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The Nuclear Age in Popular Media: A Transnational History, 1945–1965

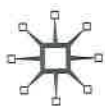
Edited by Dick van Lente

The Nuclear Age in Popular Media

A Transnational History, 1945–1965

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Dick van Lente

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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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