weapons and Hiroshima and Nagasaki in the 1950s.

A Technological Nation in the Scientific Age, 1954–1960

Wartime attempts by the Imperial Japanese Navy and Army to develop atomic bombs had failed because of a lack of uranium and nuclear know-how.²² During the occupation, the GHQ/SCAP prohibited the Japanese to conduct any nuclear research, except for cooperation in American studies on the effects of the nuclear attacks. Even after gaining independence, the Science Council of Japan (SCJ), an organization established in 1949, which represented Japan's scientists, could not reach a consensus on the development of nuclear technology. A strong sense of guilt about their role in the Second World War made scientists reluctant to take it up.²³

The so-called Nuclear Budget Bill, which allocated funds for research and the construction of nuclear reactors, was introduced in the Diet in 1954, without any previous discussion. Accidentally, this happened almost simultaneously with the Lucky Dragon incident, but other international developments had prepared the ground. A few months earlier, the American president Eisenhower had given his Atoms for Peace speech in the United Nations, proposing a system of international sharing of, and control over, nuclear technology

and fuel. Two months later, however, Eisenhower proposed to offer nuclear technology on the basis of bilateral agreements. The Nuclear Budget Bill was proposed a few days later, and the Diet accepted it in spite of a “roaring objection” by scientists.²⁴ The first International Conference on the Peaceful Uses of Atomic Energy in Geneva in 1955 was a decisive breakthrough in Japanese nuclear development. The corporate history of the Japan Atomic Industrial Forum (JAIF), which I will introduce later, reflected, “Although opinions on nuclear power were controversial at the time both in the government and among the public, the ongoing development of nuclear technology elsewhere in the world that was revealed at the Geneva Conference deeply impressed the whole nation.”²⁵ From 1955 to 1956, a number of nuclear laws, including the Atomic Energy Basic Law, were similarly “proposed and approved in no time.”²⁶ Based on these laws, many political, industrial, and academic organizations for the development of nuclear power were established during the following years.

Out of several people involved in the launch of nuclear technology, I single out two prominent actors whose actions illustrate the particular way Japan entered the field of nuclear power: Yasuhiro Nakasone and Matsutaro Shoriki. Nakasone, a young Diet member, was the moving force behind the Nuclear Budget Bill. Traveling in the United States in 1953, he had come to feel that the development of nuclear power for peaceful uses was an “international trend and desire of [the Japanese] nation.”²⁷ When the Nuclear Budget Bill was introduced the next year, Nakasone dismissed the highly critical scientists of the SCJ as “indecisive.” Nakasone was also the central figure among the nonpartisan Diet members who participated in the first Geneva Conference in 1955. Upon their return, these politicians issued a joint statement arguing that Japan should establish a long-term national policy for nuclear technology, “in order not to lag behind in the world.”²⁸ The same politicians played a key role in establishing the nuclear laws of 1955/56. This time the scientists of SCJ succeeded in incorporating three principles of nuclear development into the Atomic Energy Basic Law: “democracy, independency, and publicity”—but that was all they could do.

Shoriki, the well-known president of Yomiuri Shimbunsha, one of the largest Japanese newspaper companies, and the founder of Nippon Television Network Corporation, became a member of the House of Representatives in 1955, when he was about 65 years old. In his election campaign, Shoriki adopted the slogan “second industrial revolution through atoms for peace.”²⁹ He served as the first chairman of the Atomic Energy Commission of Japan (AEC) in 1956.

In the first press conference held by AEC, Shoriki unexpectedly declared that he planned to construct a nuclear power plant within five years. He had not consulted other members of AEC, which included Hideki Yukawa, a Nobel laureate in Physics. His statement implied a choice that differed from what people might have expected from the government. Up to that time, the government had suggested that it would pursue a careful, domestically oriented development of nuclear technology, upholding the “independence” principle that the SCJ had managed to get incorporated into the Atomic Energy Basic Law in order to steer clear from Cold War entanglements. However, Shoriki’s program for quick development meant that foreign technologies would have to be imported. This reflected the interests of the political and economic elites in Japan, who preferred using the Agreement for Cooperation Concerning the Civil Use of Atomic Energy between the United States and Japan in 1955, through which the Americans intended to improve the relationship with Japan, which had worsened after the Lucky Dragon Incident. After Shoriki’s declaration, Yukawa expressed his intention of resigning, and one year later he did resign from AEC. During AEC’s first year, Shoriki also established the JAIF (with Reinosuke Suga, the chairperson of Tokyo Electric Power Company, as its chairman). Shoriki also invited Sir Christopher Hinton, a central figure of United Kingdom Atomic Energy Authority (UKAEA), and made sure that *Yomiuri Shimbun* reported the visit extensively. After investigating nuclear power technologies in several Western countries, it was decided that the Japan Atomic Power Company (JAPC), a newly established company led by electric power companies, would introduce a British Calder Hall-type nuclear reactor. Shoriki insisted that a private company, JAPC, should be the recipient of nuclear technology, rather than a government agency. At the same time, so as not to cause any problems to Japanese-American relations, it was decided that the Japan Atomic Energy Research Institute (JAERI), a governmental research institute, should import boiling water reactors from the United States for test purposes. In 1957, the first nuclear reactor of JAERI, the Japan Research Reactor No.1 (JRR-1), reached criticality.

The involvement of these two people in starting nuclear development in Japan tells us much about its structural features. First, nuclear development in Japan was founded on a division of labor between the political, academic, and entrepreneurial worlds. At first academia, with its sensitivities inherited from the war, voiced its opinions. But once nuclear technology was approved by politicians, the scientists distanced themselves from political controversy and claimed to focus

exclusively on scientific research. Similarly, after it was decided that nuclear development should be run by private enterprise, Japanese industrial and electric power companies could fully devote themselves to the new enterprise. It was said that bringing companies together in order to work on nuclear technology constituted a restoration of *Zaibatsu*, the gigantic financial combine that had been established before the Second World War, and was thought to have been dissolved in the occupational era. Like the scientists, industrial firms could therefore claim to devote themselves to nuclear development, without getting involved in political controversy.

Second, as can be inferred from Nakasone's remark about nuclear energy being "an international trend" and Japan's need "not to lag behind in the world," as well as Shoriki's inviting Sir Hinton to Japan, the early nuclear development in Japan took international developments and positioning Japan in the world as its point of departure. The politicians' firm belief in the "trend" of advanced foreign countries made possible the division of labor between the political, economic, and academic worlds, each of which started to work on the development of nuclear technology. However, this belief lacked firm ground, because even in the most advanced countries the development of nuclear energy had only just started. In addition, none of the politicians, including Nakasone and Shoriki, had much knowledge about nuclear technology. The corporate history of JAIF reflected, "Almost no one in the political and economic worlds related to the nuclear budget at that time really understood nuclear technology."³⁰ In other words, the division of labor that enabled nuclear development in Japan was organized around a choice made by politicians based on fantasy: a nice case of a "self-fulfilling prophecy" in which "a false definition of the situation evoking a new behavior makes the initially false conception come true."³¹

The fantastic self-fulfilling prophecy of nuclear development in postwar Japan was not entirely unfounded, however. The articles about civilian nuclear technology in *Asahigraph* illustrate that it was deeply connected with popular images of nuclear power. During the occupation period, a number of articles appeared, mainly acquired from the Civil Information and Education Section of GHQ/SCAP, the *New York Times*, and Associated Press, about the progress made in the United States. Positive coverage of peaceful nuclear energy increased from 1954. Shortly after the Nuclear Budget Bill in 1954, an article entitled "A New Energy Source, Atomic Energy" reported the advances of nuclear technology in Britain, including photos provided by the British embassy. The number of articles on this theme

surged in the late 1950s, when the political and economic organizations engaged in nuclear development were established. An article entitled “Nuclear Power in the World,” which appeared in 1957, discussed the situation in eight countries, including the Soviet Union, the United States, and Britain, and argued that although nuclear power reminded the Japanese of the “tragedy of Hiroshima, . . . the mood of supporting peaceful use of nuclear power is being promoted all over the world” after the Geneva Conference. Articles published in 1958 and 1959 changed the focus to domestic technology by covering Tokaimura, a village where JAERI, JAPC, and the governmental Atomic Fuel Corporation (AFC) were all located (see [appendix I, AI.4](#)). The article in 1959 reported on the “rapid progress” made by JAERI with JRR-1, by AFC that was building a facility for uranium refining, and by JAPC that had imported the Calder Hall-type power reactor. The report concluded that “a mammoth of a nuclear power center is unveiling itself at last.”

Contrasting sharply with the articles on Hiroshima, Nagasaki, and nuclear tests, these articles focused on the greatness of science and technology, did not worry about radiation, and proclaimed the indefinite possibilities of nuclear technology. Whereas texts and images depicting nuclear weapons showed technology as harmful to human beings, the nuclear reactors, power plants, and research centers were shown as splendid accomplishments created to support man, and human beings and technology were depicted in harmonious relation. They paid no attention, whatsoever, to the dependence of nuclear technology on the large-scale complex made of political, economic, and scientific institutions. For example, no references were made to the heated discussions regarding the introduction of the Calder Hall-type reactor by JAPC in the end of the 1950s.³² The introduction caused anxiety about safety among some scientists and local residents, because the reactor was not equipped with any measures against earthquakes. The accident with the British reactor in Windscale in 1957 added fire to this criticism. In defending themselves, JAPC and its political supporters used several tactics, such as simply disregarding the criticism, hiding information, falsifying data, bribing opponents, holding public hearings merely for the form’s sake, threats hinting at the deterioration of Anglo-Japanese relations, and inspections held by the Working Group Reviewing the Safety of the AEC, which consisted entirely of specialists in favor of the reactor. Foreign experts such as Sir John D. Cockcroft, a Nobel laureate in Physics and a member of UKAEA, were invited to authorize the project, and to stress the safety of reactors. Opponents were

stigmatized as “Aka” (Red). *Asahigraph*, however, paid no attention to this controversy at all.

The reporting of *Asahigraph* raises the question of whether the magazine was a vehicle for manipulating public opinion. Certainly, Japanese news media sometimes lent themselves for propaganda. For example, after the Lucky Dragon incident, Shoriki’s newspaper *Yomiuri Shimbun* launched an advertising campaign, an important part of which was a series of articles under the title “The Energy of the Sun in Our Hands at last.” The paper also helped the United States Information Agency to organize an exhibition on peaceful nuclear technology in Japan.³³ Perhaps the metaphor that depicted the prevailing mood best was the slogan of the 1955 Newspaper Week event: “The Newspaper is the Atomic Power of World Peace.”

However, there are also indications that most people in postwar Japan had an affirmative attitude, or at least a vague hope, about peaceful nuclear power. When JAERI was looking for a site to establish itself in 1955 and 1956, several towns were aggressively competing for the honor to host a nuclear power research center. In a survey conducted after it was decided to establish JAERI in Tokaimura village, almost 70 percent of the inhabitants expressed their approval.³⁴ In the only meeting held by JAERI with the local residents, the representatives of JAERI dealt with questions of residents about radiation by labeling them “irrelevant emotional anxiety,” and threatening withdrawal of JAERI from the village. They dismissed fears about the nuclear power research center by citing the safety of the radium Onsen (hot springs). One historian wrote, “Despite the attitude of JAERI representatives, the meeting actually proceeded without agitation and the local residents left satisfied.”³⁵ While some people had serious doubts about various issues inherent in nuclear technology, there were also many who welcomed it. The positive image of nuclear power was therefore certainly not only the result of propaganda by politicians and entrepreneurs through mass media.³⁶

A boom of popular scientific journals in the late 1940s and an increasing number of literary works on science and technology in the 1950s also provide some support for my claim that the public was positively disposed toward technology in general, and nuclear power in particular.³⁷ More than anything else, this is borne out by the popularity of *Tetsuwan Atom* (Mighty Atom), both the comic and the animation.

The comic *Tetsuwan Atom* with its hero, Atom, a robot powered by nuclear fission, is one of the most famous manga by the well-known artist Osamu Tezuka. The first installment of this story appeared in

1951 and the series continued until 1968. An animated film version, broadcast from 1963 to 1966, was the first Japanese television animation. It was very popular. The fact that even today the nuclear industry and robotics researchers use Atom as an icon to boost their “aura” proves how much people were fascinated with Atom.³⁸ Some people even claim that “talking about Osamu Tezuka or *Tetsuwan Atom* was equal to talk about how this country accepted the post-war situation.”³⁹ The transformation undergone by the boyish hero, Atom, was an especially illustrative example of the transformation of images of nuclear technology. When the manga started, Atom was a pathetic hero, who tried to help humans in spite of being discriminated against, and with an unattainable desire, like Pinocchio, to become human. In a way, the early Atom was also similar to the *hibakusha* who were used as a symbol by the antinuclear movement to justify the protests against foreign nuclear tests, while at the same time they were often discriminated against in various everyday situations. However, it was not long before Atom became “a faultless champion of justice.” Especially in his appearances on television in the 1960s, “the tone of the story becomes dominated by a monotonous ideology of progress propelled by science.”⁴⁰ Tezuka himself later regretted that his creation glorified “scientific civilization” too much.⁴¹ However, it was the champion version of Atom that people were fascinated with. And both the name of the hero and his popularity were consequences of a dream nourished by many: a dream of science and technology, especially nuclear technology.

Atom’s popularity supports my thesis that *Asahigraph* was not just a vehicle for manipulating public opinion, but also reflected it. In postwar Japan, many people attributed the country’s defeat in the Second World War, at least in part, to its low level of science and technology, and strongly believed in the promise of scientific and technological progress, especially in nuclear technology. This even included nuclear weapons. After Hiroshima and Nagasaki, and especially after the Lucky Dragon incident, when the Japanese began to see themselves as morally superior survivors in the nuclear age, developing nuclear weapons was out of the question. This left only peaceful applications of nuclear technology as a dramatic way to satisfy the people’s blind yearning for science and technology. A large number of articles in *Asahigraph* that focused entirely on the technological aspect of nuclear technology catered to these aspirations. Another good example is an advertisement in *Asahigraph* for the Toshiba Corporation, published in 1957. It was titled, “You Do Not Need to be an Auto Mechanic to Drive a Car. Read This, and You’ll Easily Understand

the Power of the Atom.” The ad asserted that a new and utopian age was dawning, an age in which “the dreams of alchemists” were no longer just dreams. As examples, the advertisement mentioned nuclear-powered ships and trains, nuclear diagnostics of blood circulation problems and tumors, treatment of cancer, treatment of sashimi to prevent putrefaction, industrial uses, and so on. The advertisement also reflected the idea that nuclear technology had an infinite future, and used it as a metonym for the infinite future of Japan.

The beliefs held by Nakasone and Shoriki were therefore in accordance with the dominant climate of opinion in Japan. Nakasone, who later became the prime minister, and Shoriki, who was called later not only “the father of TV” and “the father of professional baseball” but also “the father of nuclear power,” knew by intuition the vague hope held by many Japanese in the postwar period that nuclear technology would turn the nation into a technological superpower. The self-fulfilling prophecy of nuclear technology was therefore also based on this commonly shared, inarticulate hope. And *Asahigraph*, which was restarted after the war as a nonpropagandist journal aiming to “criticize and entertain,” ended up becoming again a kind of “holy war poster”—this time for the development of nuclear technology. This need not have been the intention of the editors—it simply showed what the majority of people wanted to see.

Relegating Hiroshima to the Past, and a New Self-assurance, 1960–1965

The year 1960 was the year of Ampo Toso, a campaign against the revision of the Security Treaty between Japan and the United States, which would incorporate Japan into the Western Alliance. Ampo Toso incorporated three main principles: “independence,” “democracy,” and “peace.”⁴² Of these, the most antagonistic toward the United States was the demand of “independence.” The movement compared the relationship between the two countries to the class relationship in Marxism-Leninism. As for “democracy,” the movement advocated internationalism and criticized Japanese society up to the end of the World War. It stated that the treaty violated Japan’s postwar democratic Constitution, which prohibited war, because it would incorporate Japan firmly into the western bloc and thereby might drag Japan into wars. While the first two principles expressed anger, the principle of “peace” evinced a tone of grief. It connected the experience of war, including the atomic bombings, with the sacredness of life. Under American influence, the movement had adopted

a universal conception of peace that condemned any and all wars as posing threats to the sacredness of human life. The Americanization of postwar Japanese society therefore ironically generated a peculiar nationalism, with pacifist undertones, that was directed against the United States, with its nuclear tests and its military bases in Japan. It is thus no wonder that antinuclear movements, such as the Japan Council against Atomic and Hydrogen Bombs, played an important role in forming the National Congress to Block the Security Treaty Revision in 1959 that was a central organization pulling Ampo Toso, together with labor and student movements, women's movements, and political parties.

The beginning of 1960 was tumultuous, with violent clashes between the government and the organizations opposing the revision of the treaty. The government mobilized right-wing organizations, and even the criminal organization Yakuza, trying to suppress the movement. A visit by Eisenhower was cancelled. The upheaval only subsided when the treaty, having reached its deadline, was automatically extended, and a new government took office in June 1960. At the end of this year, the government established one of the most famous long-term economic plans, the National Income Doubling Plan. During the implementation of this plan in the 1960s, Japanese economic growth surpassed all expectations. The new wealth became the framework in which most people lived.

After the Japan Council against Atomic and Hydrogen Bombs joined Ampo Toso, the antinuclear movement, which had always had a broad, nonpartisan following, became increasingly politicized.⁴³ The Liberal Democratic Party, which was in power at the time, left the Council, and the Japanese Communist Party started an intensive campaign against American nuclear tests. Heated debates created confusion in the Council, which eventually fragmented into several factions. One unfortunate result of the confusion was that the Japan Confederation of Atomic and Hydrogen Bomb Sufferers Organizations missed a golden opportunity to improve the situation of the *hibakusha*. In 1963, the Tokyo District Court delivered an epoch-making judgment on a so-called atomic bomb lawsuit, declaring the atomic bombings of Hiroshima and Nagasaki violations of international law, and giving a legal basis for national indemnities to the *hibakusha*, but the confederation failed to follow up on this decision.

The decreasing number of articles in *Asahi-graph* on nuclear weapons, nuclear tests, and protests in the early 1960s reflected this political confusion. While in the late 1950s the magazine had often

reported on the World Conference against Atomic and Hydrogen Bombs, it lost interest after 1960. Even the Cuban Missile Crisis and China's nuclear test in 1964 were only briefly mentioned. This does not mean that the public lost interest in nuclear weapons, rather that it tired of the politicized antinuclear movement. *Asahi-graph's* 1964 reports on an American nuclear submarine, *USS Seadragon*, calling at Sasebo, a port the Americans had been using as a naval base for years, illustrate the climate at the time.⁴⁴ Scientists worried about the safety of nuclear submarines, a concern that had been heightened by the sinking of another one, the *USS Thresher*, a year earlier. To the antinuclear movements, *Seadragon's* visit had a more symbolic implication: they saw it as an infringement of Japanese independence. In spite of their fierce agitation however, they failed to mobilize a wide range of Japanese people. People tended to become more conservative, having grown used to the politics of the Cold War, the American presence in Japan, and wealth resulting from rapid economic growth. The article in *Asahi-graph* that described the *Seadragon's* call included a range of opinions of campaigners, police, local residents, and the reporter himself, illustrating the fragmentation of the criticism of nuclear weapons. This was very different from the 1950s, when *Asahi-graph* presented a much more unified view of nuclear protest.

The development of nuclear power plants slowed down in Japan around 1960, as it did elsewhere. The problems with the Calder Hall Reactor have already been mentioned, and declining prices of petroleum and natural gas made nuclear energy less attractive. Nevertheless, work on power plants continued.⁴⁵ Although it had started as a consequence of a perceived world trend, nuclear power development in Japan now had a momentum of its own: each of the agencies involved in nuclear technology was willing to go on with the project without any center of power, except for the Long-Term Basic Program for Development and Utilization of Nuclear Energy, a planning document issued almost every five years from 1956 by the AEC.

This more or less autonomous system rode a tail wind throughout the mid-1960s, as the light-water reactor technology (LWR) was booming worldwide. In 1963, the Japan Power Demonstration Reactor (JPDR) of JAERI succeeded in generating electricity for the first time. Mitsubishi, Toshiba, Hitachi, and other industrial companies involved in the atomic power industry concluded contracts with Westinghouse Electric Corporation and General Electric Company about the importation of technology. During these years, the two networks emerged that exist up to the present: the group consisting

of Kansai Electric Power Company, Mitsubishi Group, and Western Electric, which uses pressurized-water reactors, and the one consisting of the Tokyo Electric Power Company, the Toshiba/Hitachi Group, and General Electric, which uses boiling-water reactors. From the mid-1960s, and especially around 1970, JAPC and the electric power companies started a number of commercial nuclear power plants, including those in Fukui and Fukushima.

In spite of these developments, few articles on nuclear power plants appeared in *Asahi-graph* during these years. However, interest in scientific and technological progress was growing. This is apparent in a series of articles published in 1964, entitled "Science 64," that covered various advanced technologies such as lasers, linear accelerators, pulse-height analyzers, and activation analysis. Although nuclear technology was often referred to, it was never the main subject. These articles, much like those on nuclear technology in the late 1950s, were oriented toward the future, using phrases such as "infinite possibilities" and "new epoch." They show that the readers' interest in nuclear technology had already been firmly established and that there was a rising interest in high technologies in general. At the same time, as already noted, the 1960s were the period when people began to have a real experience of wealth in their daily lives, with TVs, washing machines, motorcycles, cars, and apartment houses. Moreover, the progress made in civil engineering, with motorways, subways, bullet trains, monorails, and the National Stadium for the Tokyo Summer Olympic, was visible proof of the progress made by Japan. With their lifestyle changing so much, the Japanese lost interest in nuclear technology.

Another change that occurred during the period of rapid growth in the early 1960s was in the portrayal of Hiroshima and Nagasaki, a change that can be summed up as a "loss of actuality." Two issues commemorating the end the Second World War, entitled "Fifteen Years since Then" (August 1959) and "Never again" (August 1960), described the wartime as a "dark phase" in national history. The special issue "We Are Not A-bomb Orphans," published in 1964, and an article about "The Collapsing Atomic Bomb Dome" of 1965 are also good examples. The former article reported on a roundtable discussion of *hibakusha*, who stated that they were "only interested in the present and the future and have no sentiments for old photographs [of themselves]," that "we are fed up with the story of A-bomb orphans and atomic bombs," or that "I don't have time to reflect on the past." The 1965 issue, with a picture of the Dome on the cover, carried an

article explaining that the Dome was about to collapse. Various opinions on whether to preserve or dismantle it were cited. The Dome was seen as a symbol of peace, a tourist attraction, or “a terrible building that made one feel sick.” Some went as far as saying that keeping the Dome would be bad for the relationship with the United States.⁴⁶

While memories were fading in the media, the social activism by the *hibakusha*, which had faltered when the antinuclear movement politicized, now gradually gained force.⁴⁷ In 1961, the Japan Council against Atomic and Hydrogen Bombs published a “White Paper on Damages by Atomic and Hydrogen Bombs—The Hidden Truth,” the first comprehensive and detailed survey on the lives of the *hibakusha*, demanding medical aid, social security, and reparations by the state. State support became the central demand of the *hibakusha* movement from the mid-1960s, and helped overcome the previous confusion. During the first half of the 1960s however, *Asahi-graph* paid no attention to the *hibakusha* movement, an absence showing that the image of Hiroshima and Nagasaki, which in the late 1950s had been used as a critical metonym for a victimized nation, now became a metonym for a past that had been left behind. In other words, the following temporal and spatial configuration of images of nuclear power made it possible to “embrace” Hiroshima and Nagasaki in the 1960s: nuclear power for military use was to be excluded from Japan, nuclear and other high technology were the present and the promising future of Japan, and Hiroshima and Nagasaki were a past tragedy.

The change of perspective can also be seen in the Tokyo Summer Olympics held in 1964. The last bearer of the sacred fire was selected for the role because he was born on August 6, 1945, in Hiroshima. He was described in the live broadcast as a “nineteen-year-old youth with infinite future and possibilities.” Kon Ichikawa’s documentary, *Tokyo Olympiad*, started with a scene of the sacred fire symbolically entering the country through Hiroshima. The special attention thus paid to Hiroshima expressed the fact that for Japanese people in the mid-1960s the dead of the two cities had become “a special kind” of dead, serving as “our own” representation of the Second World War, the terrible time after the defeat, and a past that had by now been overcome.⁴⁸

Blind Spots of the Cyborg Nation

Every national self-portrait has its blind spots. In this section, I will discuss the Japanese ones, in so far as they were related to nuclear technology, and as they manifested themselves from the early 1960s to the present day.

The most important element forgotten in the process of embracing Hiroshima and Nagasaki is the lives of the *hibakusha*. The first surveys about them were conducted by the Americans during the occupation. After 1954, the Japanese Ministry of Welfare carried out further inquiries. Both were mainly interested in the *hibakusha* as objects of epidemiological research. In the late 1950s, the antinuclear movement regarded *hibakusha* as a politically useful symbol for criticizing nuclear weapons. Medical services made available for the *hibakusha* by the government were also a meager offering, even after the establishment of the A-Bomb Medical Law in 1957. With political and academic forces striving to conceal the issue of the *hibakusha* from the beginning, the confusion of antinuclear and *hibakusha* movements around 1960, and the fading memories of Hiroshima and Nagasaki in the mid-1960s, the Japan Confederation of Atomic and Hydrogen Bomb Sufferers Organizations had to reorganize the movement on its own. This effort reached its apex in 1973 when the *hibakusha* embarked on a five-day sit-in protest at the Ministry of Welfare demanding more support. From then on the *hibakusha* were finally recognized as a group with its own problems rather than as a symbol for other people's causes.

Besides the *hibakusha* of Hiroshima and Nagasaki, there were at least three other categories of people who were even more invisible. First, there were A-bomb victims without Japanese citizenship or resident status in Japan. The Koreans who were exposed to radiation in Hiroshima and Nagasaki, for example, lost their right to claim indemnity from the Japanese government after the Treaty on Basic Relations between Japan and the Republic of Korea, signed in 1965. Japanese victims emigrating abroad, for example, to North- or South America, also had difficulties in exercising their right. Second, there were *hibakusha* who were exposed to radiation not in Hiroshima or Nagasaki, but, for example, in the Marshall Islands. The idea of Japan as "the Only A-bombed Country" made it difficult to see these other *hibakusha*. Third, there were *hibakusha* exposed to radiation in nuclear power plants and other nuclear facilities. The division of nuclear images into atoms for peace and atoms for war, as well as the self-portrait of postwar Japan as a high-tech nation prevented thinking about these victims in the same terms as the *hibakusha* that had been exposed to radiation from nuclear weapons.

The last category of invisible *hibakusha* was closely related with another deeply rooted blind spot: risks inherent in nuclear technology and scientific and technological development in general. Although since the mid-1960s, there was a number of "site fights"⁴⁹ over the

construction of nuclear power plants, such as the Ikata Nuclear Power Plant lawsuit that started in 1973, and although the occurrence of nuclear-related accidents caused fear of nuclear technology among the public, the pace of development never slowed down. A good example is the development of fast breeder reactors. The first reference to this project can be found in the AEC's 1957 Long-Term Program. It was formally approved in 1967, and it has continued until the present day, regardless of repeated accidents, opposition movements, and even withdrawal of foreign agencies involved. All problems were dealt with by means of the already established practices—ignoring criticism, hiding information, biased commissions, and so on. The Power Source Siting Laws of 1974 initiated subsidies to the administrative bodies of localities agreeing to host power stations—a solution similar to that adopted for the issue of American Forces stationed in Japan. In the self-fulfilling system of nuclear development, the promoters always insisted that critics were simply not well informed or that they were “confusing atomic bombs with nuclear power plants.”⁵⁰ Criticism was labeled as a layman's “emotional argument,” lacking both “scientific balance” and acknowledgment of the wider economic perspective: the shortage of energy needed for economic growth.⁵¹

This dichotomy between “scientific” and “emotional” attitudes toward nuclear power plants may well persist until the day when risks become visible to a much greater number of people. But perhaps even that will not be enough for resolving the dichotomy. Because the system of nuclear technology was too gigantic to confront, many people preferred distancing themselves from the controversy, even if they worried about radioactive contamination and the reliability of nuclear reactors. Besides, the infatuation of Japan with itself as a cyborg nation may well be too deep rooted to consider any risk. This self-portrait was the product of rejecting the road toward becoming a military superpower by means of nuclear weapons, on the one hand, and overcoming the humiliation of defeat by using images of Hiroshima and Nagasaki to create an image of victimhood, on the other. It may not be easy to change this “scientific-technological” self-image, even if whole areas are contaminated by nuclear power plants accidents.

Predicting the future of nuclear technology in Japan is difficult, but the following seems certain: if Japan changes course on this front, such change will be accompanied by a change in the present self-portrait, which takes pride in nuclear power plants in “the only A-bombed country,” an image that has struck deep roots in postwar Japan.

Notes

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Chapter 8

Promises of Indian Modernity: Representations of Nuclear Technology in the *Illustrated Weekly of India*

Hans-Joachim Bieber

It may be surprising to find an essay about India in this book. When the atom bombs were dropped on Japan, India was still a colony, and after it gained independence in 1947, it remained for a long time what in the West was called a “developing country”: predominantly agrarian, with little industry, and a poor infrastructure. For millions of Indians, cow dung remained the most important source of energy. The majority of the population was extremely poor and illiterate. High-circulation illustrated magazines similar to those published in industrialized countries did not exist.

India, nevertheless, had a small educated class including many university graduates. To exercise colonial rule, the British had needed natives to act as administrative intermediaries between British officers and the population and to work as lawyers, doctors, and engineers. Since the 1850s, numerous colleges and universities had been established to educate such functionaries. Newspapers and magazines, most of them with a limited circulation, were published for this segment of the Indian population, which was Westernized to a large extent. In 1945, these educated Indians took great interest in the dropping of the atom bombs on Hiroshima and Nagasaki, and soon, like their counterparts in industrialized countries, discussed the prospects of the new nuclear technology.

A second and even more important reason for an essay about India in this book is widely unknown in the West: India began to engage in nuclear technology immediately after gaining independence and did so at considerable material cost. Preparations had started even before

the dropping of the atomic bombs on Japan. This engagement, as well, was discussed by the Indian elite, mainly in printed media and in parliament.

Thus, between the mid-1940s and the mid-1960s, India participated in the international discourse on the “atomic age,” albeit through only a small sector of its society. It discussed the menace of nuclear war, the developments of nuclear technology for peaceful purposes in industrialized countries, and its own nuclear program. This discourse is reflected in the reporting of the *Illustrated Weekly of India (IWI)*, the only Indian illustrated magazine with nationwide circulation during those decades (see [appendix II, AII.8](#)). The *IWI* is the main source in this essay. Additional sources are the *Times of India (ToI)*, the most respected Indian daily newspaper, and the protocols of the lower house of the Indian parliament, the Lok Sabha.

The *IWI* came out every Sunday, in English, in Bombay since 1879, and later in Delhi and Calcutta as well, as a supplement to the *ToI*.¹ It contained news that on weekdays would have been published in the *ToI*, essays that gave an in-depth view of topics treated in the newspaper, short stories, crossword puzzles, and advice columns for questions of everyday life. It also provided photos and cartoons, but much less than Western magazines, and only in black-and-white. The *IWI* was not a popular medium. At the end of the 1950s, its circulation was about 70,000, while the Indian population numbered 400 million.² This comparatively small number reflects the poverty and low educational level of most Indian people at this time. In 1947, over 75 percent were illiterate, and probably hardly more than 5 percent were able to read an English-language magazine, mainly members of the small educated class. For this sector of Indian society the *IWI* was made, not for the masses.

From the mid-1940s to the mid-1960s, the vast majority of the Indian population did not read any newspaper. Radio broadcasting, which could have provided information, was in its infancy, and television unknown. The only Indian medium that somewhat rightly could be called a mass medium was film.³ But most movies were entertainment films containing songs and dance numbers and often dealing with mythological subjects like the great Hindi epics, not social and political issues. Hence, the majority of the population knew little or nothing about politics in Delhi and did not participate in the discourse on nuclear technology. Probably, they never obtained any information on atomic bombs and nuclear power and did not have any opinion. The validity of the following observations, therefore, pertains only to the Indian elite. However, this restriction need not

render them irrelevant. For although independent India was politically a democracy—the biggest one worldwide—the country's small middle class and even smaller upper class held political and economic power, controlled the media, and exerted a disproportionately strong influence on Indian politics, including nuclear policies.

1945–1947

Prelude: 1945

Reporting in the *IWI* on nuclear technology, its military menace, and its peaceful applications began immediately after the dropping of the atomic bombs on Japan in August 1945. The first reports on the use of these bombs still followed the lines of the magazine's reporting on the Pacific War, in which roughly 2 million Indian soldiers fought for Great Britain and during which India had been threatened for a time by Japanese troops. The first edition, however, which appeared after the bombing of Hiroshima and Nagasaki, on August 12, 1945, did not mention the bombs and their devastating effects at all, possibly because the *ToI* reported at length and in rapid succession on what was occurring in Japan, and pictures of the destruction of the two cities were not available in Bombay when this edition of the magazine was printed.⁴ It reported only on Japan's surrender and on discussions in the scientific community about the rapid progress in nuclear physics that had led to nuclear fission and the release of nuclear energy.⁵ Two weeks later, the magazine published an illustrated article on the history of the Pacific War. The last picture, showing an American airplane dropping bombs, was subtitled, "Finis! The Atomic bomb comes as a breath-taking climax to the heavy bombardment by air and sea of the Japanese homeland . . . and the V for VICTORY appears."⁶ Thus, the dropping of the atomic bombs was described as the triumphal end of the fight against an enemy who first had invaded China and Southeast Asia and then, while retreating, had killed hundreds of thousands soldiers, among them countless Indians. The use of the new weapon seemed so evidently justified that the *IWI* did not even bother to consider it otherwise.

In early December 1945, this perception began to change when the magazine printed extracts of an account written by the first British correspondent who had visited Hiroshima after the bombing and whose report had been published by the *Daily Telegraph*. "The counted dead number 53,000," he wrote. "Another 30,000 are missing, which means certainly dead." Furthermore, he wrote about

people who had survived unwounded but who were dying in large numbers, 100 a day, and about others who had suffered only slight cuts but did not recover and finally died, too. The journalist had been informed by doctors who themselves had been affected by poisoned water that “all these phenomena were due to the radioactivity released by the atomic bomb’s explosion of the uranium atom.”⁷ The *IWI* abstained from commenting on this story, and also did not include pertinent illustrations, which had probably become available in the meantime. Nevertheless, probably no other information on the aftermath of the bombings could have provided a clearer indication of the dangers of nuclear radiation.

All in all, however, between August and December 1945, the *IWI* reported less on the bombings, their effects, and future dangers of nuclear weapons than on the possibilities for using nuclear energy for peaceful purposes. Only ten days after the destruction of Nagasaki, it quoted an Indian physicist, Homi Bhabha, who had already stated publicly in January 1943 that the use of nuclear energy as a source of power was “definitely in sight”⁸ — “within a decade or so”, he had said according to a report in the *TbI*. According to the same report, the dropping of the atomic bombs showed, in Bhabha’s view, that this stage had come even sooner. “The atomic bomb,” the August 11 edition of the newspaper quoted him as saying, “marks the beginning of a new epoch—the epoch of nuclear energy.”⁹ Although this epoch had started with the most extensive destruction ever produced by a single weapon, Bhabha saw the decisive prospects of nuclear technology in civilian applications “for constructive work.”¹⁰ “There is no question that the central power locked within the atom is almost unbelievably great and could revolutionise man’s material world,” the *IWI*, commenting on his statements, reported on August 19. “Limitless quantities of power would be available at a cost so low that for all practical purposes it would be free. Every need of humanity could be supplied.” The only risk that nuclear technology held for the peaceful purposes mentioned in the magazine was that of a chain reaction which could not be stopped “before the whole earth has been demolished.” But the article’s anonymous author assured readers that such a risk did not exist: “The release of atomic energy,” for example in a cyclotron, “shuts itself off like a thermostat,” he wrote. “At least that is what the scientists hope—and so do I.” His conclusion, therefore, was that mankind could “destroy itself in the last and most frightful of wars; or it may live henceforth in a Utopia like the dreams of Edward Bellamy.”¹¹

The same edition of the magazine contained an illustrated report about “Possible Peacetime Uses of Atomic Force,” titled “Unlimited

Power.” “The main advantages,” it said with reference to American scientists, “will be in surgery, industry and communications.” There would be possibilities to fight cancer and bone marrow disease with radioactive substances, inventions to ease domestic work, and “an electronic express train that would make Calcutta only an hour’s journey from Bombay,” “annihilating time and space.”¹² Several pages later, a system of mutual deterrence was described that would be capable of securing peace even if stronger weapons of mass destruction were to be developed.¹³

In early September 1945, the *IWI* reported about the possibility of transporting men to the moon with the help of nuclear-powered space shuttles.¹⁴ In mid-November, it contained an article on the use of atomic power in industry. Atomic energy, it said here, had not only revolutionized the theory and practice of warfare but “endangered the whole aspect of the economic and industrial future of the world as well.” “Electric power might be superseded by atomic power, . . . the fundamental industries of coal and oil . . . endangered. Overnight our whole economic system might collapse. Rich countries might become poor and poor ones rich.” Although the article conceded, “Nobody can say for certain when this mysterious giant will be coerced for peaceful advance,” it dared to prognosticate that “it looks as if it might take two or three years for atomic energy to be used for big industries, . . . 5 to 10 years for it to be used for ships, and 10 to 15 years for it to be used for aeroplanes, railways, and motor cars.” The Australian physicist M. L. E. Oliphant, professor of physics in Birmingham, was cited as an authority on these matters.¹⁵ Only indirect mention was made of possible risks. Readers learned that “the atomic ‘pile’ has to be surrounded with thick insulating material to absorb any dangerous particles which might escape.”

These articles demonstrate how within a period of just a few weeks, the atomic bombs dropped on Hiroshima and Nagasaki released a flood of technological visions in the leading Indian magazine, each of which seemed more extraordinary than the other. Perhaps they were inspired by Bhabha, who lived in Bombay, where the *IWI* was published. The editors of the magazine combined some of these visions with medium- or long-range predictions to create fantastic future scenarios. They are interesting in several respects.

- Conceptually, though not always explicitly, they are part of a dichotomy between apocalypse and paradise, fear and hope, annihilation and a fantastic enhancement of mankind’s living conditions. This dichotomy would later be characteristic of writings on the so-called

atomic age in industrialized countries. Hardly anywhere except the United States, though, was it emphasized immediately after the bombing of Hiroshima and Nagasaki as early as in India.

- In the reporting of the *IWI*, the positive side of this dichotomy prevails. Military hazards are mentioned far less than the possible use of nuclear energy for peaceful purposes. Furthermore, the risks of these possibilities are played down or ignored; doubts about their feasibility or at least their pace of development are rare.
- The reports mostly refer to experts, mainly physicists: first to the Indian Homi Bhabha, second to physicists of the Anglo-American world.

1946–1947

Reporting in the *IWI* on nuclear technology—military and civilian—went on like this until independence. In 1946, the weekly published 25 relevant articles—far more than in any year before and after—primarily on the use of nuclear energy for nonmilitary purposes. In March, an enthusiastic report based on an article of the British *Monthly Science News* about the history of nuclear research called the Manhattan Project “a triumph of the application of new knowledge of the structure of atoms and their nuclei,” and outlined “the Future of Atomic Energy.”¹⁶ Nuclear technology would probably be used to enable the smoke- and dirt-free propulsion of ships and locomotives, and it would be utilized to construct power plants for the production of energy, of radioactive isotopes usable in material research and medicine and perhaps of artificial elements. Moreover, the article pointed to a possible use that had not been mentioned before in the *IWI*: “atomic explosives . . . for transforming the landscape,” for example, “for blasting great holes and trenches in the earth, which can be transformed into lakes and canals.” Thus, “it may become possible,” the magazine commented, to “convert some of the worst places in the world into oases and fertile countries . . . The North Pole might be converted into a holiday resort.” Again, there was no mention of dangers involved or of incalculable environmental and climate-related risks that geoengineering could pose if executed by means of nuclear explosions. Instead, assuming that the realization of these visions was imminent, the author of the article ended by asking: “What, scientists are wondering, will the next goal be? New forms of life?”

In May 1946, an essay by the physicist James Franck pointed to the immense potential of radiation and radioactive isotopes “in the never ending war against disease,” especially cancer, and in biochemical

research.¹⁷ Franck did mention the risks of radiation. But they could be mastered, he wrote, if the sources of radiation were surrounded by walls "several yards thick." One week later, on the occasion of the annual meeting of the American Chemical Society, the *IWI* reported on the potential use of nuclear chemistry in medicine that allegedly had hitherto been kept secret. It mentioned the discovery of yet unknown artificial elements that could "transform the world we live in": "Wood and glass might prove as stiff and brittle as a brick; porcelain might turn into an electrical conductor; copper into an isolator; gas into a radio console; metals might provide heat, light and power. Man might even produce oil by copying nature, but in a few months, instead of ten million or more years that the natural process takes."¹⁸ In July, the magazine prognosticated that someday atomic power would make electricity inexpensive and available for heating "and for a legion of other purposes not yet economically feasible." It would drive cars and planes and enable mankind even "to make whatever climate we prefer," by "turning lakes into gigantic radiators to dispel cold weather."¹⁹ Again, neither the danger of radiation nor the problem of radioactive waste and its disposal were mentioned.

Even though the *IWI* continued to emphasize the positive aspects of using nuclear energy, it could not ignore the destructive ones. In June 1946, it wrote on a report by British experts on the effects of the atomic bombs dropped on Japan. Hiroshima and Nagasaki had "sunk in an instant and without struggle to a most primitive existence," it quoted the experts as saying, and went on to state that a similar bomb dropped over one of the larger British cities would kill nearly 50,000 people, demolish or damage beyond repair about 30,000 houses, put 35,000 houses in need of major repair, and make between 50,000 and 100,000 homes uninhabitable.²⁰ However, three months earlier, the magazine had revealed that during the Second World War Britain had constructed three atomic-bomb proof underground shelters in London to protect the War Cabinet, the chiefs of staff, and their immediate personnel,²¹ and two weeks later, it had shown designs for houses that could resist the effects of atomic bombs and radiation, and wrote, "It is the consensus of opinion that buildings made of concrete or a type of material used in the construction of blast furnaces will offer a base for developing protective shelter."²² In the June issue about the destruction of Hiroshima and Nagasaki, the *IWI* informed its readers that, if an atomic bomb of the type used on Japan had been dropped on London, the shelters "would have remained safe from collapse even at the centre of damage." The message was that protection from atomic bombs is possible; deep shelters such as

provided by the London underground would give “complete protection.” Furthermore, on the same page that reported on the full extent of the destruction in Hiroshima and Nagasaki, the magazine printed a photo titled “The other side of the atom.” It showed two scientists of the American Oak Ridge lab working on radioisotopes. “Beneficial radioactive isotopes,” the commentary said, “will be made universally available for research work in fundamental and applied sciences, particularly in Biology and Medicine.”²³

The same edition announced the US nuclear test over the Bikini Atoll and quoted a warning by a French scientist “that the entire oceans of the world would be converted into a gigantic atom bomb with two pounds of water producing the effect of one Hiroshima bomb,” and that finally the world would be turned “into a dead planet.”²⁴ Some weeks later, though, the magazine reported that the damage caused by the test in which an entire armada of disused battleships was destroyed had turned out to be less extensive than expected. Although it referred to the atomic bomb as “the world’s greatest instrument of destruction” and “the most terrible weapon man has yet devised for his own destruction,”²⁵ it appeared to convey a fascination regarding the strength and the heat which the test bomb—“the greatest ever generated on earth”—had developed, because “the power of the solar system has . . . been harnessed—for evil or for good.” This fascination allowed the *IWI* to focus once more upon the fantastic promise that nuclear energy was said to hold if “put to man’s use, not his destruction.” Thus, the magazine continued to minimize the risks of nuclear weapons. In the autumn of 1946, a commentary by the London correspondent on “the most terrifying prophetic pictures of future missile development,” which had been published by *Life*, seemed to suggest that destroying an atomic missile were a kind of game. It could be done, he wrote, by launching a defensive missile equipped with a radar detection device. “The detective rocket hits the offensive one and then there is an almighty flash in space and everybody is happy.”²⁶

Further reporting on Hiroshima showed similar optimism. In August 1946, on the first anniversary of the dropping of the first atomic bomb, the *IWI* published an illustrated report with the title “Life Crawls Slowly Back to Hiroshima,” and the subtitle “Atom City’s People Fight for Life.”²⁷ Even the dropping of an atomic bomb, it was to be understood, does not make a city permanently uninhabitable and does not wipe out the entire population, but allows for reconstruction. A year later, on the occasion of the second anniversary of the bombing, the magazine printed a report with pictures

showing patients in a hospital of Hiroshima who had been affected by radiation; but it also printed pictures of the first Peace Festival and the striking of the peace bell by the city's mayor. The final sentence of the commentary read, "Perhaps it will remind the whole world of the atom bomb and help to prevent war for all times."²⁸ In the long run, the message seemed to say, the use of the ultimate weapon might turn out to be the beginning of a fundamental learning process, and therefore, in the end even a blessing for mankind.²⁹

One other aspect is striking in *IWI* articles on atomic bombs and nuclear energy between the end of the Second World War and the beginning of Indian independence: the vocabulary used to describe nuclear explosions began to infiltrate everyday speech and advertising. As early as November 1945, the magazine printed a short story entitled "The Atomic Bomb." It told about Indian schoolboys planning to set off cans of explosives under the schoolroom during a holiday ceremony at which the dignitaries of their village would be assembled. "Let's atomic bomb him," was the unusual proposal of a pupil for the treatment of their headmaster in order to bring about an abrupt end to the ceremony and a long cancellation of classes.³⁰ In early June 1947, an advertisement praising the effectiveness of nasal drops was symbolized by the picture of a nuclear explosion (see [appendix I, AI.3](#)).³¹ Here, the image of the mushroom cloud was used not as a metaphor for destructive power but for maximum power in a positive sense.

Early Indian Nuclear Policy as the Basis of Reporting in the *IWI*

One reason that the *IWI* between mid 1945 and mid 1947 strongly emphasized the possibilities of using nuclear energy for civilian purposes may have been that India at that time did not feel threatened by an attack with nuclear weapons. Another and more important reason probably was that the leaders of the Indian independence movement placed great hopes on the use of nuclear energy for civilian purposes, and prepared to involve India in nuclear technology immediately after independence.³² The driving force here was the physicist Homi Bhabha, mentioned above. Born in 1909 as a descendant of a rich Parsi family in Bombay related to the most important Indian family of industrialists, the Tatas, Bhabha had studied mechanical engineering and physics in Great Britain and knew the most prominent nuclear physicists throughout Europe personally. Studies in cosmic rays had made him well known in the 1930s. In 1939, when the war in Europe

broke out, he was in India for holidays; and because the war made his career chances in Great Britain uncertain, he remained in India and accepted a job, paid by the Tatas, at the Indian Institute of Science (IIS) in Bangalore. The longer the war went on and the longer he was forced to stay in India, the more he became involved in discussions about the development of the country after the end of British colonial rule. One of the biggest problems after independence would be the supply of electricity. In 1939, the capacity of power stations in British India amounted to not more than 1 million kilowatt hours. The country's fossil fuel resources known at that time—mostly coal of poor quality—were limited and concentrated in only a few regions far away from industrial areas. One way of meeting the country's growing energy needs was the use of hydropower, which indeed was later developed on a large scale. Bhabha, however, well informed about the state of the art of nuclear physics, was convinced already in 1943 that after the war nuclear energy would be used for the production of energy, and strongly recommended that India should begin with preparations without delay. In 1944, he designed a research institute, which was to serve as the nucleus, with one focus on nuclear physics and another on cosmic ray research, his own scientific field. In June 1945, the Tata group decided to fund the institute and appointed Bhabha director. At first, the Tata Institute for Fundamental Research (TIFR) was affiliated with the IIS in Bangalore.

When a few weeks later the United States dropped atomic bombs on Japan, the Indian elite was shocked. Bhabha, however, showed professional respect and spoke of the "beginning of a new epoch—the epoch of nuclear energy," as quoted already.³³ Soon after, the independence movement obviously decided to prepare an independent India for involvement in nuclear technology. In December 1945, the TIFR was moved from Bangalore to Bombay, Bhabha's hometown. In June 1946, Nehru publicly expressed the hope that an independent India would be capable of using nuclear energy for peaceful purposes.³⁴ In early 1947, he declared that the utilization of nuclear energy meant crossing "the threshold of a new age in the sense of enormous power resources being put at the disposal of humanity and the community," which would change "the whole structure of society." "We cannot neglect it because it might be used for war," he continued, and emphasized, "In India we want to develop it and we will develop it to the fullest. Fortunately we have eminent scientists here who can do so. We shall develop it . . . in cooperation with the rest of the world and for peaceful purposes."³⁵ Reporting in the *IWI* reveals that the hopes which Bhabha and the leadership of the independence

movement placed on the civilian use of nuclear energy were known to the magazine's editors, who perhaps were informed by Bhabha himself. Obviously, they shared these hopes and used them to filter and assess relevant information.

After gaining independence, India embarked on the road to nuclear development at extraordinary expense and remarkable speed. As early as December 1947, a Board of Atomic Research was appointed, headed by Bhabha.³⁶ In August 1948, the Indian parliament passed the Atomic Energy Act, a general authorization by the government for all kinds of activities geared toward the use of nuclear energy for nonmilitary purposes, and established an Atomic Energy Commission (AEC), based on the British model; Bhabha was appointed director. In the summer of 1954, a ministry for the promotion of nuclear technology was established, the Department of Atomic Energy (DAE), with Bhabha as permanent secretary.

India pursued a three-stage plan. First, reactors using natural uranium for the production of energy and plutonium; then, reactors for the production of uranium-233 from thorium combined with plutonium; finally, breeders fed with thorium and uranium-233.³⁷ This plan was tailored to particular conditions in India. In 1942, scientists of the Manhattan project had discovered that thorium could be split by rapid neutrons, thereby creating an isotope of uranium, and that thorium in combination with a certain amount of uranium could cause a chain reaction.³⁸ The United States disclosed this discovery in late March 1946. In India, it was considered at once to be "the most important revelation since the atomic bomb itself," because India possessed the world's largest deposits of thorium with vast monazite sands in the south.³⁹ But when the Indian plan was adopted, experience in the conversion of thorium into uranium-233 was very limited and that in breeder technology and reprocessing even more so. It was totally unknown, therefore, whether the chosen path was viable at all, and how much time and money would have to be invested.

Nevertheless, the path was taken with remarkable energy and with equally remarkable support of the industrialized countries, mainly Great Britain, Canada, and the United States. At the end of the 1950s, India disposed of a big nuclear research center with three research reactors, a plant for nuclear fuel elements, and plants for the reprocessing of monazite sands and thorium; and in the mid-1960s India disposed of a reprocessing plant and a plant for heavy water, too. Already in the late 1950s, the Indian government had decided to construct three nuclear power plants. In the mid-1960s, reactors burning thorium and plutonium were planned to be added, to be followed by breeder

reactors in the late 1960s. In 1964, Bhabha predicted that by the end of the century, an essential part of Indian electricity would be supplied by nuclear power plants and from then on, any increase of India's power requirement would be supplied by nuclear energy only.⁴⁰

Reporting of the *IWI* on Nuclear Technology from 1947 to the End of the 1950s

After India's independence from British rule, the frequency of articles in the *IWI* on the development of nuclear technology—military and civilian—dropped markedly. In the 1950s, it rose again; but until 1964, it never attained the level at which it had been in the years between the end of the war and the start of independence.⁴¹ However, the basic line of reporting remained unchanged. Until the early 1960s, the *IWI* adhered to the conviction that the risks posed by the use of nuclear weapons could be mastered, and that the possibilities for the peaceful use of nuclear technology offered hitherto unthinkable prospects. Articles on these possibilities, therefore, prevailed.

Reporting on Military Aspects of Nuclear Technology

With regard to the military aspects of nuclear technology, the *IWI* focused on the development and testing of nuclear weapons. It continued to publish pictures of test explosions and their characteristic mushroom clouds. Some subheadings revealed a continuing fascination with regard to the enormous energy released by the tests,⁴² for the risk of nuclear war still seemed small, mainly for technological reasons. Indeed, as early as 1946, there was a discussion about a combination of atomic bombs and missiles, which in the Second World War still had been unknown. In April 1948, the *IWI* quoted the Soviet designer of rocket technology Yuri Pobedonostev, who believed that “the country which attains the greatest success in the development of rockets will win the next war.”⁴³ In November 1948, however, the magazine published a letter from London, which tried to allay fears by pointing to an opinion expressed by Professor Blackett of the University of Manchester, who “is discounting entirely the possibility that in a year or two we shall have V2 rockets with atomic war heads.” The letter stated that Blackett “says emphatically that the belief that atomic weapons alone will be the decisive factor in a new war is mistaken.” “It really looks,” the author of the letter commented, “as though our scientists are not trying quite as hard as they were to blow the whole world to pieces.”⁴⁴

Obviously, in the editorial staff of the *IWI* this belief was so strong that even a report on America's largest atomic facility, the plutonium plant in Hanford, sought to dispel anxieties about possible risks of this fuel for atomic bombs. "It is not an all-war project," the article said. "Here scientists are experimenting also on conversion of this fuel into energy for peacetime industrial use." Hanford itself was described as a stimulus for the economy of the Pacific Northwest of the United States and as a kind of idyllic community for the people living and working there. Totally controlled by the Federal Bureau of Investigation (FBI) and without trade unions, but with high incomes and a high birth rate, with excellent medical care, and practically no juvenile delinquency or adult crime, Hanford "is a pleasant place to live in for those who are producing something that can destroy life or present civilisation with one of its greatest gifts." The last sentence stated, "Whether the products of this giant new industry hold hope or death for the world" depended upon the representatives of the United Nations who at that time were assembled in Lake Success, 3,000 miles away.⁴⁵

After the Soviet Union had tested its first atomic bomb in 1949 and thus broke the initial monopoly of the United States, a nuclear arms race began. New types of nuclear weapons were constructed, the destructive power of which was much higher than that of the bombs dropped on Japan. Hundreds of them were being tested, spreading nuclear fallout over the entire globe. At the same time, rocket technology made rapid progress. Soon missiles were capable of carrying nuclear weapons thousands of miles to any place on earth within a very short time. Thus, the destructive potential of these weapons increased enormously compared to the bombs dropped on Japan. Now, the message that nuclear weapons posed a deadly menace to mankind or even to every kind of life on earth began to be given greater emphasis in the *IWI*. As in other countries, the mushroom cloud became a metonym for the destructive power of nuclear energy. In April 1954, an illustrated article on the first explosion of an H-bomb stressed "the world's anxiety about the future of mankind"—a fear that leading British newspapers had expressed on their front pages. A still deadlier weapon, the cobalt bomb, "has since become a possibility," the article said. "If exploded, it would produce a radio-active cloud capable of travelling thousands of miles, destroying all life in its path."⁴⁶

In the second half of the 1950s, the *IWI* repeatedly published poetry that expressed fears of nuclear death. In June 1957, it printed a poem entitled "The Atom Tests," in which the reader encounters the image of mothers frightened of nuclear tests and crying while lulling

their babies to sleep in their arms. They are in a country, perhaps in India, far away from a state possessing nuclear weapons, and pray to God for the survival of their children. The poem evokes a world of natural innocence and will to live, as symbolized by the mother and her child, by plants capable of pushing through concrete, and by the menace posed in the form of foreign countries. Particularly striking is a reference to “Berlin’s Jews” by which a connection is drawn between nuclear weapons and the holocaust.

Just one week later, the *IWI* published another poem, in unusual combination with an illustration: The text of the “Poem for a Nuclear Age” was superimposed on the picture of a mushroom cloud.⁴⁷ This poem, too, utilizes extreme contrasts that were characteristic of many publications dealing with the “atomic age”: the contrast between the beauty of nature and total destruction, between innocence and monstrous crime, between idyll and waste. Here, too, children symbolize innocence and the preservation of humankind. Flowers, music, the singing of birds, and physical forms of women symbolize the beauty of nature and the demand for its protection. The poem expresses deep doubts as to the world’s ability to renew itself, like Phoenix, after a nuclear war, and again be livable.

Only rarely, however, did the *IWI* give in to the temptation of resignation or sentimental lament as expressed here. Rather, it went on to pin its hopes on technical and political antidotes against nuclear war. It no longer mentioned air-raid shelters and underground cities. Instead, it focused on new devices combining antimissile missiles and electronics. In 1957, in the same edition in which the first poem was published, the magazine reported on a lecture by the leading British aeronautical scientist, Sir Arnold Hall, who in Washington had spoken of a defense against even the long-range H-bomb rocket by the use of “electronic brains” and the new science of cybernetics. In all, the possibilities for using such technology for peaceful purposes would turn out to be just as beneficial as the possibilities of nuclear technology itself.⁴⁸ Moreover, the *IWI* went on to place its hopes on human reason, at least on mutual deterrence. “A general realisation of the devastating effects of the atomic and thermo-nuclear weapons appears to hold out the promise of peace to the war-weary world,” it wrote in 1956.⁴⁹ It observed the negotiations between the United States, the Soviet Union, and Great Britain on a nuclear test ban treaty, which started in 1958, with a note of hope.

Reporting in the *IWI* on Hiroshima and Nagasaki underwent remarkable changes. When the magazine returned to this topic in 1954, it no longer legitimized the dropping of the atomic bombs;

rather, it placed these events out of historical context. A report on the dedication of the peace church in Hiroshima referred to the city as the “symbol of a terrible new age” and indicated that Hiroshima presented itself as a symbol for the desire for peace and for the rejection of the use of nuclear weapons. It also depicted the city as a symbol of the horrors of nuclear war.⁵⁰ The *IWI* repeated this view in 1956, when, for the commemoration of the bombing, it printed a poem by the American author Harry Roskolenko—a poem about the children of Hiroshima, who years after the dropping of the bomb welcome Americans to their city.⁵¹ The center of the poem is marked by innocence and new beginning, as symbolized by the children. References to the past remain vague. The last two verses read as follows:

Cry! For their innocence is like all others
 Who wait for emperors to crown their loneliness.
 And if the thorns are angels and roses are devils,
 The children do not know and they are young.
 Little, small, humble, like the white of snow,
 They shout “Hello!” As if Americans were birds;
 Not hawks or crows or dragons, but a thing, winged,
 Waiting to fly or perhaps only to sing.

Five years later, the *IWI* again redefined the significance of the victims of Hiroshima. In 1961, it stated, “If the people of the world could see Hiroshima and take a unified decision never to use nuclear weapons again, then the men, women and children who died there would not have done so in vain.”⁵² Moreover, it presented the city as a symbol of the will to live and rebuild. An illustrated report in January 1964 ended with the sentence, “The city’s motto might well be: If it can be made, Hiroshima can make it.”⁵³ On the occasion of the twentieth anniversary of the bombing, the *IWI* wrote that “Hiroshima has become the symbol of nuclear nightmare,” and added photos from Nagasaki showing war damage, commemoration ceremonies, the Peace Memorial, reconstruction projects, and children. Many inhabitants, the report said, continue to “fear for their children, for radiation diseases, particularly leukaemia.” The article recalled the fact that the bombs had ended the Pacific War, “but the whole human race was shaken more by these two explosions than by any other event of the century. Today, 20 years later, the world is still conditioned by what happened in Japan.”⁵⁴ Hiroshima and Nagasaki had become warning signals against the monstrous destructive power of nuclear weapons as well as symbols for the desire to abandon the use of such weapons and to rid the world of them once and for all.

Reporting on the Use of Nuclear Technology for Peaceful Purposes

Between 1947 and the end of the 1950s, the *IWI* reported more often on the use of nuclear technology for peaceful purposes than on weapons and their hazards. At the end of 1947, a report on Britain's "atomic capital" Harwell, where the first British reactor for the production of energy was being constructed, emphasized the absolute priority set by the British government on "the development of nuclear energy for industrial, as opposed to destructive, purposes."⁵⁵ Shortly after Eisenhower's Atoms for Peace speech, in December 1953, the weekly reported on the progress of nuclear research for nonmilitary purposes in the United States under the title "The Atom Can Be Harnessed to Serve Mankind." The first passage read, "Putting the atom to work for everyone, as envisaged in President Eisenhower's proposal, can lead humanity to a new era of progress."⁵⁶ In September 1955, the *IWI* wrote at length on the first UN Conference on the peaceful use of atomic energy—"history's largest scientific conference"—held in Geneva and chaired by Homi Bhabha. Experts from rival countries, whose work had previously been guarded as ironclad secrets, concluded, the report said, "that the destiny of man is bound up with the atom." "If he must survive he must learn to control the tremendous forces hidden in it and use them to his own advantage."⁵⁷

The most exciting and most promising development thus far, the *IWI* wrote in 1954, "has been the proven possibility of creating electrical energy from the atom."⁵⁸ "The world, whose population is multiplying rapidly and whose conventional sources of energy are being exhausted, will soon be faced with scarcity of fuel," it stated more than once.⁵⁹ Electricity produced by atomic energy would also be inexpensive.⁶⁰ It quoted prominent physicists who stated that it would take several years until nuclear plants would contribute noticeably to the supply of energy. "At least a decade," the director of the first British experimental reactor in Harwell, John Cockcroft, was quoted as saying in November 1947,⁶¹ "approximately three to four years," the magazine reported in early 1954. The practical development of low-cost power "spells greater industrial progress and consequent higher living standards, particularly in areas which lack conventional power resources," such as India.⁶² A report on the 1955 United Nations conference in Geneva even said, "According to engineers, the atomic industry will be the world's biggest industry within ten years, employing more people on a larger capital investment than any other enterprise."⁶³

The hopes placed on the use of nuclear energy for peaceful purposes included contributions to chemistry, medicine, agriculture, and materials research. A report on a meeting of the American Chemical Society held in New York in the Spring of 1948 said that the chemist Glenn Seaborg had announced the first fission of the elements platinum, lead, thallium, bismuth, and tantalum, and had spoken of "the beginning of a new nuclear development." According to Seaborg, "the next step would be the making of a machine to develop energy sufficient to synthesize neutrons and protons, thus truly creating matter from energy, the exact opposite of the atom bomb."⁶⁴ Particular hopes were placed on radioisotopes, "the greatest research discovery since the microscope."⁶⁵ "In medicine, isotopes attack disease and aid research. In agriculture, they combat injurious insects and improve ways of raising more food. In industry, they test and improve production and pasteurize food, drugs and medical supplies," the magazine wrote in 1954.⁶⁶ This article was illustrated with pictures of animals and plants that had been treated with radioactive elements, of a cancer operation and a cobalt therapy unit in an American hospital, and of the application of radioisotopes in oil pipelines and in the testing of soaps and detergents used to wash clothes.

On the development of the so-called fast breeder, the *IWI* reported with great optimism as well. "The so-called 'breeder' reactor is definitely possible," it stated in early 1954, in other words, "the creation in the near future of atomic furnaces that will produce more fuel than they consume."⁶⁷ In June 1957, the weekly described the world's first breeder reactor, located in Dounreay in Scotland, as a "miracle of modern alchemy." It noted that the facility was purely experimental and that breeders were unlikely to come into large-scale use before the 1970s. However, "if the experiment is a success," an official of the British Atomic Energy Authority was quoted as saying, "it will point the way to cheaper power and ensure that there will be no fuel problems in this country for 5,000 years or more."⁶⁸

Peaceful nuclear explosions were no longer mentioned in the *IWI* in the 1950s; nuclear-powered locomotives and nuclear-powered airplanes were referred to only rarely.⁶⁹ Nevertheless, all in all the *IWI* did not doubt that the "thermonuclear age" would transform the world "in a more radical manner" than the Industrial Revolution had done in the nineteenth century.⁷⁰ The main message continued to be that the use of the atom would lead mankind into an age of ever-increasing prosperity.

Only once, in a report on the state of the art of nuclear technology for civilian purposes in the first edition of 1956, the *IWI* mentioned

“serious problems posed by the atomic age right from the beginning.” “Never before have we had to deal with radiations [*sic*] on such a large scale. Increasingly large numbers of people are exposed to these radiations, in working with reactors, in handling radioisotopes, or as a result of the test explosions of atomic or hydrogen bombs in remote places. The genetic effects of these exposures are still not well understood and are causing grave concern to scientists.”⁷¹ But such statements were rare. Other reports only touched indirectly, if at all, upon the risks in civilian nuclear technology. Like radiation from nuclear explosions, they were never discussed as a separate topic, and neither were the problems of radioactive-waste management. Accidents about which magazines of other countries reported at length and about which they often expressed concern, like the Windscale accident of 1957 and the Yugoslav research reactor accident of 1958, were ignored by the *IWI*.

Reporting on the Indian Nuclear Program

Between independence and the end of the 1950s, the *IWI* wrote surprisingly little about India’s nuclear program, probably because the *ToI* reported regularly and at length, but perhaps, too, because progress during the first years was not very visible and could not be illustrated by spectacular photos. Shortly after independence, Indian interest in nuclear technology could be found in advertisements only. In February 1948, for example, the Finance Department published an ad that promoted safe investments in public enterprises and governmental loans using the image of the mushroom cloud as a symbol of limitless potentialities for increasing material wealth and welfare by saving.⁷²

In the 1950s, steps in the implementation of the Indian nuclear program only rarely were picked up by the *IWI*. It provided mainly background stories and general overviews, frequently in texts without any illustrations. In 1950, it reported on an international conference on elementary particles, organized by Bhabha in the TIFR in Bombay. Leading physicists from several participating countries were shown in photos. The accompanying text stated, “Though atomic research has drawn to itself inordinate public interest in recent years in every country because of the terrifying possibilities of atomic energy in warfare, the theoretical foundations of our knowledge of the atom were laid by men whose chief interest was disinterested investigation of the ultimate properties of matter.” India had conspicuously lagged behind in this most important field of research, but the conference provided

Indian scientists with the opportunity for contact and discussion with leading modern physicists and, according to the article, helped “pre-empt fruitful developments in fundamental research in all directions.”⁷³ The message to be understood was that nuclear research was about more than constructing bombs, that basic research held the promise of an array of practical uses, and that India had scientists who were capable of implementing these uses in their own country.

On the occasion of the opening of the Indian nuclear research center, the Atomic Energy Establishment (AEE), in January 1957, the *IWI* reported on India’s first atomic reactor, which had become operational in August 1956. It emphasized that Indian scientists and engineers “were entirely responsible for its design, construction and erection.”⁷⁴ India is capable of constructing and operating its own reactors, the subtext of the article could be summarized. Two months later, the magazine referred to Bhabha as chairman of the Indian AEC, who had previously declared “that, if India was not to lose further ground in the modern scientific and technological world, it was imperative to set up nuclear power stations in the coming five years, to produce electric power, as well as plutonium to serve as fuel for future reactors.” In the following year, the article continued, the AEE would launch a training program for scientific and technical personnel, who not only were to be recruited from India, but from abroad as well, in particular from other Asian and African countries. “This exciting adventure by India in the nuclear field,” the report concluded, “should thus benefit other economically-backward countries in the near future.”⁷⁵ Indeed India, which under Nehru was a leader of the nonaligned world, tried to play a principal role in the advancement of civilian nuclear technology in former colonial countries. Reports on Indian nuclear research were complemented by portraits of eminent Indian scientists and by articles about single research institutes and Indian research policy in general, sometimes written by policy makers themselves.⁷⁶

From the End of the 1950s to the Mid-1960s

In the late 1950s, the first demonstrations against nuclear weapons, the arms race, and bomb testing occurred in Western countries. The first ones were not reported on in the *IWI*. In the second half of the 1950s, the magazine’s portraits of Albert Schweitzer, Bertrand Russell, and other prominent individuals who advocated nuclear disarmament and the abolition of nuclear weapons failed to mention their active opposition to such weapons.⁷⁷ However, when the United

States and the Soviet Union resumed their testing in September 1961 and provoked worldwide shock and new demonstrations, the magazine expressed understanding for the protests. In October 1961, it reported at length on a London demonstration that was aimed against the resumption of nuclear tests and at which “angry young” authors like John Osborne and prominent actors such as Vanessa Redgrave were present. The nonviolent nature of the demonstration and the arrest of more than 1,000 participants reminded the magazine’s correspondent of Satyagraha in India. He quoted in full Bertrand Russell, the president of the organizing committee, who, speaking to the demonstrators, evoked the picture of a lifeless planet ruined by a nuclear war, and thus presented an image similar to the one conveyed by the two poems which the magazine had published in 1957.⁷⁸

In spite of the tests, the *IWI* remained optimistic: “Sooner or later, the nuclear powers and the rest of the world must find a defense against their Frankenstein’s monster.”⁷⁹ One year later, however, a guest contributor stated that “this hope of overawing the world into peace has proved to be unfounded . . . It seems mankind has chained itself to irrevocable annihilation and that TOO LATE is already written over its fate.”⁸⁰ But this article was part of a series of reports on an international symposium on “Prospects of World Peace,” which took place in Delhi in the summer of 1962 and ended with the proposal that a delegation of distinguished persons meet with the heads of the chief nuclear powers and prevail upon them to begin banning nuclear weapons. The *IWI* dedicated eight pages to this event, thus reporting at unusual length, presumably because it did not see an alternative to the symposium’s aim of ending the nuclear arms race and eliminating fatal consequences of such a race. However, the length of the report also reflected the fact that the magazine shared the belief that India’s president Prasad had expressed in his opening address, that India’s Gandhian tradition of nonviolence compelled the country to take leadership here. When the United States, the Soviet Union, and Great Britain finally met in Geneva in 1963 to sign an agreement on the ban of aboveground nuclear testing, the *IWI* printed a picture of the ceremony and began the caption with the hopeful words, “Towards World Peace.”⁸¹

Articles on the use of nuclear technology for civilian purposes began to appear less frequently in the *IWI* at the end of the 1950s. The same applied to magazines in industrialized countries. This was due to the fact that the far-reaching developments predicted in previous years failed to come true as rapidly as had been expected, and some of them had not yet been realized at all. For example, the amount of electric power produced by nuclear energy in Great Britain and the United States

was still far less than 1 percent of the national output.⁸² The number of nuclear-powered vessels was minimal and relatively high only in the military, where some nuclear submarines and aircraft carriers were being used. The building of nuclear-powered cars and trains, not to mention nuclear-powered aircraft, was now rarely discussed. Furthermore, there had been no noticeable attempt to use radioactive isotopes to enhance agricultural production and only limited use in the treatment of cancer. The utilization of so-called peaceful nuclear explosions to aid in geoen지니어ing had failed to become reality as well.

In industrialized countries, therefore, public interest in nuclear technology was replaced partially by interest in another new technology that seemed just as promising: spaceflight. This became especially true after 1957, when the Soviet Union launched the first artificial satellite into orbit around the earth. The *IWI* reflected this shift in interest. In February 1959, it published a photo of leading American scientists triumphantly holding aloft a duplicate of the American satellite Explorer, which had been orbiting the earth since 1958.⁸³ In November 1959, it quoted a prediction made by a Soviet scientist that in the twenty-first century, scientists would have explored all planets in the solar system and would prepare for flights to other worlds, probably by means of a "photon rocket" the speed of which "will come close to that of light."⁸⁴

Reporting on the development of nuclear energy in India also became less frequent because here, too, nuclear energy did not yet contribute to power production. Instead, the magazine began to write more frequently about space research in India.⁸⁵ A detailed portrait of Bhabha, however, is worth mentioning. Published in 1962 in a series on "Eminent Scientists of India," it compared Bhabha to Leonardo da Vinci, because of the former's interests and talents in science as well as in art and music.⁸⁶ The author, a well-known science writer, emphasized that "the *ultimate Thule*" of Bhabha's vision of atomic power were fusion reactors, which would simulate the solar process of energy production without using fissionable material as fuel and without producing radioactive waste. Bhabha, "the prophet of a new heaven on earth," believed that fusion power would become possible, the article said. "If and when it does and controlled energy begins to flow from fusion, power will no longer be a problem in India, or, for that matter, for the world." The tribute ended by adding that even if Bhabha were to realize "only a part of his power dream, he will be remembered as the chief architect of our atomic-energy pillar that bids fair to be, in increasing measure, the mainstay of world technology, including ours, in the future."

In the following years, articles concentrated on an aspect of Indian nuclear development that until then had hardly ever been discussed: military use. Until the end of the 1950s, the *IWI* stressed repeatedly that the Indian nuclear program was limited to nonmilitary purposes. In 1962, however, India and China engaged in an armed border conflict, and in 1964, China exploded her first nuclear device. Many Indians now felt threatened by a possible Chinese nuclear attack. Consequently, a heated public debate broke out on whether or not the country's scientific and technical capacities should be used to construct nuclear weapons. In January 1965, the editor of the *IWI* carefully considered the pros and cons of Indian membership in the nuclear club. He personally believed that the drawbacks prevailed, but handed the question over to the readers.⁸⁷ The first to answer was Prime Minister Shastri, Nehru's successor; with reference to Gandhi, he strongly urged India not to develop nuclear weapons.⁸⁸ In each edition of February and March 1965, the magazine printed a full page of letters to the editor, 26 in all. Eighteen more or less argued against India's joining the nuclear club, seven were in favor, mostly, however, with restrictions; the writer of one letter took a middle of the road view. It is impossible to determine the extent to which these opinions were representative of the Indian educated public as a whole, as opinion polls in India at this time still were in their infancy and did not include this question. Nonetheless, the debate demonstrates that the *IWI* did react to questions that moved its readers. Conversely, from the fact that the magazine did not open a similar debate on other questions regarding nuclear technology we may infer that its reporting reflected the expectations and opinions of its readers.

Conclusion

Reporting by the *IWI* on nuclear technology between 1945 and the mid-1960s is in many respects similar to pertinent reporting by illustrated magazines in industrialized countries. Both emphasized the ambiguity of the so-called atomic age between annihilation and progress hitherto undreamt of. Both wrote about nuclear-powered ships, locomotives, and airplanes; about a revolution in medicine and agriculture with the aid of radioactive isotopes; and about large-scale geoengineering by peaceful nuclear explosions. In addition, the linguistic means used by the *IWI* are in part the same as those employed by Western magazines: one can find dichotomies between apocalypse and paradise, fear and hope, and so on. Occasionally, there is recourse to literary figures such as Frankenstein. A particularity of the *IWI*,

however, seems to be the use of poems to express fears of nuclear war and destruction. The image of children as metonyms of innocence, of life in harmony with nature and other people, and of nonviolence in these poems, however, is to be found in other magazines, too. In content as well, reporting in the *IWI* on nuclear technology referred to developments in industrialized countries, primarily in Great Britain and the United States. Sometimes the magazine adopted articles of British and American magazines. The majority of experts quoted by the magazine were also British, members of the British Commonwealth (such as the Australian physicist Mark Oliphant), or Americans. Moreover, most of the photos appearing in the weekly came from Britain and the United States.

Reference to these countries may have been due to the fact that, even after Indian independence, British and American news agencies virtually monopolized the import of foreign news into India. Furthermore, after independence, India's relations to Britain remained particularly close; educated Indians continued to be on cordial terms with the former colonial power. It was no coincidence that the only foreign correspondent of the *IWI* was based in London. In accordance with Nehru's policy of nonalignment, however, the magazine tried to avoid limiting its perspective to the Anglo-American world by also reporting on developments in the Soviet bloc and sometimes quoting Soviet scientists.

In other respects however, reporting in the *IWI* on nuclear technology differs from that in Western magazines. First, there were technical and financial considerations. In the 1950s, the quality of paper and printing in India was much poorer than in industrialized countries. This also pertained to the reproduction of photos for many of which, in addition, the publication rights had to be purchased from Western news agencies. Consequently, the *IWI* printed fewer photos than did, for example, *Life* and *Stern*. Color printing was still nearly unknown in India, hence the use of eye-catching front pages. Furthermore, there were differences regarding content. Some events on which Western magazines reported at length did not appear in the *IWI*, for example, the Lucky Dragon and the Windscale accidents. And the Indian magazine reported much less on the risks of radiation than did magazines in other countries. One possible reason is that the *ToI* reported on them. Indeed, the newspaper mentioned these risks when reporting on the testing of nuclear weapons and on negotiations to ban such tests. It also reported on the death of a crewmember after the Lucky Dragon accident.⁸⁹ It did not mention the Windscale accident, perhaps because it usually reported on accidents occurring abroad only

if they had many victims; Windscale may have seemed unimportant for Indian readers. Perhaps, however, accidents and unsolved problems did not fit the image of nuclear technology that the *IWI* propagated. This image was significantly more optimistic than that found in Western magazines. Indeed, the *IWI* did report on the hazards of nuclear warfare, test explosions of nuclear weapons, and nuclear fallout; but it did so mostly with the underlying assumption that in the end human reason would prevent nuclear war. In addition, the image of nuclear energy for peaceful purposes that was propagated by the *IWI* was unequivocally positive. Certain extravagant predictions were dropped after some time; but the magazine never expressed any doubt that civilian uses of nuclear energy would lead mankind into a better future. Risks were mentioned only rarely, alternatives not at all.

This striking optimism is similar to the optimism that can be observed early in the United States and later in both the Soviet Union and its satellite states, such as the German Democratic Republic; but it differs from these in essential aspects.

- It was dominant immediately after the bombing of Hiroshima and Nagasaki, whereas in the United States optimism and pride were accompanied by rampant doubt, self-reproach, and other gloomy feelings—especially among physicists who had participated in the Manhattan Project.
- It was not linked to political goals or to the ambition to propagate either capitalism or communism.
- It was less thwarted by fears of nuclear weapons than was the case in Western countries.

Thus, reporting in the *IWI* reflected the main lines and motives of Indian nuclear policy under Nehru. It reflected the hopes that were placed on nuclear technology even before independence and that were the foundation of India's early involvement in this technology: the hope that India would jump from the "age of cow dung" into modernity, skipping over the age of coal, on which the development of the old industrialized countries had been based; that India's energy supply would become independent of foreign countries and would thus serve to secure economic independence after political independence had been gained; that India's achievements in nuclear technology, the alleged future technology par excellence, would demonstrate *ex post facto* that the disdain of Indian culture during colonial times had been unjustified and would restore both India's reputation in the world and the self-confidence of her inhabitants. Later, there also was

the hope that India could help other countries that had been or were still colonized to modernize by using nuclear technology for peaceful purposes. Moreover, reporting in the *IWI* reflected the hope that nuclear war could be avoided and nuclear weapons abolished, or that at least nuclear testing and proliferation could be ended. In addition, the Indian magazine implied, but never stated explicitly, that India's nuclear policies under Nehru were conceived as an alternative to nuclear policies of the superpowers and the former colonial powers, and as a path into the future to be followed by the third world or the world as a whole. This was to be a future without nuclear war and nuclear weapons, in accordance with "Gandhi's path of unity, love and cooperation" and not one of violence "as symbolized by the atomic bomb,"⁹⁰ and a future of prosperity and progress for all people due to the civilian use of nuclear technology.

Finally, reporting in the *IWI* reflected the broad consensus of the Indian elite toward the nuclear policy of their own country. In parliament criticism, if expressed at all, consisted only of censuring the government for not developing its nuclear program quickly enough and not providing sufficient funding. Bhabha became the "moghul" of the nuclear establishment and one of India's most prominent figures. When, in the early 1960s, doubts about his prognoses were first expressed, they were rejected by Nehru and others, and discussed only rarely in Indian media.⁹¹

Reporting on, and the public discussion of India's nuclear policy between the mid-1940s and mid-1960s had their downside, which consisted of a blindness toward exaggerations and unfounded prognoses, to risks, unsolved problems, and to alternatives to nuclear technology. In fact, nuclear energy began to contribute to India's electricity supply much later than forecast by Bhabha.⁹² Thorium fueled reactors have remained in the experimental stage until today. The dream of breeders is over, and the prognosis of when nuclear fusion will solve the energy problems of mankind remains where it was 50 years ago—namely, at 50 years. During these decades, however, this blindness did not occur in India alone; it could be found in industrialized countries and their magazines as well. This was a characteristic of the "atomic age" worldwide.

Notes

1. Cf. *The British Commonwealth 1956* (London: Europa Publications, 1956), 492.
2. The circulation of the *ToI* at this time was about 140,000 copies; cf. *Annual Report of the Registrar of Newspapers for India* (New Delhi: Ministry of

- Information and Broadcasting, Government of India, 1961), 66–67; on the illiteracy rate, *The Cambridge Economic History of India*, ed. Dharma Kumar (Cambridge, UK: Cambridge University Press, 1983), vol. 2, 948 and 965; for the history of *ToI* and *IWI*, N. S. Jagannathan, *Independence and Indian Press* (New Delhi: Konark Publishers, 1999), 143; John V. Vilanilam, *Mass communication in India* (New Delhi: SAGE, 2005), 85; K. C. Sharma, *Journalism in India* (New Delhi: Regal Publications, 2007), 142.
3. See Erik Barnouw and S. Krishnaswamy, *Indian Film* (2nd ed., New Delhi: Oxford University Press, 1980), 294–295; Manjunath Pendakur, *Indian Popular Cinema* (Cresskill, NJ: Hampton Press, 2003), 18.
 4. Obviously, pictures of the destruction in Hiroshima and Nagasaki arrived in India a week or more after the bombings. The *ToI* published the first photo of Hiroshima on August 14, 1945.
 5. *IWI*, August 12, 1945, Late News Supplement.
 6. *IWI*, August 26, 1945.
 7. *IWI*, December 2, 1945.
 8. Quoted in *IWI*, August 19, 1945.
 9. Quoted in *ToI*, August 11, 1945.
 10. Bhabha in an interview with Associated Press of India; *ToI*, August 10, 1945.
 11. Autolytus, “As I See It,” *IWI*, August 19, 1945.
 12. *IWI*, August 19, 1945.
 13. “Atomic Power Gives Food for Thought,” *IWI*, August 19, 1945.
 14. “Journey to the Moon: Atomic Power Might Make Idle Dreams Come True One Day!,” *IWI*, September 2, 1945. The magazine referred to a physicist of the University of Southern California, R. E. Volrath.
 15. “Atomic Power in Industry. Changes Inherent in Future Design,” *IWI*, November 18, 1945. Upon closer examination, however, readers may have been able to detect that he probably had not said a word about nuclear-powered cars and airplanes.
 16. “Future of Atomic Energy,” *IWI*, October 3, 1946.
 17. James Franck, “Mankind’s Benefits from Atomic Energy,” *IWI*, May 19, 1946.
 18. “March of Science. Atomic Fission Will Provide New Compounds,” *IWI*, May 26, 1946.
 19. “March of Science: Power of Atom Bomb,” *IWI*, July 14, 1946.
 20. “Atom Bomb’s Heavy Toll on Men & Material,” *IWI*, June 30, 1946.
 21. “Fortress under London Streets. Atom Bomb Could Not Have Knocked It Out,” *IWI*, March 10, 1946.
 22. “Houses to Defy Atomic Bombs,” *IWI*, March 31, 1946.
 23. *IWI*, June 30, 1946.

24. "French Scientist's Warning," *IWI*, June 30, 1946.
25. "March of Science: Power of Atom Bomb," *IWI*, July 14, 1946.
26. L. Marsland Gander, "Lights of London: Atomic & Other Topics," *IWI*, December 17, 1946. The report is dated November 3, 1946.
27. *IWI*, September 8, 1946.
28. "Hiroshima," *IWI*, August 31, 1947.
29. Already in May 1946, the *IWI* had quoted a long passage from a talk given by American president Truman, who called the mastering of "the science of human relationships, . . . the defence of tolerance and understanding, of intelligence and thoughtfulness [possibly] the only defence against the atomic bomb" and emphasized that once "we have learned these things, we shall be able to prove that Hiroshima was not the end of civilisation, but the beginning of a new and better world." *IWI*, May 12, 1946; the quotations were taken from a Reuter report.
30. Snilloc, "The Atomic Bomb: A Boy's Divali Escapade," *IWI*, November 4, 1945.
31. See *IWI*, June 1, 1947. The commenting text said, "Atomic experiments have not yet succeeded in benefitting mankind but ARGOTONE Nasal Drops confer the greatest possible benefit by giving instant relief to all sufferers from colds and catarrh."
32. This did not at all fit into Gandhi's ideas of India's future. But at this time, Gandhi was a political icon only. The leader of the independence movement and, after independence, of the Congress Party was Jawaharlal Nehru. His vision of India's future was influenced by European models, particularly by the Soviet combination of industrialization, socialism, and a centrally planned economy. With regard to economics, the vast majority of the Indian elite followed Nehru, not Gandhi. For Gandhi's relationship to Nehru and the differences in their respective ideas cf. Dietmar Rothermund, *Gandhi und Nehru. Zwei Gesichter Indiens* (Stuttgart: Kohlhammer, 2010).
33. Quoted in *ToI*, August 11, 1945.
34. See interview with him in Bombay on June 6, 1946, quoted in Lorne J. Kavic, *India's Quest for Security. Defence Policies, 1947-65* (Berkeley, CA: University of California Press, 1967), 28, note 19.
35. Nehru in his opening address to the Indian Science Congress, January 3, 1947, in Delhi; in Jawaharlal Nehru, *Selected Works [SW]*. 2nd ser., vol. 1 (Bombay: Oxford University Press, 1984), 373.
36. See *ToI*, December 1, 1947, and June 8, 1948.
37. See *ToI*, November 27, 1954; Dhirendra Sharma, *India's Nuclear Estate* (New Delhi: Lancers, 1983), 19; Prashant Agarwal, *India's Nuclear Development Plans and Policies* (New Delhi: Northern Book Centre, 1996), 22-23.
38. See Henry DeWolf Smyth, *Atomic Energy for Military Purposes* (Princeton, NJ: Princeton University Press, 1948), 7, 27, 38-42.

39. *ToI*, March 29, 1946.
40. For India's early nuclear policies cf. Robert S. Anderson, *Building Scientific Institutions in India: Saha and Bhabha* (Montreal: McGill University, 1975); Itty Abraham, *The Making of the Indian Atomic Bomb* (New York: Zed Books, 1998); George Perkovich, *India's Nuclear Bomb* (Berkeley, CA: University of California Press, 2001); Hans-Joachim Bieber, "Zur Frühgeschichte der indischen Nuklearpolitik," *Geschichte und Gesellschaft* 31 (2005): 373–414; Robert S. Anderson, *Nucleus and Nation: Scientists, International Networks, and Power in India* (Chicago: University of Chicago Press, 2010), 169–275.
41. Cf. [appendix II](#)
42. For example "this magnificent, but disastrous display of an atomic cloud" of an American test in the desert of Nevada in March 1953; *IWI*, April 19, 1953.
43. "March of Science: Weapons More Powerful Than Atom Bombs," *IWI*, April 11, 1948. At the same time the *IWI* surprised its readers with this information: "The atom bomb is . . . fast becoming obsolete. It is no longer a secret that in the arsenals of the great powers there are other absolute weapons—chemical, biological and climatological—more devastating than atomic power . . . Scientists in the world's biggest research centres are already giving their attention to the possibilities of using a cosmic ray bomb, a billion times more powerful than the atom bomb." The *IWI* did not give the source of this information and did not comment on whether this alleged progress in weapons technology was to be understood as comforting or alarming.
44. "London Letter: Fireworks and Atom Bombs," *IWI*, November 21, 1948.
45. "Birth of a Boom Town. America's Biggest Atom Colony," *IWI*, April 18, 1948.
46. "When an H-Bomb Explodes," *IWI*, April 18, 1954.
47. *IWI*, June 30, 1957.
48. Steve Pugh, "Defence against H-Bomb Rockets?," *IWI*, June 23, 1957.
49. "The Atom Explained," *IWI*, January 1, 1956. Occasionally, the *IWI* called nuclear weapons a symbol of "the childishness in men": see "London Letter: Fireworks and Atom Bombs," *IWI*, November 21, 1948.
50. "The Church of Peace in Hiroshima," *IWI*, November 22, 1954.
51. Harry Roskolenko, "Hiroshima," *IWI*, September 9, 1956.
52. Subba Rao, "My Visit to Japan," part 2, *IWI*, September 10, 1961.
53. "Rebirth of a City," *IWI*, January 26, 1964.
54. "Nagasaki Remembers . . .," *IWI*, August 8, 1965.
55. "Britain's Atomic Shuttlers," *IWI*, November 23, 1947.
56. *IWI*, February 7, 1954.
57. "Taming the Atom," *IWI* September 4, 1955.

58. *IWI*, February 7, 1954.
59. "Taming the Atom," *IWI*, September 4, 1955.
60. See, for example, *IWI*, April 15, 1951; September 4, 1955.
61. "Britain's Atomic Shutters," *IWI*, November 23, 1947.
62. *IWI*, February 7, 1954.
63. "Taming the Atom," *IWI*, September 4, 1955.
64. "March of Science: Splitting Light Atoms," *IWI*, April 25, 1948.
65. *IWI*, February 7, 1954.
66. "The Atom for Peaceful Purposes," *IWI*, July 18, 1954.
67. *IWI*, February 7, 1954.
68. "Atoms for Peace: Britains's Giant New Power Station," *IWI*, June 16, 1957.
69. In November 1959, an article about prognoses of Soviet scientists quoted the prediction that in the twenty-first century "long trips will be made in atomic airliners travelling at a speed of more than 3,000 miles per hour at altitudes of 10 to 12 miles, in the ionosphere": "The 21st Century. Soviet Scientists' Predictions," *IWI*, November 8, 1959. The texts were extracts from a Russian "Report from the 21st Century." The accompanying illustrations were on view in Moscow on the occasion of the forty-second anniversary of the October Revolution.
70. *IWI*, September 4, 1955.
71. "The Atom Explained," *IWI*, January 1, 1956.
72. *IWI*, February 22, 1948.
73. "Atomic Scientists Meet in Bombay," *IWI*, December 31, 1950.
74. "India's First Atomic Reactor," *IWI*, January 27, 1957.
75. "Nuclear Fuel for Power Generation," *IWI*, March 24, 1957.
76. For example, M. S. Thacker, "Scientific Research in India," *IWI*, January 27, 1957. The author was Director-General of the Council of Scientific and Industrial Research. Cf. also the portrait of the physicist C. F. Raman, the first Indian scientist to be awarded the Nobel prize (1931), in *IWI*, August 24, 1953.
77. Cf. the portraits of Albert Schweitzer in *IWI*, January 9, 1957, and Bertrand Russell in *IWI*, April 14, 1957, and the interview with Russell in *IWI*, February 8, 1959.
78. "Anti-Nuclear Demonstrations in London," *IWI*, October 8, 1961. Russell was quoted as saying: "You, your families, your friends and your countries are to be exterminated . . . All the private affections, all the public hopes, all that has been achieved in art and knowledge and thought and all that might be achieved thereafter is to be wiped out for ever. Our ruined, lifeless planet will continue for countless ages to circle aimlessly round the sun, unredeemed by the joys and loves, the occasional wisdom and the power to create beauty, which have given value to human life."
79. T. G. Narayanan, "Banning Nuclear Tests," *IWI*, October 22, 1961.
80. C. Rajagopalachari, "National Security Vs. World Insecurity," *IWI*, August 12, 1962.

81. *IWI*, August 18, 1963.
82. Cf. US Energy Information Administration, *Annual Energy Review*, accessed December 1, 2011, <http://www.eia.gov/totalenergy/data/annual/showtext.cfm?t=ptb0902>.
83. Cf. *IWI*, February 23, 1958.
84. *IWI*, November 8, 1959.
85. Cf. "Mysore's Teen-Age Scientists," *IWI*, February 1, 1959; "Satellite Tracking at Naini Tal," *IWI*, July 16, 1961.
86. Jagjit Singh, "Eminent Scientists of India—8: Dr. Homi Bhabha," *IWI*, February 26, 1962.
87. "Should India Join the Nuclear Club?," *IWI*, January 24, 1965.
88. Cf. *IWI*, January 31, 1965.
89. Cf. "First Victim of H-Bomb. Japanese Sailor Dies," *ToI*, September 24, 1954.
90. Nehru in an address at a public meeting on Gandhi's birth anniversary, October 2, 1949; in Nehru, *Selected Works*, II/13, 22.
91. It is unlikely that an analysis of other Indian media would produce substantially different results. Cartoons were well known in India since the 1930s, but as illustrations of newspapers and magazines only, not as an independent type of publication; see G. N. S. Raghavan, *The Press in India* (New Delhi: Gyan Publishing House 1994), 165–170. ("Cartoon as Commentary"). Films dealing with social and political issues were rare still in the 1950s. They would hardly have found a producer and, in addition, have passed censorship rules, which had been adopted from colonial times. An Indian film historian, therefore, has referred to Indian cinema as "the most apolitical cinema in the world" (Chidananda Das Gupta, *Talking about Films* (New Delhi: Orient Longman, 1989), 7. "It is impossible in films to go openly against the basic attitudes of the establishment"; *ibid.*). Ashish Rajadhyaksha and Paul Willemen, *Encyclopaedia of Indian Cinema* (New Delhi; London: British Film Institute—Oxford University Press, 2002), 222, 238, and 579, list films entitled "Atom Bomb" by Homi Wadia (1947), Taru Mukherjee (1954) and P. Subramanyam (1964). But none of them is mentioned in the major histories of Indian film histories like Kishore Valicha, *The Moving Image. A Study on Indian Cinema* (London: Sangam, 1988), Dinesh Raheja and Jitendra Kothari, *Indian Cinema* (New Delhi: Lustre Press/Roli Books, 2004), or Sushil Arora, *Cyclopaedia of Indian Cinema* (New Delhi: Anmol, 2004).
92. Cf. World Nuclear Association, *Nuclear Power in India*, accessed December 1, 2011, <http://www.world-nuclear.org/info/inf.53.html>.

Chapter 9

Conclusion: One World, Two Worlds, Many Worlds?*

Dolores Augustine and Dick van Lente

The idea of countering the threat of nuclear war with the establishment of “one world government” gained popularity after Hiroshima and Nagasaki, but by 1950 succumbed to the realities of the Cold War. The world was seemingly split in two, a democratic-capitalist West squaring off against a Communist world. These and other divisions contributed to differing views of the emerging nuclear age. Developing nations were charting a course between East and West, exploring their options, including the creation of a nonaligned movement, and developing their own perspectives on the nuclear age. The perspective of members of the “nuclear club” and of countries with nuclear power was different from that of their nonnuclear neighbors. Superpowers saw the world differently than did “mere” great powers, not to mention small countries. Were these differences reflected in popular media depictions of nuclear power and nuclear war? Did commonalities or differences prevail? Do the magazines analyzed in this volume fall into categories? But popular media were by no means mere receptors of structural forces. Rather, they actively molded popular perceptions of the nuclear age. How did they portray the nascent nuclear age, and thus encourage their readers to see the changing world, and did this happen in nationally or regionally specific ways? Did they mainly contribute to shaping national points of view, or did they also find ways to transcend these? How did ideas circulate transnationally? With regard to nuclear war and atomic power, was there such a thing as “world opinion”—that elusive entity first posited as a major force in world affairs by Woodrow Wilson—and if so, what was the role of popular media in creating, shaping, or challenging it?¹

This volume has demonstrated that readers of illustrated magazines and other popular media in eight very different countries often encountered the same events, framed in similar narratives, and expressed in similar figures of speech. They all read about the dropping of the atom bombs on Hiroshima and Nagasaki, the arms race, the rise of the peace movement, and the great promise of peaceful applications. Many came to recognize the mushroom cloud and the “Ban the Bomb” sign (according to Lawrence Wittner “perhaps the best-known symbol to appear in human history since the cross and the crescent”).² As to the framing of these events, especially during the first postwar decade, the nuclear age was depicted as one of oppositions: between peaceful and military applications, and hence, between prospects of peace and war. This kind of utopian-dystopian discourse commonly accompanies the introduction of radical new technologies, such as the steam engine and electricity, but in the case of nuclear technologies, the oppositions were more extreme: it was suggested that all of mankind was involved, and that it was at a crossroads, with one road leading to paradise, the other to Armageddon.

In the Soviet Union, almost throughout the period studied here, the utopian side of the dichotomy was emphasized, at first almost to the point of denying the dichotomy: the country was on a path to utopia, and nuclear power was among the mighty forces that would bring it there. The dark side of the atom was situated in the warmongering West, but was not taken very seriously: people there were living in fear and either ridiculously trying to protect themselves by building backyard shelters, or supporting Soviet peace initiatives by taking to the streets. In other words, in the Soviet Union, the capitalist-communist divide and a technocratic perspective completely dominated the discourse about peaceful and military atoms. In India, whose elite had a similar technocratic attitude, the prospect of atomic utopia was even less clouded by dangers of radiation and the possibility of war. The magazines in West-European countries, however, emphasized the dangers of nuclear war, even though during the mid-1950s they carried some articles on “peaceful atom” initiatives. Here, too, the dichotomy tended to disappear during the later fifties, but in the sinister direction: danger was increasingly attributed not to the opponent in the Cold War, but to the arms race for which both sides were responsible. In addition, peaceful nuclear technologies, even those used in medicine, were shown to endanger health, especially by Dutch *Panorama* and West German *Stern*. Japan seemed to live through the dichotomy sequentially: a phase of intense confrontation with the destruction of Hiroshima and Nagasaki and the fallout from nuclear tests was

followed by one in which the nation, much like India, focused on technological progress, nuclear and otherwise.

On the positive side of the dichotomy stood, in all the countries we studied except Japan, and in varying degrees, two forces: scientists and “the common people.” Scientists were, amazingly, rarely pictured as a driving force in the spiraling nuclear arms race. We do not see them at work on weapons related research in amply funded labs. The scientists who were most often quoted or interviewed were those who advocated disarmament, or were—at least ostensibly—involved in peaceful nuclear research: Einstein and Szilard in the United States, Born and von Weizsäcker in Germany, Blackett and Oliphant in Britain, Kurchatov in the Soviet Union, and Bhabha in India. (In Japan, by contrast, they were overruled by politicians, and in the Netherlands, there was more skepticism toward scientists than elsewhere). Edward Teller, “father of the H-bomb,” is a partial exception, for example, in *Stern*, where he is on the side of bomb shelter advocates, who are ridiculed in the article. But even he was sometimes presented as an advocate of peace—albeit a rather strange one—with his “Peaceful Nuclear Explosions” (e.g., in *Life* and *Panorama*). Science, readers of magazines around the world were told most of the time, was on the side of life, peace, and progress.

There are three explanations for this rather rosy picture. First, the movement against nuclear weapons was initiated by scientists, some of whom were powerful and prolific popularizers. It originated with scientists who during the 1930s had fled from fascist countries in Europe and had immigrated to the United States. During their youth and early careers, they had developed a keen notion of the problems of international politics. In 1942 already, three years before the first atomic bomb exploded, the Hungarian Leo Szilard and the Dane Niels Bohr, both involved in the Manhattan Project, started to discuss with their colleagues the disastrous consequences of the spread of nuclear weapons. Bohr tried to move Churchill and Roosevelt to deal with nuclear proliferation before it set in. He did not succeed, but many scientists shared his concerns. After the war, these men, and a few women, taught the public, at least in Western countries, the basics of nuclear physics, acquainted them with the workings and effects of nuclear weapons, advocated the creation of some kind of international authority to control the spread of nuclear technologies, and vaunted the possibilities of peaceful uses. They appeared on radio, traveled the country lecturing, and published popular books, pamphlets, and articles in newspapers and magazines. Paul Boyer has claimed, “All the major elements of our contemporary engagement with the nuclear

reality took shape literally within days of Hiroshima.”³ And Lawrence Wittner’s great overview of the worldwide movement against nuclear weapons shows that during the following decades these ideas were repeated with very little variation by pacifist organizations throughout the world, creating one of the major global movements of ideas.⁴

Second, scientists were not only prominent in the movement against nuclear weapons, but they were also the people who stood to gain most from “peaceful atom” initiatives. Although the prospects of nuclear energy were unclear—not to speak of greater ambitions such as nuclear spaceflight, manipulation of the weather, or geoengineering—state and industrial support for research into these possibilities would create a lot of well-funded work on the frontiers of science. Therefore, many scientists were happy to propagate these initiatives and explain them to the public, and they did so with a curious mixture of rhetorical references to “mankind” and national pride—in India and the Soviet Union no less than in Britain.

The third reason why scientists were often depicted on the peaceful and hopeful side of the atomic dichotomy has to do with their definition of nuclear technology as a global threat and opportunity. This was not at all obvious at first: however dreadful the destruction of two cities by just two bombs, the disaster was local, and not very different from the wholesale destruction of other cities by aerial bombardment, except for the effects of radiation, which only became widely known later.⁵ And peaceful uses were no more than speculations in a very esoteric field of science at the time. The widely read and very informative pamphlet *One World or None*, published by the multinational group of scientists in the United States in March 1946, argued very convincingly that nuclear weapons would proliferate unless a new international order was created, but that nuclear energy could also bring tremendous progress for humanity. Bohr wrote in the introduction, “The fate of humanity will depend on its ability to unite in averting common dangers and jointly to reap the benefit from the immense opportunities which the progress of science offers.”⁶

This quickly accepted global definition of the situation in turn explains why scientists were a source of hope in many popular publications: they were seen as a kind of international brotherhood, hampered in their exchange of views by the barriers of the Cold War, which therefore also impeded progress. The Communist version of this argument was that Western scientists had to work under the eyes of secret services and had to serve capitalist interests, while under communism they could serve humanity. This belief in the beneficial role of scientists explains why the 1955 Geneva Conference on

peaceful applications of nuclear technologies sent such a wave of optimism and hope across the world. Here, scientists from East and West met to exchange data and insights that until that time had been kept secret. The conference created, in countries around the world, a sense that a new and beneficial industrial revolution—more far reaching than the nineteenth century one, it was often said—was about to start. *Ogonyok* also expressed political hopes: it wrote that prominent scientists like Kurchatov and Joliot-Curie could use their international contacts to prevent conflicts between states. The often invoked “spirit of Geneva” was the idea that international cooperation toward a peaceful world was possible, and scientists, by the nature of their work, were natural leaders here.

This internationalism is also the core of the much vaguer idea of “the common people” as a force for international peace—an idea we do not find much in India and Japan, but that was very powerful in Communist and Western countries. According to *Ogonyok*, ordinary people around the world, and especially workers and scientists, share a deep longing for peace. The Soviet-dominated World Peace Council, led by the French communist physicist Frederic Joliot-Curie, and after his death by the Irish communist scientist John Bernal, called on people around the world to sign its Stockholm Appeal in 1950. But in the West, this idea was also widely shared. It is connected with Wilson’s notion of world opinion.

During the First World War, the American president Woodrow Wilson had argued that the increasing destructiveness of modern warfare meant that traditional international politics, based on national interest, was becoming self-destructive. An entirely new system of international relations was necessary, based on some kind of international authority, which would derive its legitimacy from “world opinion,” the longing for peace and freedom that would, according to Wilson, become increasingly common throughout the world with the spread of democracy.⁷ The League of Nations was the practical outcome of this, and although it was not very successful, Western leaders, and especially those of the United States, were committed during the Second World War to creating an improved version of this institution. During the war, a spate of books appeared on this theme, such as the bestseller *One World* by the American politician Wendell Wilkie.⁸

The Cold War was in many ways a struggle for world opinion, pitting hopes for a capitalist world order against Communist visions of the future. Diplomatic moves of the Americans as well as of the Soviets were often intended not so much to achieve compromise at the negotiation table, as to mobilize public opinion.⁹ By appealing to

people around the world, American and Russian leaders tried to keep the leaders of allied nations on their side and undermine the credibility of their rival. For example, Eisenhower in his "Peaceful Atom" speech, in the General Assembly of the United Nations in December 1953, addressed world opinion as follows: "I know that the American people share my deep belief that if a danger exists in the world, it is a danger shared by all; and equally, that if hope exists in the mind of one nation, that hope should be shared by all." He then announced the intention of the United States to transform nuclear power from a threat for all human civilization "into a great boon, for the benefit of all mankind," by offering American nuclear technology and fissionable material for peaceful uses. It was a bid for long-term American leadership in this strategic technology.¹⁰

The antinuclear movement also addressed the common people all over the world. Albert Schweitzer's radio speeches in 1957 and 1958 are a good example.¹¹ The American journalist and peace activist Norman Cousins had persuaded the reluctant Schweitzer to make a public statement against nuclear armament, by arguing that "there was no living person whose voice on such an issue would be more widely heard or respected." According to Cousins, Schweitzer had answered that "an informed and determined world public opinion could serve as a powerful force in bringing about enforceable agreements with respect to arms control." In this spirit, Schweitzer then delivered four speeches, the first in March 1957, another three a year later. They were fact-filled lectures on nuclear physics, the effects of radiation on the human body, and scenarios for nuclear war. One of his points was that the nations conducting tests, which caused radioactive poison to enter the food and drink of other peoples, as was happening in Japan at the time, were breaking international law. Schweitzer was convinced that these facts and arguments would make the public recognize the folly of nuclear testing and the arms race, which would force politicians to terminate these activities. "A public opinion of this kind stands in no need of plebiscites or committees to express itself," Schweitzer asserted. "It works through just being there." And, "In the long run, even the most well-organized propaganda can do nothing against the truth."¹²

Research in American government archives by Lawrence Wittner has revealed that this seemingly naive view was in fact quite accurate.¹³ Public opinion in Western countries was indeed turning against the tests, Schweitzer had enormous prestige in the United States, and American authorities were very nervous about his influence. It was mainly this public pressure that led the American government, in August 1958,

to suspend nuclear tests (following the Soviet Union, which had done so in March that year). In other words, whether or not there really was such a thing as a world public opinion, it was “real in its consequences”: polls measured it, activists assumed that it existed and addressed it, and so did politicians.¹⁴ In the West, politicians also acted under the pressure of this public opinion. This was less the case in Communist countries, and in Japan, the government could count on a population that generally supported the development of “high tech.”

A final factor in the globalization of discourse on nuclear technologies was the popular media themselves, especially the photographs in illustrated magazines. The German historian Jens Jäger has argued that already in the 1930s a kind of international “documentary style” had developed among photographers working for illustrated magazines, who had to operate in an intensely competitive market. Because magazines could choose from a huge number of photographs, supplied by international agencies and freelance photographers, photos in different national magazines tended to display very similar characteristics: they had to be understandable for people in all countries where the press agencies tried to sell them; they should be perceived by the public as reliable reports on the world; they should be arresting, giving a “new angle” to news if possible, but without shocking too much, that is, just enough to attract attention; and they should exploit the specific qualities of photography (such as angle, lighting, and close-up), without becoming obscure or too artistic.¹⁵

In addition to this, many photographers during the 1950s developed a kind of globalizing humanitarianism, the idea that bringing readers practically eye-to-eye with fellow human beings in faraway parts of the world would instill a sense of common humanity and solidarity, that might act as a force for peace in a conflict-ridden world. This idealism is very clear, for example, in the exhibition *The Family of Man*, which started in the New York Museum of Modern Art (MOMA) in 1955, then traveled to 38 countries, including the Soviet Union, and eventually attracted more than 9 million visitors. In the introduction to the catalog, Edward Steichen, the organizer of the exhibition, celebrated “the art of photography as a dynamic process of giving form to ideas and of explaining man to man. It was conceived as a mirror of the universal elements and emotions in the everydayness of life—as a mirror of the essential oneness of mankind throughout the world.”¹⁶ The only color photograph in the exhibition, covering a whole wall, showed a nuclear explosion, and quoted the warning, mentioned above, about nuclear war from the famous Russell-Einstein manifesto, which had just appeared.¹⁷

Although difficult to pin down with any degree of exactness, anybody leafing through the illustrated magazines of the postwar decades will recognize this spirit. Communist publications had their own version, which emphasized the solidarity of the people of the socialist world with former colonial peoples, who continued to be oppressed by capitalism and imperialism. Thus, the East German *Neue Berliner Illustrierte* (*NBI*) depicted women on the Marshall islands, where the Americans tested their hydrogen bombs—vulnerable in their skirts and leis, baby on one arm, or Japanese women in white singing in protest to the introduction of American nuclear weapons in their country. This also fitted into *NBI*'s gradual shift from a black-and-white ideological perspective to a more personalized point of view somewhat similar to the West.

Thus, the nuclear age was depicted around the world in similar ways: as a global threat and opportunity, with scientists usually in the role of a wise, internationally oriented elite, and humans everywhere developing a better sense of common destiny, needs, and aspirations. Illustrated media helped shaping these views and attitudes, especially perhaps the large and beautiful photographs they carried, which before the age of television and the internet were such a powerful visual medium. However, the chapters in this volume also point to striking variations.

Drawing on older strands of American technological utopianism¹⁸ and millenarianism, *Life* magazine starkly contrasted the terrible destructive power of nuclear weapons with utopian visions of a better world that could be achieved through peaceful use of atomic technologies. By contrast, the Soviet magazine *Ogonyok* for a long time ignored weapons and suppressed fears. It did not show mushroom clouds or any other images directly conveying the destructive power of nuclear weapons until 1960. In keeping with the Marxist-Leninist-Stalinist view of technology as the motor of social change, it linked atomic power to a grand vision of a future worldwide socialist society, presenting it as “a panacea for domestic and international problems,” and not so much as a technological spectacle, as *Life* did.¹⁹ The Communist tradition of technological utopianism expressed itself most clearly in East German popular media. However, unlike the Soviet magazine, *NBI* also portrayed the horrors of nuclear war very forcefully. The Japanese publication *Asahigraph* fully embraced this Manichean vision of the nuclear age, emphasizing the terrible destruction of Hiroshima and Nagasaki, on the one hand, and the promise of nuclear power, on the other. Atomic utopianism ran wild in the *Illustrated Weekly of India* (*IWI*), but the negative side of the

equation—nuclear war—was drastically downplayed. By contrast, the Western European magazines, *Stern* (of West Germany), the British *Picture Post*, and the Dutch magazine *Panorama* largely avoided utopianism, highlighting instead the dangers of nuclear war in often drastic terms, as well as calling attention to the dangers of civilian uses of nuclear technologies.

These national differences, as well as profound shifts over time, provide hints as to what factors molded the portrayal of nuclear technologies. One factor was the campaign for the Peaceful Atom, with Eisenhower's speech and the Geneva conferences as highlights. Their impact is noticeable in American, German, Dutch, and Soviet magazines of the mid-1950s. A 1955 American Atoms for Peace exhibition in West Germany appears to have convinced visitors both of the promise of civilian nuclear technologies and of the good intentions of the United States. The same can be said about India.²⁰ The start-up of nuclear programs in Britain, the Soviet Union, India, and Japan also spawned positive coverage of atomic power. The Dutch "Het Atoom" exhibition of 1957, however, elicited much more skeptical reactions, and by 1957–1958, waning interest was notable in most magazines, for example, the *IWI*, which increasingly found the space race a good deal more inspiring than atomic power, and *Asabigraph*, which turned to other areas of technological innovation. The impact of state-sponsored propaganda was therefore limited.

On the opposite end, of course, was the specter of nuclear war. In most of the countries we studied, articles on civilian nuclear technologies were dwarfed by the intense, widespread coverage of military uses of the atom. The very period in the mid-1950s characterized by the greatest belief in the capacity of atomic power to improve the world was also the period of the "discovery" of the dangers of radiation. Public discussions of the Lucky Dragon incident of 1954 and, more generally, the negative health impact of atmospheric testing of nuclear weapons brought home the dangers posed by nuclear technologies during peacetime. Fear of fallout became intense by the early 1960s. The film *On the Beach* (1959) stoked these fears, which became an international phenomenon that crossed boundaries between East and West. However, only in the British publication, *Picture Post*, was the connection between military and peaceful nuclear technologies clearly spelled out. There, it was revealed that the Calder Hall nuclear reactor was first and foremost a producer of weapons-grade plutonium, and only secondarily a producer of nuclear energy for the grid. The Soviet and Indian magazine minimized the darker sides of nuclear technologies. By the early 1960s, peace protests also became a transnational

phenomenon through media coverage, but the West German *Stern*, oddly enough, ignored the peace movement.

The importance of nuclear status to national prestige and the projection of power is another factor that we find reflected in popular magazines, but in greatly varying ways. *Life* and *Ogonyok* certainly reflected patriotic pride in national defenses and nuclear power capabilities, but the differences were important. Until 1965, *Ogonyok* did not mention the Soviet development of atomic and hydrogen bombs. The Soviet Union was presented as a peace-loving nation; nuclear weapons were primarily identified with the warmongering United States. Accounts of anti-American and anti-Western peace protests bolstered this argument. The Soviet opinion makers were intent on downplaying fears of nuclear technologies: mushroom clouds did not appear until 1958, Hiroshima and Nagasaki received scant attention, and vivid accounts of the effects of nuclear attacks were missing from the pages of this Soviet magazine. Igor Kurchatov, who played a key role in the Soviet Union's development of the atomic bomb, was presented as a national hero, yet was redefined as a proponent of nuclear power and peace. Only in 1965 was the Soviet nuclear arsenal put on ostentatious display in *Ogonyok*.

Life's Henry Luce believed that the United States was a force for good in world affairs. *Life* displayed confidence in the political leadership of the United States and tried to counteract fears of atomic war with accounts of the benefits of peaceful nuclear technologies. Nevertheless, *Life* published vivid accounts of the destruction wrought by the American bombing of Hiroshima and Nagasaki and confronted the dangers and horrors of the nuclear age head-on. The depictions of the dangers of nuclear war were harsh: 1945 images of a fireball over Washington; vivid discussions of fallout and the dangers of radioactivity in the 1950s; and growing awareness of the destructiveness of the bomb in the 1960s. The narrative presented to regular *Life* readers thus differed profoundly from that presented to readers of *Ogonyok*.

A third member of the "nuclear club," Britain, was characterized by a diverse, critical media landscape. Britain's first nuclear test (in 1952) was greeted positively by *Picture Post*, as was Britain's cutting-edge role in the development of civilian nuclear technology. Overall, however, *Picture Post* painted a pessimistic picture of the nuclear age, highlighting the dangers posed by nuclear weapons and the effects of radiation on human health.

The nuclear aspirations of the West German and Indian governments could not have been reflected more differently in *Stern* and *IWI*.

IWI showed little interest in the destructive power of nuclear weapons, and was prone to spin out fantasy-filled stories and images relating to civilian uses of nuclear power. Indian nuclear scientists were treated worshipfully. By contrast, the raucous 1958 parliamentary debates over the stationing of nuclear weapons under NATO command in West Germany precipitated very pointed critical comments in *Stern* on the existing American nuclear arsenal there, as well as photographs hinting at the vulnerabilities of this stockpile. Nuclear war continued to be a preoccupation of West German media into the 1960s. Clearly, therefore, the nuclear programs and plans of governments and elites did not necessarily generate press support.

Where, then, were the most important dividing lines? To what extent did the emerging division of the world into two camps supersede all other political or cultural divisions in the nuclear age? Certainly, the “free” world and the Communist bloc had fundamentally different approaches to the world. The degree of self-reflection and self-criticism was much higher in the democratic West than in the dictatorial Communist countries. The Soviet and East German media analyzed in this volume hewed closely to the black-and-white image of a world divided into militaristic capitalists and peace-loving socialists. However, *NBI* began to discuss the impact of fallout from atmospheric testing of nuclear weapons in the late 1950s in ways similar to those in the West, pointing to recent scientific findings concerning the deleterious effect of radiation on human health. Despite tight press controls, *NBI* took on riskier topics than did its Soviet counterpart, *Ogonyok*. Media of the Western bloc were, of course, even more diverse.

A two-bloc model also ignores developing nations. Nuclear power held out to Japan and India the prospect of joining (or in the case of Japan, rejoining) the community of advanced nations. This aspiration was fully reflected in both *Asahiograph* and *IWI*, though they operated in very different political, cultural, and historical contexts. A sense of liberation from the past coursed through the Indian elite as the war came to an end, followed by emancipation from British rule. Nuclear power (and later, nuclear armaments) appeared to offer India the opportunity to cast aside its colonial legacy and prove itself the equal of Western nations. *IWI* coverage was infused with this rather naive sense of optimism and boundless opportunities.

Japan arrived at a developmental approach to nuclear power via a different route. Dominated by American occupiers, Japan was initially constrained from discussing Hiroshima and Nagasaki in certain ways. Not until 1952 did the nuclear age become central to a new Japanese identity, when *Asahiograph* published the first graphic

photographs and accounts of the bombings. Especially after the Lucky Dragon incident in March 1954, Japan redefined itself as a victim of aggression, and shortly thereafter as an advanced industrial power dedicated to peaceful, nuclear-powered development. The dichotomy between peaceful and military uses of “the atom” was therefore more profound in Japan than elsewhere. To make this work, *Asahigraph* engaged in a project of repression, ignoring or explaining away concerns about radiation in civilian installations, as well as connections between atomic power and nuclear war.

In contemplating the contours of worldwide nuclear-age culture, there is another entity that cannot be overlooked: Europe. The British, Dutch, and West German publications analyzed in this study did not follow a “party line” in the manner of party organs of old. They were commercial ventures seeking profitability and at least a certain amount of credibility in political debates. As such, they gave expression to all sorts of different voices in debates regarding nuclear power and nuclear war. It is remarkable, therefore, that in the marketplace of ideas, they gravitated toward decidedly skeptical views of Western defense policies and even nuclear power programs of their own countries. *Picture Post* picked up on American depictions of impact of radiation early on (1945). This publication expressed great pessimism concerning the nuclear age as early as the late 1940s and greatly emphasized the importance of international arms control. The West German *Stern* was fairly uncritically pro-American and anti-Soviet up into the early 1950s, but it became much more differentiated in its view of Western defense strategies as time went on. It took issue with Eisenhower’s comment that “only prayer” would help in the face of the development of intercontinental ballistic missiles (ICBM’s), and argued that American civil defense measures were useless. Similar sentiments were to be found in the pages of the Dutch *Panorama*, whose pessimism was reinforced by the (quite accurate) self-perception of the Netherlands as a small country with little influence on the world stage. Interestingly enough, *Panorama* went the furthest of all the magazines in developing a larger ecological critique of nuclear technologies, and tying concerns about radiation to worries concerning chemical pollution.²¹ If skepticism was the content of these Western European magazines, biting sarcasm was the method.

However, the idea that there was a European (or Western European) way of looking at the nuclear age is undermined by the French case. Gabrielle Hecht has shown in *The Radiance of France* that French popular media actively promoted nuclear power, thus throwing journalistic ethics overboard.²² In addition, some critical Dutch, West

German, and British articles were adapted from American sources, for example, items on the health risks associated with bomb testing. However, *Life* and other American magazines aimed at a more “balanced” view of the dangers of nuclear technologies, for example, giving Edward Teller a venue for spreading his defense of the hydrogen bomb and atmospheric testing. All in all, the Dutch, West German, and British magazines warned in no uncertain terms against naïveté about nuclear risks in a way not typical of mainstream US media. Sarcasm was intentionally used to distinguish these magazines’ points of view from those of American perspectives. This sarcasm conveyed a knowledge that good intentions do not always yield good results—a sensibility partly rooted in wartime experiences.

In sum, this volume has given ample evidence of transnational flows of ideas about the nuclear age, ideas that surmounted national, ideological, and cultural borders. The same watershed events were found in accounts in magazines from eight countries, often framed in similar language and illustrated with similar images. At the same time, the media of different countries approached the nuclear age in distinctive ways. These differences are not reducible to structural factors such as systems of government, alliances with the United States and the Soviet Union, or national programs for the development of nuclear technologies. Popular media helped create “realities” that interacted with ideological divides, understandings of national identities, and agendas of economic development, creating a variety of nuclear narratives and images. But did the world remain fundamentally divided in its approach to the nuclear age? Our study demonstrates that at the most fundamental level, the nuclear age produced a widespread understanding of the profound dangers of nuclear weapons, and a rejection of the sort of offensive policies that had been fought out in the Second World War. It reinforced the older notion that there was only one world. Eventually, this understanding was to contribute to the ending of the Cold War. Thus, the nuclear age represented one of the most important chapters in the creation of a “world opinion” that has become an important force on the historical stage.

Notes

The authors would like to thank Sonja Schmid and Hans Bieber for their very valuable suggestions for this chapter.

1. Frank Ninkovich, *The Wilsonian Century. U.S. Foreign Policy since 1900* (Chicago: University of Chicago Press, 1999), 14.
2. L. S. Wittner, *The Struggle against the Bomb*, Volume II, *Resisting the Bomb, 1954–1970* (Stanford: Stanford University Press 1997), 300.

3. Paul Boyer, *By the Bomb's Early Light. American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon, 1985), xix. Wittner, *Struggle*, Volume I, *One World or None* (Stanford, CA: Stanford University Press 1993), 55. One example of the influence of scientists is a survey of the summer of 1946 that showed how the American public shared several ideas of the scientists that were not so obvious at the time, such as the inevitable and imminent loss of America's nuclear monopoly: Boyer, *By the Bomb's Early Light*, 23, 59. See also S. R. Weart, *Nuclear Fear. A History of Images* (Cambridge, MA: Harvard University Press, 1988), 111–118.
4. Wittner, *Struggle*, three volumes op. cit.
5. One indication of how quickly the idea of “one earth” was disseminated are cartoons showing planet earth being threatened by the atomic bomb. Jacobs points out that boundaries between states were not indicated in these images. Jacobs, “Target Earth. The Atomic Bomb and the Whole Earth,” in *Filling the Hole in the Nuclear Future. Art and Popular Culture Respond to the Bomb*, ed. R. Jacobs (Lanham, MD: Lexington books, 2010), 187–205, esp. 194.
6. Niels Bohr in *One World or None*, ix.
7. Ninkovich, *The Wilsonian Century*, 67–68.
8. Wittner, *Struggle*, Volume I, 44–45.
9. K. Osgood, *Total Cold War. Eisenhower's Secret Propaganda Battle at Home and Abroad* (Lawrence, KS: University Press of Kansas, 2006), esp. chapter 6.
10. President Eisenhower's “Atoms for Peace” Speech, December 8, 1953, accessed January 8, 2012, <http://www.atomicarchive.com/>. The complicated motives behind Eisenhower's initiative are analyzed in John Krige, “The Peaceful Atom as Political Weapon. Euratom and American Foreign Policy in the Late 1950s,” *Historical Studies in the Natural Sciences* 38, 1 (February 2008): 5–44; and in G. Skogmar, *The United States and the Nuclear Dimension of European Integration* (Basingstoke, UK: Palgrave Macmillan, 2004).
11. For the following L. S. Wittner, “Blacklisting Schweitzer,” *The Bulletin of the Atomic Scientists* 51 (1995): 55–61, and Norman Cousins, *Dr. Albert Schweitzer of Lambaréné* (Westport, CT: Greenwood, 1973. First edition Harper & Bros, 1960). We quote from Schweitzer's speeches as they appear in the appendix of this book.
12. Cousins, *Dr. Albert Schweitzer*, 168, 236, 241.
13. Wittner, “Blacklisting Schweitzer,” 55–61.
14. Illustrating the famous theorem of the sociologists W. I. Thomas and D. S. Thomas, “If men define their situations as real they are real in their consequences,” originally in W. I. Thomas and D. S. Thomas, *The Child in America* (New York: A.A. Knopf, 1928), 572.
15. Jens Jäger, “Fotografen des globalen Dorfs? Bildjournalismus der 1920er und 1930er Jahre,” in *Die Zeitschrift—Medium der Moderne. Deutschland und Frankreich im Vergleich*, Hg. Clemens Zimmermann,

- Manfred Schmeling (Bielefeld: transcript Verlag, 2006), 85–109, esp. 103–106. Literature on the international circulation of news photo's is extremely scarce. See, for example, A. Fechter, J. Wilke, "Produktion von Nachrichtenbildern. Eine Untersuchung der Bilderdienste der Nachrichtenagenturen," in *Nachrichtenproduktion im Mediensystem. Von den Sport- und Bilderdiensten bis zum Internet*, Hg. J. Wilke (Köln: Böhlau, 1998), 55–120; and N. Gidalewitsch, *Bildbericht und Presse. Ein Beitrag zur Geschichte und Organisation der illustrierten Zeitungen* (Inaugural dissertation Tübingen, 1956), 40–53.
16. *The Family of Man* (New York: Museum of Modern Art, 1955), 4.
 17. *The Family of Man*, 179. On "globalizing humanitarianism" see *Kiosk. Eine Geschichte der Photoreportage, 1839–1973*, Hg. R. Lebeck, B. von Dewitz (Göttingen: Steidl, 2001), 252; on "The family of man" in the Netherlands: M. Roholl, "'A Full and Fair Picture.' American Foreign Cultural Policy vis-à-vis the Netherlands, 1945–1960," in *American Culture in the Netherlands*, ed. D. Bosscher et al. (Amsterdam: VU University Press, 1996), 165–196, esp 190.
 18. See David Nye, *American Technological Sublime* (Cambridge, MA: M. I. T. Press, 1994).
 19. See Alvin W. Gouldner, *The Two Marxisms* (New York: The Seabury Press, 1980), esp. 42–43, 73, 269–275, 385–386; Jonathan Coopersmith, *The Electrification of Russia, 1880–1926* (Ithaca, NY: Cornell University Press, 1992); Loren R. Graham, *The Ghost of the Executed Engineer. Technology and the Fall of the Soviet Union* (Cambridge, MA and London: Harvard University Press, 1993); Susanne Schattenberg, *Stalins Ingenieure. Lebenswelten zwischen Technik und Terror in den 1930er Jahren* (Munich: R. Oldenbourg Verlag, 2002), 70–107; Paul Josephson, *Red Atom. Russia's Nuclear Power Program from Stalin to Today* (New York: W. H. Freeman and Company, 2000), esp. 7–19.
 20. Osgood, *Total Cold War*, 179.
 21. The Netherlands were not unique in this. See J. Radkau, *Natur und Macht. Eine Weltgeschichte der Umwelt* (München: Beck, 2002), 293–294, 300–303; Weart, *Nuclear Fear*, 323–327.
 22. See Gabrielle Hecht, *The Radiance of France. Nuclear Power and National Identity after World War II* (Cambridge, MA: M. I. T. Press, 2009).

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Appendix I

Picture Essay: Images of Nuclear Power in Illustrated Magazines

The first images of the atomic bombings of Hiroshima and Nagasaki to appear in illustrated magazines and newsreels around the world showed the “mushroom cloud” after the explosion and flat fields of rubble where there had once been cities. They suggested the tremendous power of the new weapon while avoiding the spectacle of human suffering. Soon after, a few Western observers who had visited Hiroshima and Nagasaki shortly after the bombings started to report the plight of the wounded and dying during and after the attacks, for example, in a chapter of *One World or None* (March 1946), the Federation of American Scientists’ pamphlet, and John Hersey’s *Hiroshima*, serialized in the *New Yorker* a year after the bombings. The first extensive *pictorial* report, however, appeared only in August 1952 in the Japanese magazine *Asahigraph* (a much briefer photo-report had appeared in a local Japanese newspaper already in 1946) (see [fig. AI.1](#)). It sent a shock wave through Japan, and soon through the Western world as well, when illustrated magazines such as *Life* and *Panorama* took over the photos. Later, they were often reprinted, for example, on the occasion of commemorations. For those who had seen them, they created an ineradicable link between nuclear power and horror.

Shortly after President Truman announced, on January 31, 1950, that the United States would develop a hydrogen bomb, a weapon vastly more destructive than the atomic bombs tested so far, illustrated magazines published aerial views of the dropping of atomic bombs on major cities. Circles indicated the extent of destruction of an atomic weapon as compared to a hydrogen weapon. *Picture*



Figure AI.1 “The First Publication of the Damages by Atomic Bombs,” *Asahigraph*, 6 August 1952. Photographs by Masami Onuka, courtesy of the Asahi Shimbun Company.

Post depicted London (February 18, 1950), *Life* a “typical American industrial city” (February 27, 1950), *Panorama* Amsterdam (March 3, 1950), and *Stern* Essen, a major industrial town in the Ruhr area (see [fig. AI.2](#)).

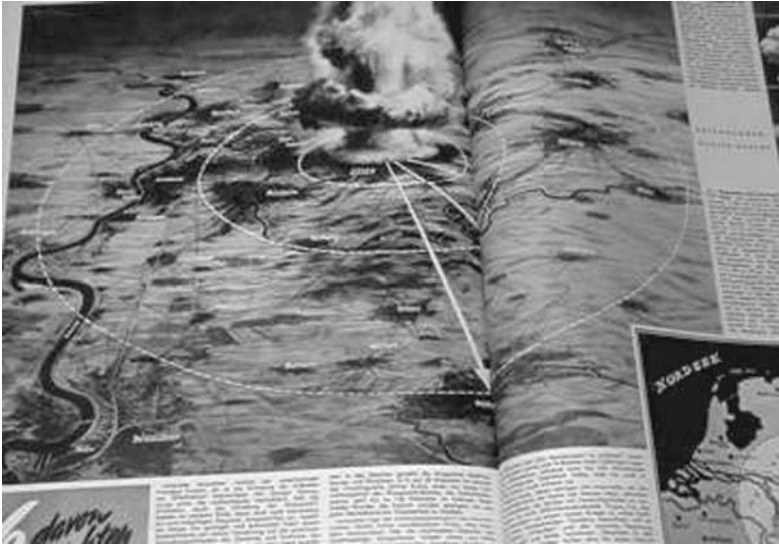


Figure AI.2 “Six of these destroy Germany,” *Stern*, 28 May 1950. Illustrator unknown, courtesy of *Stern* magazine, Germany.

From the beginning, the new weapon was also used as a symbol of power, especially in advertisements, as in [figure AI.3](#), for nose drops in the *Illustrated Weekly of India*, in June 1947.

During the nineteen fifties, nuclear power became the embodiment par excellence of national economic and technological modernity. The images used to convey this sense of national prowess were more or less universal: shining new power plants, large nuclear powered ships, and men wielding complicated machinery. Around the world, governments created exhibitions extolling the wonders of peaceful atomic energy, partly to justify large investments in the new technology and partly to turn public attention away from nuclear weapons (see [fig. AI.4–AI.8](#)).

Communist magazines had a clear-cut way of dealing with the radically opposed images of peaceful and military applications of nuclear power: aggressive uses were typical of the capitalist enemy, while the communists were completely dedicated to peaceful pursuits (see [fig. AI.9](#)). The movement against nuclear weapons in the West was depicted as an illustration of the way Western powers pursued nuclear aggression against the will of their own peoples (see [fig. AI.10](#)).



ATOMIC EXPERIMENTS

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MARCH OF SCIENCE

More Atom Discoveries

THE microcosmic world of the atom has been pried open another notch by nuclear physicists. Dr. Robert B. Brode, Professor of Physics, at the University of California, U.S.A. refers to his work on this problem as a "straight-forward attempt to analyse the property of matter." His pet object is the meson, that particle of matter which is produced in cosmic radiation with an average life span of two microseconds (two thousandths of a second).

In this still substantially unanalysed sub-atomic particle, there might be found the explanation for many a fundamental mystery of matter and its structure. Dr. Brode has been studying the mass of the meson. For months he took measurements of the composition of cosmic rays at altitudes ranging from sea level to 15,000 feet.

He found the mass of the meson to be approximately one-fifth of the mass of the proton, the positive electric particle of the atom; a result which adds another accurate datum to the scientists' knowledge of matter.

New Chemical Elements

But even more tangible results are being achieved by the discovery of a whole series of new chemical elements.

By bombarding plutonium with radiation particles of the so-called alpha type, a new element was born which—so far as scientists know—does not exist anywhere in the universe. If it ever existed before, perhaps billions of years ago, it would have disappeared by now.

For it is one of the most fleeting elements ever held in a chemist's palm. Its radioactivity extends itself so fast that within five months, half of its original mass has broken down into radiation and atomic ashes. Radium, in comparison, lasts 1,600 years before half its mass is radiated. The new element, curium 242, is the heaviest known, having an atomic weight of 242.

Other discoveries reported include curium 240 and three cousins of neptunium, with an atomic weight of 234, 235 and 236, all apparently new to the world. The plutonium family acquired a new relative in the form of plutonium 241, compared to an atomic weight of 239 for the original fission-born plutonium.

By applying a thin coating of wax to fresh fruit, British scientists hope to be able to keep it fresh for longer periods than has hitherto been possible. Experiments to achieve this have developed largely as a result of the work of

Dr. Franklin Kidd, the new Director of Food Investigation in Britain's Department of Scientific and Industrial Research.

Experimenting on plant respiration, Dr. Kidd found that carbon dioxide, prevents moulds from growing. He used this knowledge to control the ripening of fruit, and, with another scientist, devised a method of storing fruit in gas-tight chambers. The fruit breathes and produces carbon dioxide which delays the ripening process. Consequently, fruit kept under these conditions can be sent to the consumer at just the right stage for eating.

Towards Safer Flying

Before civil aviation can become a sound commercial proposition, two essentials must be fulfilled. Firstly, the public must regard flying as a safe means of travel in order to be attracted to it; secondly, the load carried by an aircraft, whether passenger or freight, must be a sufficiently large proportion of the all-up weight to ensure a fair profit for the airline company.

Both factors are complicated by the fact that an aeroplane has to carry sufficient fuel for its flight, plus enough for a margin of safety. Normally, this would mean that a 50-passenger trans-Atlantic aircraft would require some 12,000 gallons of fuel weighing 2,000 lb. to accomplish the journey in one stage. Such a condition demands an overhead take-off, with its attendant hazards, and the weight of the fuel means a correspondingly smaller payload.

With a view to improving this situation, air refuelling research has continued for some years, until today refuelling in flight is a perfected and accomplished practice. The receiver equipment is simple to operate. Radio, radar and meteorological services combine to ensure safe and sure interception anywhere, at any time. Airlines are finding that this method of refuelling multiplies the carrying capacity of long-distance airliners, eliminating heavily laden take-offs and reducing operating costs.

University Project

The establishment of a £4,000,000 science centre will shortly be considered by the Cancellor and Senate of Cambridge University.

The drawings have been completed of most of the buildings. Models have been made of the Departments of Organic and Inorganic Chemistry, Physical Chemistry, Metallurgy and Theoretical Chemistry, and plans for another Department—Chemical Engineering—are also included in the project. The planning of the new science centre began in June 1944.



Figure AI.3 Advertisement for nasal drops, *Illustrated Weekly of India*, 1 June 1947.



Figure AI.4 Tokaimura Research Institute, *Asabigraph*, 4 January 1959. Photographer unknown, courtesy of the Asahi Shimbun Company.



Figure AI.5 Launching of the nuclear icebreaker "Lenin," *Ogonyok*, 6 March 1960. Artwork by V. F. Shtranikh, courtesy of Ogonyok/Kommersant.



Figure AI.6 “Snipers of the atomic nucleus”, *Ogonyok*, 21 July 1963. Photograph by G. Kopusov. Courtesy of Ogonyok/Kommersant.

The communists, however, brought nuclear prosperity to developing countries, for example, in Africa (see [fig. AI. 11](#)).

Western magazines, on the other hand, were more ambivalent. Even peaceful applications could look intimidating, as underlined in the caption of a picture of a doctor and a nurse working with radioactive therapy (see [fig. AI.12](#)). West German *Stern* could be outright cynical. In 1960, the magazine reported how one of its journalists, dressed as a farmer, with a cow in tow, could walk into the midst of a NATO maneuver, right up to an American nuclear missile. The story suggested the fragility of American nuclear defenses on which the Federal Republic was supposed to rely (see [fig. AI. 13](#)).

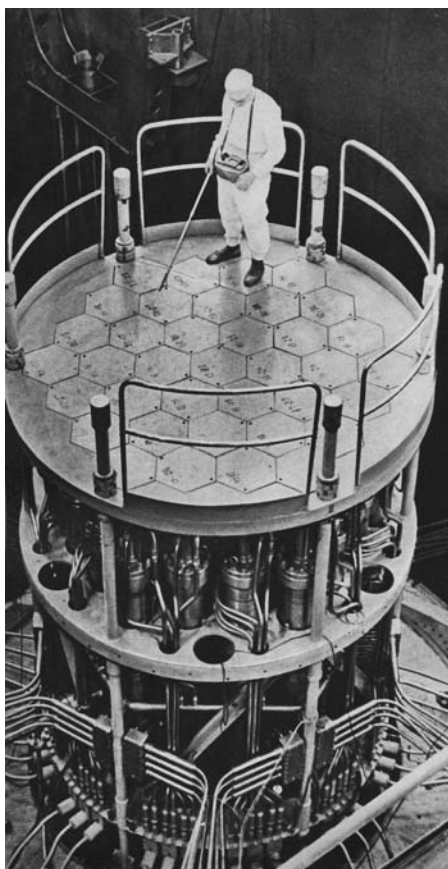


Figure AI.7 “The peaceful atom’s citadel” *Ogonyok*, 1 November 1964.
Photographer unknown, courtesy of *Ogonyok*/Kommersant.



Figure AI.8 Pavilion of "Atomic Energy for Peaceful Uses," Exhibition of the Achievements of the People's Economy (VDNKh SSSR), *Ogonyok*, 26 July 1959. Photographer unknown, courtesy of Ogonyok/Kommersant.

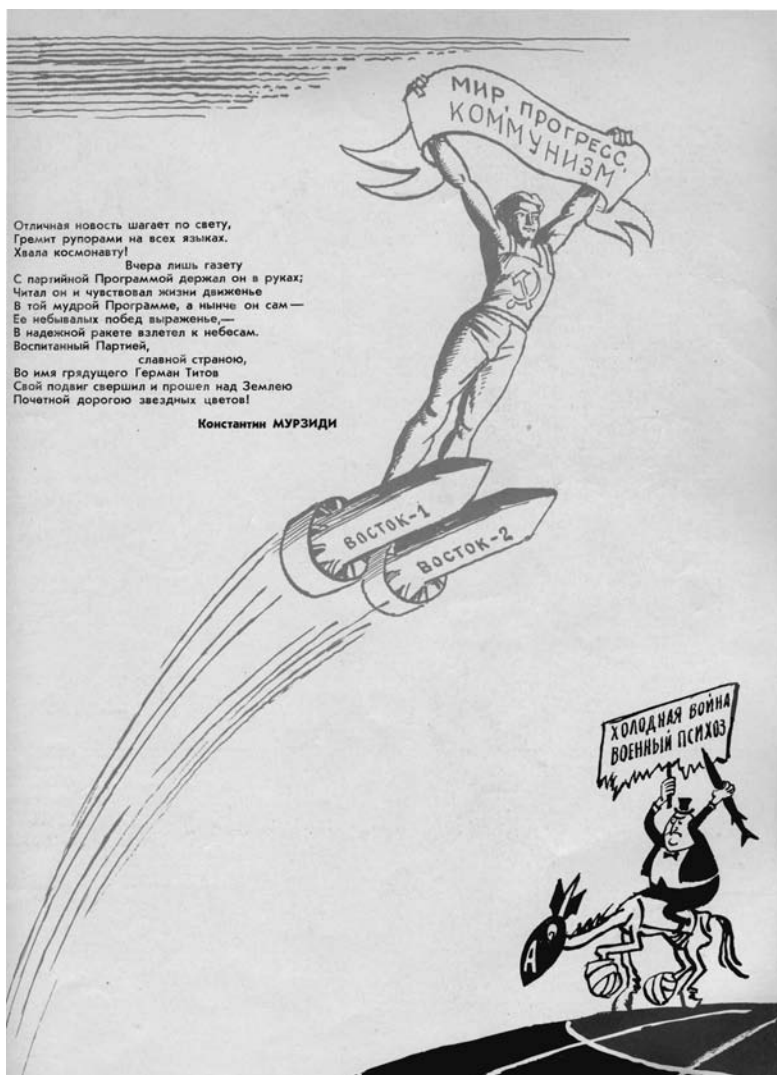


Figure AI.9 “Peace, progress, and communism,” *Ogonyok*, 13 August 1961. Drawing by Yu. Cherepanov, poem by K. Murzidi, courtesy of Ogonyok/Kommersant.



Figure AI.10 “Britain on the march: tens of thousands in Trafalgar Square,” *Ogonyok*, 15 May 1960. Photographer unknown, courtesy of Ogonyok/Kommersant.

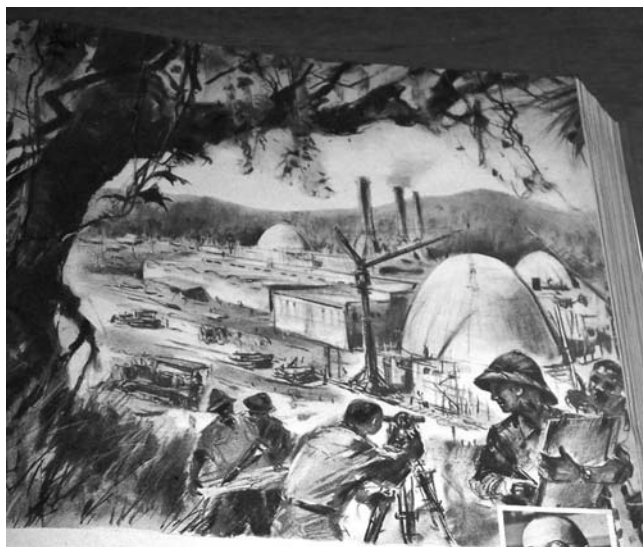


Figure AI.11 Atomic reactors in Africa, *Neue Berliner Illustrierte*, 28 January 1961, courtesy of Verkehrsmuseum Dresden GmbH.



Figure AI.12 “The atom cures. But doctor and nurse are exposed to danger”, picture taken at the London Royal Cancer Hospital. *Panorama*, 6 October 1950. Photographer unknown, courtesy of Pictorial Press, London.



Figure AI.13 Helmuth Sohre confronts Honest John, *Stern*, 17 February 1960. Photograph by Lothar K. Wiedeman, courtesy of Lothar K. Wiedeman.

Appendix II

Nuclear Issues in Eight Countries, 1945–1965

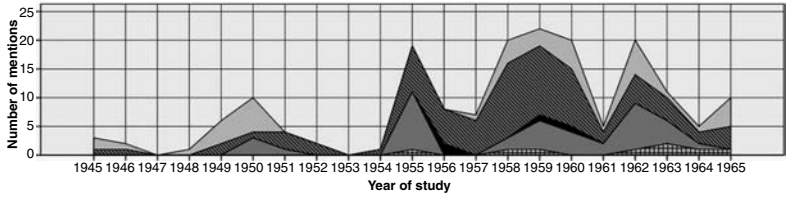


Figure AII.1 Nuclear Technology in *Ogonyok* (Soviet Union), 1945–1965

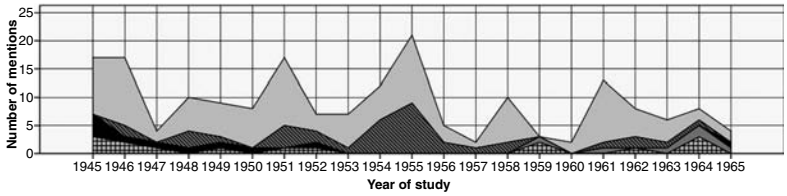


Figure AII.2 Nuclear Technology in *Life* Magazine (United States), 1945–1965

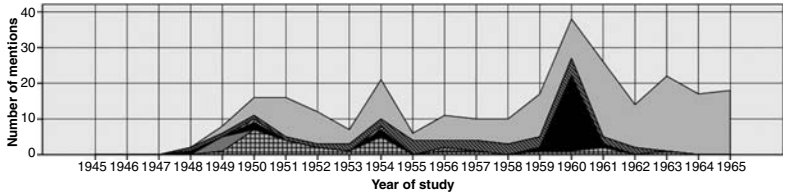


Figure AII.3 Nuclear Technology in *Stern* (West Germany), 1945–1965

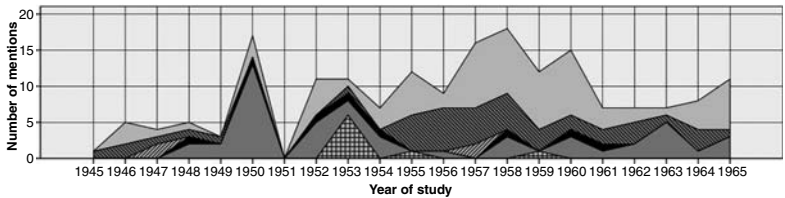


Figure AII.4 Nuclear Technology in *Neue Berliner illustrierte* (East Germany), 1945–1965

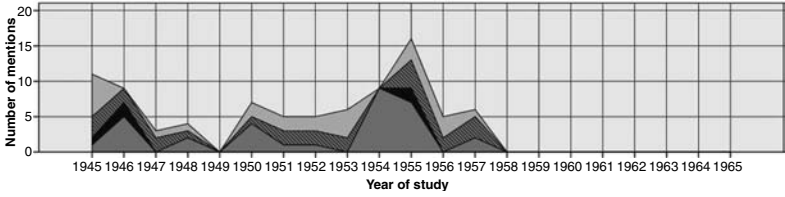


Figure AII.5 Nuclear Technology in *Picture Post* (United Kingdom), 1945–1965

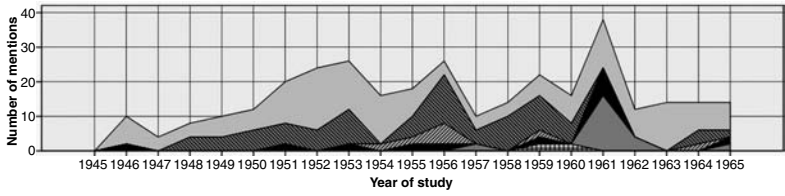


Figure AII.6 Nuclear Technology in *Panorama* (Netherlands), 1945–1965

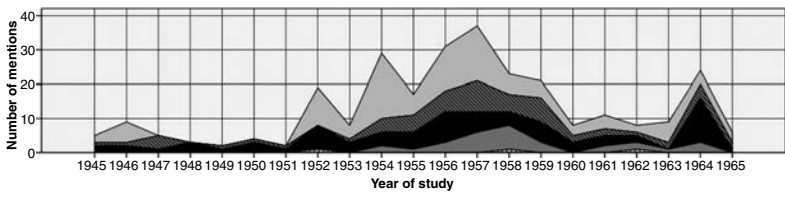


Figure AII.7 Nuclear Technology in *Asahigraph* (Japan), 1945–1965

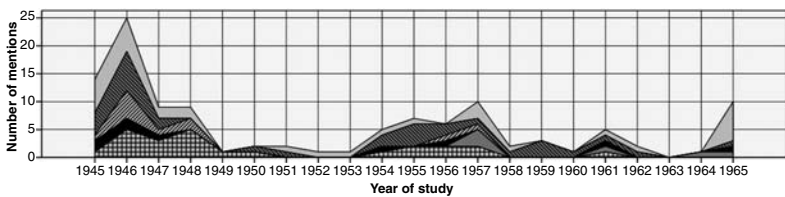


Figure AII.8 Nuclear Technology in *Illustrated Weekly of India* (India), 1945–1965



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Index

- accidents with nuclear installations
 - Chalk River (1954) (Canada), 178
 - Houston (1958) (United States), 94, 163
 - Sellafield, *see* accidents with nuclear installations, Windscale
 - Windscale (1957) (United Kingdom), 137–8, 163, 178, 187, 220, 225–6
 - Yugoslavia (1958), 107, 163, 220
- Adenauer, Konrad Hermann Joseph, 81, 85, 92–3, 97
- Ainsworth, Edgar, 134
- Aldermaston, 13, 118
- Allen, James, 27
- Allensbach Institute (West-Germany), 80
- America Houses, 96
- American Chemical Society (ACS), 219
- Anderson, John, 120
- anti-nuclear activism, 11, 13, 38, 73, 85, 100–101, 126, 139, 156, 179–80, 189, 191–2, 194–5, 238
- anti-nuclear activism against testing, 70, 73, 88, 119, 129, 166–7, 182–3, 189, 191, 215–16, 221–2, 227, 238, 240
 - see also* anti-nuclear organizations
- anti-nuclear organizations
 - Ampo Toso, 190–1
 - Campaign for Nuclear Disarmament (CND) (United Kingdom), 118, 139
 - Committee for Nuclear Disarmament (CND) (United Kingdom), 13
 - Christian, 100
 - Easter Marches, 100, 151
 - Easter Marches in the United Kingdom, 13, 100, 118, 151
 - Easter Marches in West Germany, 80, 100, 151
 - International Liaison Committee of Organisations for Peace (ILCOP), 128, 222
 - Japan Council against Atomic and Hydrogen Bombs, 13, 181, 191, 194
 - Kampf dem Atomtod, *see* anti-nuclear organizations, Struggle Against Atomic Death
 - National Committee for a Sane Nuclear Policy (SANE) (United States), 13
 - National Congress to Block the Security Treaty Revision (1959) (United States), 191
 - Ohne Mich, *see* anti-nuclear organizations, Without Me (Germany)

- anti-nuclear organizations—*Continued*
- Pugwash Conferences on Science and World Affairs (United States), 151
 - Struggle Against Atomic Death (Germany), 13, 80
 - Without Me (Germany), 80
 - see also* Russell-Einstein Manifesto (1955); Stockholm Appeal (1950)
- arms race, 13, 14, 19, 33, 53, 92, 97, 100, 121, 155, 159, 168, 215, 221–2, 234–5, 238
- Asahi Shimbun Company (Japan), 176
- Associated Press (AP) (United States), 186
- Atom Village, *see* nuclear installations, Harwell
- Atomic Bomb Casualty Commission (ABCC), 133
- Atomic Bomb Medical Law (1957) (Japan), 195
- atomic bombings
- Enola Gay, 102
 - hibakusha*, 11, 138, 163, 178–83, 189, 191, 193–5, 217
 - Hiroshima (1945), 10, 37–8, 55–8, 101–06, 120–1, 123, 131–3, 154, 178–83, 193–6, 210–11, 216–17
 - Hiroshima Maidens*, 154
 - Little Boy, 10
 - Nagasaki (1945), 10, 37–8, 55–8, 64, 101–06, 120–1, 123, 131–3, 154, 178–83, 193–6, 216–17
 - survivors, *see* atomic bombings, *hibakusha*
- atomic energy, peaceful
- applications, *see* peaceful applications of nuclear power
- Atomic Energy Act, India (1948), 213
- Atomic Energy Act, United States (1946), *see* McMahon Act (1946)
- Atomic Energy Basic Law, Japan (1955–1956), 184–5
- Atomic Energy Commission (AEC)
- British, 213
 - French, 134
 - Indian, 213, 221
 - Japanese, 184–5, 187, 192, 196
 - United Nations, 67, 128, 129
 - United States, 12, 61, 66–7, 69, 70, 84, 130, 161
- Atomic Energy Establishment (AEE) (United Kingdom), 221
- Atomic Energy Research Establishment (AERE) (United Kingdom), 131, 136–7
- Atomic Fuel Corporation (AFC) (Japan), 187
- Atomic Scientists' Association (ASA) (United Kingdom), 128–9, 131, 136
- Atoms for Peace
- Eisenhower speech (1953), 13, 66–7, 79, 90, 94, 95, 159, 183, 218, 238, 241
 - initiative, 66, 79, 91, 95, 133, 135, 150, 183–4, 218, 241
 - see also* exhibitions, *Atoms for Peace*
- Attlee, Clement, 117, 128
- Bailey, Gerald, 128
- Barnes, Ernest William, 129
- Baruch Plan (1946) (United States), 67, 128
- Barwich, Heinz, 81, 106
- Baugham, James, 54
- Bellamy, Edward, 206
- Beria, Laventri Pavlovich, 124
- Berlin
- Airlift (1948), 60
 - Blockade (1948–1949), 60, 84, 152
 - bombings, 103–4
 - Crisis (1958–1961), 84, 97, 99, 101, 168
 - Wall (1961–1989), 14, 100
- Bernal, John Desmond, 11, 237
- Bertin, Leonard, 137
- Bethe, Hans, 59, 129

- Bhabha, Homi, 206–8, 211–14, 218, 220–1, 223, 227, 235
- Blackett, Patrick, 120, 129, 235
- Bloch, Ernst, 93
- Board of Atomic Research (India), 213
- Bohr, Niels, 59, 120, 235–6
- Bombay, 204, 205, 207, 211–12, 220
- bone marrow transplantation, 107
- books
- Atom Harvest* (1955), 137
 - Atomic Bomb Poems* (1951), 179
 - Atomic Energy and Society* (1950), 27
 - Atomic Energy in the Coming Era* (1946), 122
 - Calder Hall* (1956), 137
 - Children of Hiroshima* (1951), 179, *see also* films, *Children of Hiroshima* (1952)
 - The City of Corpses* (1948), 179
 - Dawn over Zero* (1947), 121
 - The Effects of the Atomic Bombs at Hiroshima and Nagasaki* (1946), 132, 209
 - The Era of Atomic Power* (1946), 129
 - Genbaku no Ko*, *see* books, *Children of Hiroshima* (1951)
 - Genbaku Shishu*, *see* books, *Atomic Bomb Poems* (1951)
 - Harwell* (1952), 137
 - Hiroshima* (1946), 132, 179
 - HIROSHIMA* (1954), 182–3
 - Letters from the End of the World* (1948), 179
 - The Meaning of Treason* (1945), 125
 - The Military and Political Consequences of Military Power* (1948), 129
 - The New Meaning of Treason* (1964), 125
 - No Place to Hide* (1948), 122
 - One World* (1943), 59, 237
 - One World or None* (1946), 11, 58–60, 128–9, 236
 - Shikabane no Machi*, *see* books, *The City of Corpses* (1948)
 - Statements Relating to the Atomic Bomb* (1945), 121
 - We of Nagasaki* (1951), 123
 - White Paper on Damages by Atomic and Hydrogen Bombs – The Hidden Truth* (1961), 194
 - Zetsugo no Kiroku*, *see* books, *Letters from the End of the World* (1948)
- see also* novels
- Born, Max, 235
- Boulting, John Edward, 129
- Boulting, Roy Alfred Clarence, 129
- Boyer, Paul, 59, 61, 71, 80, 235
- Bradley, David, 122
- see also* books, *No Place to Hide* (1948)
- Brandt, Leo, 93
- British
- Association for the Advancement of Science, 131
 - Atomic Energy Authority, *see* United Kingdom Atomic Energy Authority (UKAEA)
 - Broadcasting Corporation (BBC), 119–20, 122, 127, 132, 139
 - Committee for Nuclear Disarmament, 13
 - Council of Churches, 129
- Brown, Ford Maddox, 120
- Buckley, William Frank, 98
- Byrnes, James, 60
- Canadian civilian nuclear energy project, 137–8
- cancer, 57, 88–90, 95–6, 108, 135, 161–3, 190, 207–8, 217, 219
- see also* peaceful applications of nuclear power, medicine
- Capa, Cornell, 97
- Capa, Robert, 97
- Carte Blanche, *see* military exercises

- Carter, Erica, 83, 107
 Casco Tool Company, 65
 Central Institute for Nuclear
 Physics (Germany), 81
 Chadwick, Sir James, 120
 Cheshire, Leonard, 126
 see also Leonard Cheshire
 Disability charity
 Chillingworth, John, 133
 Chisholm, Martin, 122
 Churchill, Winston, 27, 127, 128,
 133, 235
 civil defense, 12, 84, 87–8, 91, 130–1,
 139, 164, 165–6, 167, 244
 Germany, 84
 Netherlands, 164, 165–6
 United Kingdom, 130–1
 United States, 91, 244
 Civil Defence Act, the (1948)
 (United Kingdom), 130
 climate change, *see* weather change
 Cockcroft, Sir John Douglas, 120,
 123, 134, 187, 218
 comics
 Astro Boy, *see* comics, *Mighty Atom*
 Blake and Mortimer, 164–5
 Bringing Up Father, 176
 De spliterwt, *see* comics, *The Split*
 Pea (1959)
 Die Neue Sonne, *see* comics, *The*
 New Sun
 Kwetal de breinbaas (1950),
 157–8
 L'énigme de l'Atlantide, *see*
 comics, *The Riddle of Atlantis*
 (1955)
 Mighty Atom, 188–9
 The New Sun, 101
 Olivier B. Bommel, *see* comics,
 Tom Poes
 The Riddle of Atlantis (1955), 164
 The Split Pea (1957), 165
 Tetsuwan Atom, *see* comics,
 Mighty Atom
 Tom Poes, 157–9
 Communist Parties
 in German Democratic Republic
 (GDR), *see* Socialist Unity
 Party (SED)
 in Japan, 191
 in Netherlands, 151
 Cooke, Alistair, 127
 Cousins, Norman, 238
 Cuban Missile Crisis (1962), 14, 58,
 97, 99, 168, 192
 Da Vinci, Leonardo, 121, 223
 Dalton, John, 120
 Dean, Gordon, 66
 Dekker, Maurits, 155–8, 161, 168
 see also theatre, *De wereld heeft*
 geen wachtkamer (1949)
 Dietz, David, 122
 see also books, *Atomic Energy in*
 the Coming Era (1946)
 Disney Studios, 13–14
 Domon, Ken (1909–1990), 182–3
 see also books, *HIROSHIMA*
 (1958)
 Doss, Erika, 54
 Drogan, Mara, 95
 Dulles, John Foster, 182
 Eatherly, Claude, 102–106
 Eaton, Cyrus, 12–13
 Eichmann, Adolf, 105
 Einstein, Albert, 7, 12, 59, 80, 235
 see also Russell-Einstein
 Manifesto (1955)
 Eisenhower, Dwight David, 3, 11,
 37, 66–7, 92, 99, 126, 130,
 133, 135, 155, 184, 191, 244
 see also Atoms for Peace,
 Eisenhower speech
 Elizabeth II (queen of United
 Kingdom), 120, 137
 Ellgaard, Helmuth, 89
 Elliott, Sydney, 128
 Enola Gay, 102
 Euringer, Engelbert, 102–03, 105

- European
 Atomic Energy Community
 (EURATOM), 94, 138
 Economic Community Treaty, 138
 exhibitions
 in general, 6, 13, 188
Atom Train Exhibition (1947)
 (United Kingdom), 136
Atomic Age Exhibition (1947)
 (United Kingdom), 136
*Atomic Energy and Uranium
 Exhibition* (1946)
 (United Kingdom), 136
Atomium (1958) (Belgium), 35
Atoms for Peace, 95–6, 135–6, 241
see also Atoms for Peace
Exhibition of Industrial Power
 (1951) (United Kingdom), 136
*Exhibition of the Achievements of
 the People's Economy* (VDNKh)
 (1959) (Soviet Union), 35
The Family of Man (1955)
 (United States), 239
Genbaku Sogoten (1951) (Japan), 179
 at the Geneva international
 conference (1955), 14, 31, 160
Het Atoom (1957) (Netherlands),
 150, 153, 160–2, 168, 241
 in Moscow central parks (1959), 37, 41
- Fairfield, Cicely Isabel, 125
 fallout, *see* radiation
 Federal Bureau of Investigation
 (FBI) (United States), 125, 215
 Federation of American Scientists
 (FAS) (United States), 128
 Ferguson, Harry, 126
 Fermi, Enrico, 120, 134
 film noir, 125
 films
The Atomic City (1952), 125
The Bells of Nagasaki (1950), 179
Children of Hiroshima (1952),
 133; *see also* books, *Children of
 Hiroshima* (1951)
Der Schweigende Stern, *see* films,
The Silent Star (1960)
Dr. Strangelove (1964), 123, 139
Genbaku no Ko, *see* films,
Children of Hiroshima (1952)
Godzilla (1954), 182–3
The House on 92nd Street (1945),
 125
 Indian films, 204
 instruction films, 2, 12–14, 31,
 95, 181
James Bond: Dr. No (1962), 139
James Bond: Goldfinger (1964),
 139
James Bond: Thunderball (1965),
 139
Nagasaki no Kane, *see* films, *The
 Bells of Nagasaki*
Notorious (1946), 125
On the Beach (1959), 38, 72,
 98–9, 100–101, 153, 163–4,
 241
Our friend the Atom (1957),
 13–14
Seven Days to Noon (1950), 129
The Silent Star (1960), 101
Tokyo Olympiad (1964), 194
The War Game (1965), 139
X the Unknown (1956), 131
- Flerov, Georgi, 19
 Franck, James, 208–9
 Frisch, Otto, 117
see also Frisch-Peierls
 Memorandum (1940)
 Frisch-Peierls Memorandum (1940),
 117
 Fuchs, Klaus, 124–5
Fukuryu Maru, *see* nuclear weapons
 tests, *Lucky Dragon* incident
- Gandhi, Mohandas Karamchand,
 222, 224, 227
 Garbett, Cyril, 126
 Gardner, Ava, 99
 Geim, Stefan, 32

- Genbaku no Zhu, *see* Hiroshima Panels, the (1950–1982)
- General Electric Company (United States), 161, 192–3
- General Headquarters, the Supreme Commander of the Allied Powers (GHQ/SCAP), 178–9, 183, 186
- Geneva Conferences on Peaceful Uses of Atomic Energy
 first (1955), 14, 25, 29–30, 31, 65, 90, 94, 135, 160, 184, 187, 218, 236–7
 second (1958), 32, 36
 third (1962), 36–7
- German
 Atomic Law (1959), 81
 Atomic Ministry (1955), 81
 Peace Council, 83
see also World Peace Council
- Giddens, Anthony, 120
- Golden Gate Quartet, the, 70
- Goldschmidt, Bertrand, 3
- Grant, Matthew, 130
- Great Kanto Earthquake, 176
- Groves, Leslie Richard, 53
- Gruenther, Alfred, 30
- Hahn, Otto, 95
- Haldane, John Burdon Sanderson, 131
- Hales, Peter Bacon, 55
- Hall, Arnold, 216
- Hallstein, Walter, 85
see also Hallstein Doctrine (1955)
- Hallstein Doctrine (1955), 90
- Hamai, Shinzo, 179
- Hammer Film Productions (1934), 131
- Hanna-Barbera Productions Inc. (1957), 65
- Hart, Liddell, 122, 124, 126
- Haseloff, Otto, 82
- Hastings, Lewis, 120
- heavy water, 80, 150, 213
- Hecht, Gabrielle, 244
- Heisenberg, Werner, 80
- Herlin, Hans, *see* Engelbert Euringer
- Hersey, John, 132, 179
see also books, *Hiroshima* (1946)
- Hertz, Gustav, 81
- Herzstein, Robert, 60
- Hewitt, Charles, 137
- Hibbs, Ben, 59
- High Commissioner for Germany (HICOG), 95
- Hinton, Christopher, 135, 137, 185–6
- Hirohito (Japanese emperor), 178, 180
- Hiroshima, *see* atomic bombings, Hiroshima
- Hiroshima Memorial Peace Park, 58
- Hiroshima Panels, the (1950–1982), 179
- Hiroshima Peace Memorial Ceremony (1947), 179
- Hirschbein, Ron, 62–3
- Hitachi company (Japan), 192–3
- Hitziger, Lothar, 94
- Hoffman, Bernard, 57
- holocaust, 87, 105, 216
- Holzman, Ben, 69
- Horrocks, Sir Brian, 124
- hot line between Moscow and Washington, 14
- Huie, William Bradford, 103
- Hulton, Edward Warris, 118, 119, 125
- Ichikawa, Kon, 194
see also films, *Tokyo Olympiad* (1964)
- Independent Television (ITV) (United Kingdom), 120
- Indian Department of Atomic Energy (DAE), 213
- Indian Institute of Science (IIS), 212

- International Military Tribunal for the Far East (IMTFE), 179–180
 iodine 131, 90
- Jacobs, Edgar, 164–5, 168
 Jäger, Jens, 239
 Japanese
 Atomic Bomb Casualty Commission (ABCC), 133
 Atomic Energy Research Institute (JAERI), 185, 187, 188, 192
 Atomic Industrial Forum (JAIF), 184–6
 Atomic Power Company (JAPC), 185, 187, 193
 Broadcasting Corporation (NHK), 175, 184
 Confederation of Atomic and Hydrogen Bomb Sufferers Organizations, 181, 191, 195
 Council against Atomic and Hydrogen Bombs (1954), 13, 181, 191, 194
 Poets, Essayist and Novelists Club (P.E.N. Club), 180
 Power Demonstration Reactor (JPDR), 192
- Jay, Kenneth, 137
 Joint Committee on Atomic Energy (JCAE), 130
 Joint Congressional Committee on Atomic Energy (JCCA), *see* Joint Committee on Atomic Energy (JCAE)
- Joliot-Curie, Frédéric, 11, 12, 27–8, 42, 237
 Joliot-Curie, Irène, 42, 163, 237
 Josephson, Paul, 26
 Jungk, Robert, 163
- Kansai Electric Power Company, 193
 Kapitza, Peter, 134
 Katayama, Tetsu, 179
- Kee, Robert, 126
 Kennedy, John Fitzgerald, 72
 Kikawa, Kiyoshi, 122
 Kirby, Fred, 61, 63
 Kollwitz, Käthe, 86
 Koltsov, Mikhail, 21
 Komsomol, 34
 Korean War, 27, 124, 151
 Kowarski, Lev, 134
 Khrushchev, Nikita Sergeyevich, 26, 33, 39, 99
 Kuboyama, Aikichi, 91, 181
 see also nuclear weapons tests, *Lucky Dragon* incident
 Kubrick, Stanley, 123, 139
 Kurchatov, Igor, 25, 36, 42, 235, 237, 242
- Laurence, William, 56, 64, 68, 121, 154
 see also books, *Dawn over Zero* (1947)
- Lawrence, Ernest, 120
 Leonard Cheshire Disability charity (1948) (United Kingdom), 126
 Lem, Stanislav, 101
 see also novels, *The Astronauts* (1950)
- Lenin, Vladimir Ilyich, 20
 “Lenin” icebreaker, 32–3, 41, 93–4,
 Lenin Prize, 36
 letter to the editor, *see* readers’ letters
 leukemia, *see* cancer
 Liberal Democratic Party of Japan, 191
 Lilienthal, David, 130, 161
 Limited Test Ban Treaty (LTBT), *see* Nuclear Test Ban Treaty (NTBT)
- Lindenberger, Thomas, 124
 lobotomies, 90
 see also peaceful applications of nuclear power, medicine

- Lockheed Martin company
(United States), 40
- Lorant, Stefan, 118
- Luce, Henry Robinson, 54–5, 58,
59, 60, 73, 242
- Lucky Dragon (Fukuryu Maru)*, see
nuclear weapons tests, *Lucky
Dragon* incident
- MacArthur, Douglas, 179
- Magnum Photo Agency, 97
- Makins, Roger, 123
- Mangeot, Sylvain, 135
- Manhattan Project (1942–1946),
10, 53, 57, 64, 117, 208, 213,
226, 235
- Manichean discourse, 8, 79, 122,
240
- Martin, Charles-Noël, 124
- Maruki, Iri, 179
- Maruki, Toshi, 179
- Masters, Dexter, 128
- Matsushige, Yoshito, 178
- May, Alan Nunn, 128
- May, Elaine Tyler, 83
- McCarthy, Joseph, 98
- McMahon, James, 130
- McMahon Act (1946) (United
States), 117
- McManus, George, 176
- Meitner, Lise, 120
- Methodist Church, 126
- military exercises
Carte Blanche (1955), 12
- Military Intelligence, Section 5
(MI5) (United Kingdom), 125
- millennialism, 62
- Ministry of Energy and
Electrification (Soviet
Union), 25
- Mitsubishi Group (Japan), 192–3
- Monroe, Marilyn, 87
- Morgan, Henry Sturgis, 84–5
see also Morgan Stanley
- Morgan Stanley, 85
- Morley, Derek Wragge, 123, 134–5,
136
- Mott, Nevill Francis, 128
- Mulisch, Harry, 157, 166, 168
see also novels, *Hints for Judgment
Day* (1961); theatre, *De Knop*
(1960)
- Museum of Modern Art, New York
(MOMA), 239
- Mutual Assured Destruction
(MAD), 126, 207, 216
- mutual deterrence, 207, 216
- Nagai, Takashi, 123, 179
see also books, *We of Nagasaki*
(1951); films, *The Bells of
Nagasaki* (1950)
- Nagasaki, see atomic bombings,
Nagasaki
- Nakasone, Yasuhiro, 184, 186, 190
- National Congress to Block the
Security Treaty Revision
(1959) (United States), 191
- National Income Doubling Plan
(1960) (Japan), 191
- Nazi nuclear research, 80–1
see also heavy water
- Nehring, Holger, 3
- Nehru, Jawaharlal, 12, 212, 221,
224–7
- Neville da Costa Andrade, Edward,
122
- New Look policy (1955) (United
States), 126
- newspapers
Berliner Illustrierte Zeitung,
82–3, 240
Daily Mail, 128
Evening Paper of Hiroshima, 178
Evening Standard, 128
Le Monde, 66–7
Neues Deutschland, 100
New Statesman and Nation, 66
New York Times, 64, 121, 132,
154, 186

- Reynolds News*, 128
Times of India (TOI), 6, 204–6, 220, 225
Yomiuri Shimbun, 185, 188
Yukan Hiroshima, *see* newspapers, *Evening Paper of Hiroshima*
 Nicolson, Harold, 120
see also novels, *Public Faces* (1932)
 Niemöller, Martin, 100
 Nippon Hoso Kyokai, *see* Japanese Broadcasting Corporation (NHK)
 Nippon Television Network Corporation (NTNC) (Japan), 184
 North Atlantic Treaty Organization (NATO), 85, 90, 97, 98, 122, 165, 166, 243
 novels
The Astronauts (1951), 101
The Bells of Nagasaki (1949), 179
Hints for Judgment Day (1961), 166
Nagasaki no Kane, *see* novels, *The Bells of Nagasaki* (1949)
On the Beach (1957), 72
Public Faces (1932), 120
 serialized novels, 102, 153
The World Set Free (1913), 9
 Nuclear Budget Bill (1954) (Japan), 183–4, 186
 nuclear installations
 Aldermaston (United Kingdom), 13, 118
 Beloyarsk (Soviet Union), 25, 33, 34
 Calder Hall (United Kingdom), 118, 135, 137, 185, 187, 192, 241
see also accidents with nuclear installations, Windscale
 Chalk River (Canada), 178
see also accidents with nuclear installations, Chalk River
 Chicago (United States), 9
 Cumbria (United Kingdom), 137
 Dounreay (United Kingdom), 137, 219
 Fukui (Japan), 193
 Fukushima (Japan), 193
 Gundremmingen (Germany), 81
 Hanford (United States), 53, 215
 Harwell (United Kingdom), 36, 131, 136, 218
 Houston (United States), 94
 Ikata (Japan), 196
 Kahl (Germany), 81
 Karlsruhe (Germany), 94
 Kjeller (Norway), 150
 Los Alamos (United States), 53, 57, 62, 163
 Novo-Voronezh (Soviet Union), 25, 33–4
 Oak Ridge (United States), 53, 70, 210
 Obninsk (Soviet Union), 19, 25–6, 29, 30–1, 117
 Rheinsberg (Germany), 81
 Rossendorf (Germany), 81, 106, 107
 Uzbekistan, 37
 Windscale, *see* accidents with nuclear installations, Windscale
 Nuclear Nonproliferation Treaty (1968), 14–15
 Nuclear Test Ban Treaty (NTBT) (1963), 10, 14, 40, 70, 73, 216, 222
 nuclear weapons
 atom bomb (a-bomb), 10–12, 19, 24–6, 28, 30, 53, 55–64, 68, 71–2, 80, 87, 117, 120–1, 178–83, 209–11, 240–2
 bombers, 86
 clean bomb, 65
 cobalt bomb, 215
 defense systems, *see* nuclear weapons, rocket shields
 Honest John missiles (MGR-1), 98, 151

- nuclear weapons—*Continued*
 hydrogen bomb (h-bomb),
 10–12, 25, 64, 67, 70–2,
 87, 91, 92, 122–3, 125, 127,
 129–31, 155, 181–3, 215–17,
 240
 Inter-Continental Ballistic
 Missiles (ICBM), 92, 100, 244
 Little Boy, *see* atomic bombings,
 Little Boy
 Matador missiles (MGM-1), 97
 missiles, 80, 86, 92, 99, 100,
 154, 165, 210, 214–6, 244
 neutron bomb, 65
 radioactive dust bomb, 123
 rocket shields, 36, 39, 210, 216
 thermonuclear bomb, *see* nuclear
 weapons, hydrogen bomb
 vehicles, 1, 89, 124
see also nuclear-powered ships
- nuclear weapons tests
 Able, 68–9, 122
 Australia, 117
 Baker, 69, 71, 122
 Bikini Atoll (1946–1954), 12,
 66, 68–9, 70, 71, 90–3, 122,
 129, 132, 180, 182, 210
 Castle Bravo (1954), 69, 72,
 90–1, 127, 130, 138
 Christmas Island (1957), 166
 Eniwetok (1952), 11
 fallout, *see* radiation, fallout
 first British (1952), 11, 122–3,
 242
 first Chinese (1964), 4, 11, 15, 192
 first French (1960), 11
 first Russian (1949), 11, 25, 27,
 60, 86, 155, 215
 first United States (1945), *see*
 Baker, Trinity Test
 Gnome (1961), 67
 Lucky Dragon incident (1954),
 12, 23, 38, 69–70, 72, 127,
 162–3, 181–3, 185, 188–9,
 225, 241, 244
 Malden island (1957), 131
 Marshall Islands, 68, 90, 91, 195,
 240
 Nevada, 12, 66, 67, 69, 71, 87,
 88, 123
 Operation Crossroads, *see* Baker,
 Bikini Atoll
 Operation Ivy (1952), 127, 131
 Sahara (1963), 38
 Trinity Test (1945), 10, 25, 53,
 62, 64, 68, 132, 154
 underground, 14
 underwater, 69, 71, 73
 Yucca Flats (1952), 69, 87
- nuclear-powered ships
 electronically guided, 154
 icebreakers, 30, 32–3, 36, 41,
 93–4
 submarines, 30, 31, 38, 86, 161,
 192, 223
USS Seadragon (SSN-584), 192
USS Thresher (SSN-593), 192
see also “Lenin” icebreaker
- N.V. tot Keuring van
 Elektrotechnische Materialen
 (KEMA) (Netherlands),
 150
- Nye, David, 61
- Ogburn, William, 155
 Ogura, Toyofumi, 179
see also books, *Letters from the
 End of the World* (1948)
- O’Hara, Frederick Michael, 70
- Oliphant, Marcus, 120, 134, 207,
 225, 235, 245
- one world government, 11, 58–61,
 155, 233, 236, 237
see also books, *One World* (1943)
see also books, *One World or None*
 (1946)
- Opel Automobile Company
 (Germany), 89
- Oppenheimer, Robert Julius, 53,
 59, 120, 129

- Osada, Arata, 179
see also books, *Children of Hiroshima* (1951)
- Osborne, John, 222
- Osgood, Kenneth, 95
- Ota, Yoko, 179
see also books, *The City of Corpses* (1948)
- Owen, Frank, 128
- Pan-Atomic Canal, 67
- Parsons, William Sterling, 124
- Partial Test Ban Treaty (PTBT),
see Nuclear Test Ban Treaty (NTBT)
- Paul, Leslie, 126
- Pauling, Linus, 12, 73, 164
- Peace Congresses
 Helsinki (1955), 30
 Moscow (1962), 38
- peaceful applications of nuclear power
 in general, 13, 25–6, 29, 30–3, 61–8, 86, 88–90, 93–6, 106–8, 133–8, 159–162, 189–190, 208, 218–20
 energy, 9, 14, 23–4, 25, 30–1, 33–5, 61–4, 81, 89, 95–6, 106, 118, 134–5, 150, 160, 184–6, 208–9, 218–19
 medicine, 9, 27, 30, 35–7, 63–4, 70–1, 89–90, 107–8, 135, 161–3, 208–9, 210, 219, 234
 transportation, 31, 32–3, 93, 207–8, 223
see also Pan-Atomic Canal; Plowshare Project (1958–1975); space research
- Peck, Gregory, 99
- Peierls, Rudolf, 117, 120
see also Frisch-Peierls Memorandum (1940)
- Penney, William, 123
- Pentagon, 104, 130
- Petrov, Evgeni, 21
- Philpott, Trevor, 133
- Pisarzhevski, Oleg, 30–1
- Plowshare Project (1958–1975), 55, 61–2, 63, 67, 159–60
- Pobedonostev, Yuri, 214
- Pontecorvo, Bruno, 125
- Popp, Adelheid, 86
- Potsdam Conference (1945), 128
- Potsdam Declaration (1945), 178
- Power Source Siting Laws (1974) (Japan), 196
- Prasad, Rajendra, 222
- Prospects of Peace symposium (1962) (India), 222
- Pugwash Conferences, 13, 151
see also anti-nuclear organizations, Pugwash Conferences on Science and World Affairs
- radiation
 fallout, 12, 68–73, 88, 91, 107–9, 123, 131, 181, 215, 226, 234, 241–3
 positive effects of, 30, 35–7, 70, 73, 107–8
 protection from, 9, 24, 72, 88, 107, 131, 136, 161–2, 181, 209
 radioactive rain, 12–13, 108, 167
 shelters, 12, 39, 72, 99, 124, 153, 165, 209, 234
 sickness, 10, 35–6, 69, 70–1, 88, 91, 94, 97, 105, 107–8, 130–1, 154, 162–4, 168, 181–2, 195, 206, 220
 therapy, 90, 95, 107–8, 159, 161–3, 219
see also weather change
- radio programs
Letter from America, 127
see also British Broadcasting Corporation (BBC)
- radiobiology, 36
- Radkau, Joachim, 79, 81, 90
- Reactor Centrum Nederland (RCN) (Netherlands), 150

- readers' letters, 22, 99, 180, 214, 224
- Redgrave, Vanessa, 222
- Rhodes, Richard, 11
- Ridgway, Matthew Bunker, 85
- Ristic, Rosa, 107
- Roberts, Robert, 135
- Robertson, Fyfe, 137
- rocket shield, *see* nuclear weapons,
rocket shield
- Rockwell, Norman, 55
- Rosenberg, Ethel Greenglass, 86, 125
- Rosenberg, Julius, 125
- Rosenberg, Ludwig, 98
- Roskolenko, Harry, 217
- Rotblat, Joseph, 131
- Russell, Bertrand, 12, 126–7, 128,
221–2
see also Russell-Einstein
Manifesto (1955)
- Russell-Einstein Manifesto (1955),
126, 163, 166, 239
- San Francisco Peace Treaty (1951),
177
- satellites, 14, 32, 223
see also space research
- Scheler, Max, 99
- Schlamm, William, 98
- Schmid, Carlo, 98
- Schweitzer, Albert, 12, 127, 164,
221, 238
- Science Council of Japan (SCJ),
183–5
- Science Museum London, 136
- Seligman, Henry, 135
- Shastri, Lal Bahadur, 224
- Shindô, Kaneto, 133
see also films, *Children of
Hiroshima* (1952)
- shoah, *see* holocaust
- Shoriki, Matsutaro, 184–6, 188, 190
- Shute, Nevil, 72
see also novels, *On the Beach*
(1957)
- Simon, Franz, 120
- Skardon, William, 125
- Slessor, John, 126
- Slotin, Louis, 163
- Smithers, D.W., 135
- Social Democratic Party of
Germany (SPD), 81, 82, 93, 97
- Socialist Unity Party (SED), 83
- Soddy, Frederick, 9, 91
- Sofronov, Anatoli, 21
- Sohre, Helmut, 98
- Soper, Donald, 126
- Sozialdemokratische Partei
Deutschlands (SPD), *see*
Social Democratic Party of
Germany
- Sozialistische Einheitspartei
Deutschlands (SED), *see*
Socialist Unity Party
- space race, 241
- space research, 26, 30, 32, 66, 89,
207, 223, 236
Germany, 89, 100–101
Soviet-Union, 31, 32, 100, 223
United States, 70
see also satellites; Sputnik
- Spock, Benjamin McLane, 12
- Sputnik, 32, 223
- Stalin, Joseph, 19, 21, 23, 25–6, 29,
84–5, 90, 92, 128
- Stalin Prize, 28
- Steele, Harold, 166
- Steichen, Edward, 239
- Stevenson, Adlai Ewing, 12
- Stobbs, John, 130
- Stockholm Appeal (1950), 11, 27,
151, 179, 237
see also World Peace Council
- Stölken-Fitschen, Ilona, 90
- Strath Report (1955)
(United Kingdom), 130
- Strontium 90, 72, 108
- Suez Crisis (1956), 14, 117, 150,
152, 168
- Suga, Reinosuke, 185
- Szilard, Leo, 59, 80, 164, 235

- Tata Institute for Fundamental Research (TIFR) (India), 211–12
- television programs
The Flintstones, 65
Gaumont British News, 127, 132
The Jetsons, 65
Tetsuwan Atom, 188–9
- Teller, Edward, 67, 73, 159, 164, 235, 245
- Tezuka, Osamu, 188–9
see also comics, *Mighty Atom*
- theatre
De Knop (1960), 173
De wereld heeft geen wachtkamer (1949), 155–6
- Thompson, Dorothy, 59, 60
- Thomson, George, 120
- Toge, Sankichi, 179
see also books, *Atomic Bomb Poems* (1951)
- Tokyo Electric Power Company, 185, 193
- Tokyo Summer Olympics (1964), 177, 193–4
- Toonder, Marten, 157–8, 164–5, 168
- Toshiba Corporation (Japan), 189, 192–3
- Troke, Clifford, 136
- Truman, Harry, 12, 59, 86, 121, 122–3, 126, 128–9, 138, 158
- tuberculosis (TBC), 107
- Ulbricht, Walter, 85
- Union of Journalists (Soviet Union), 21
- United Kingdom Atomic Energy Authority (UKAEA), 117, 121, 135, 137, 185, 187, 219
- United Nations (UN)
 Atomic Energy Commission, *see* Atomic Energy Commission, United Nations
 Educational, Scientific and Cultural organization (UNESCO), 180
 General Assembly, 13, 128, 238
 Security Council, 117
 United Service Organizations (USO) (United States), 87
 United States Department of State (DoS), *see* United States Information Agency (USIA)
 United States Information Agency (USIA), 80, 135, 188
 University of Chicago Roundtable Conference (1950), 123
 uranium-233, 213
- V2 rockets, 214
- Vacek, Egon, 99
- Vermeulen, Gerard, 152
- Verne, Jules, 89
- Volkswagen (Germany), 100
- Von Ardenne, Manfred, 92
- Von Opel, Fritz, 89
see also Opel Automobile Company
- Von Ranke, Leopold, 79
- Von Weizsäcker, Carl Friedrich, 7, 235
- Walker, Kenneth, 137
- Warsaw Pact, 90
- Watkins, Peter, 139
see also films, *The War Game* (1965)
- Way, Katharine, 128
- Weart, Spencer, 3
- weather change
 improvement by nuclear power, 9, 134–5, 159, 209, 236
 nuclear tests, 12–13, 88, 91, 108, 123–4, 167, 208
 radioactive rain, *see* radiation, radioactive rain
- Weiss, Burghard, 81
- Weisz, Victor, 131
- Wells, Herbert George, 9, 93, 120
see also novels, *The World Set Free* (1913)

- West, Rebecca, *see* Fairfield, Cicely Isabel
see also books, *The Meaning of Treason* (1945)
- Western Electric, 193
- Westinghouse Electric Corporation, 192
- Whitman, Walt, 62
- Wiedemann, Lothar, 98
- Wilkie, Wendell, 59, 237
see also books, *One World* (1943)
- Wilson, Woodrow, 233, 237
- Winocour, Jack, 130–1
- Wittner, Lawrence, 3, 234, 236, 238
- Working Group Reviewing the Safety of the AEC (Japan), 187
- World Council of Churches, 13
- World Peace Council, 11, 83, 91, 179, 237
- World War I, 237
- World War II, 10, 24–5, 26, 87
- Wörndl, Barbara, 94
- Wragg, Arthur, 126–7
- x-rays, 90, 107
see also peaceful applications of nuclear power, medicine
- Yakuza (Japan), 191
- Yamahata, Yosuke, 178
- Yukawa, Hideki, 185
- Zetkin, Clara, 86
- Ziemann, Benjamin, 3

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