

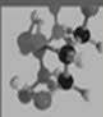
THE NUCLEAR AGE IN POPULAR MEDIA

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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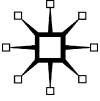
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DICK VAN LENTE
Rotterdam, May 2012

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.

Notes

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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