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Narrating the Nuclear Armageddon: The Atomic Menace in the US Popular Culture of the 1980s

1. Introduction

The atomic bombing of Hiroshima and Nagasaki and the development of nuclear technology profoundly shaped not only the politics, the international system, but also the culture and mindset of the so-called “atomic age.” The revolutionary discovery of nuclear fission sparked new fears of what seemed to be an unstoppable technological development: after the bombing of Japan left tangible evidence of atomic destruction, some segments of public opinion started to reject the proliferation and use of nuclear weapons. This opposition to the buildup of nuclear arsenals and the criticism of the dangers inherent in their very existence manifested itself both through the emergence of antinuclear movements that developed in different waves and in different areas of the world but also in the cultural output of the post-World-War-II era.¹

The beginning of the 1980s was characterized by growing bipolar tensions: starting in 1979, the relationship between the United States and the Soviet Union deteriorated, and it seemed that détente and the arms control process were at a standstill. The Reagan administration’s massive military build-up, determined anti-Soviet rhetoric, abandonment of détente, and loose talk about the possibility of waging (and winning) a limited nuclear war fueled the perception of an imminent nuclear danger, creating a favorable political climate for the re-emergence of the antinuclear mobilization which had experienced a rapid ebb after 1963. The fear of nuclear war thus reinforced the emerging antinuclear movement, which during the Reagan administration not only grew, but was able to foster a new national conversation on nuclear policies and disarmament issues transcending the small circles of politicians, diplomats and military

experts and involving a wider general audience. As emphasized by Paul Boyer, the Nuclear Weapons Freeze Campaign (NWFC), the organization through which the US antinuclear movement became a mass phenomenon, “emerged as the political manifestation of [the] fear” of nuclear war and its potentially destructive consequences for humankind and the environment, pressuring the Reagan administration on the nuclear issue and producing an extensive public debate on the peril posed by nuclear technology (Santese, *Ronald Reagan* 1; Boyer, *Fallout* xv).

During the 1980s, the idea that a nuclear war could materialize led not only to an unprecedented antinuclear mobilization in the US and Europe and to a public conversation on these themes, but also to a series of cultural initiatives designed to alert the public and politicians to the atomic menace.² In this political and social context, key cultural moments can be detected in the book *Fate of the Earth*, in the initiatives that revolved around the Nuclear Winter Scenario, and in the made-for-TV movie *The Day After*.

Starting with an analysis of these works and the public debate they created, this essay makes three points. During the 1980s, the cultural production about the nuclear menace was not limited to the irrationality and immorality of MAD and the generic peril to human life. Rather, some works started to highlight the environmental consequences of a nuclear exchange and the resulting extinction of humankind. These works indeed were based on scientific data, which was made possible by the development of the science of ecology and the spread of a new environmental sensitivity in the second half of the twentieth century. Second, although the cultural production about the nuclear menace started before the 1980s, only with the third wave of the antinuclear movement, did it reach a wide audience, not necessarily specialized on scientific, military and diplomatic issues. This was due not only to the development of new communication technologies but above all to the fact that the mass antinuclear mobilization of this decade had sensitized public opinion to the nuclear danger. Finally, this cultural production was subject to a broader public debate than in the past wave of the no-nukes mobilization, and, in some cases, it became the ground for a political confrontation between the US government and the antinuclear movement. Indeed, during Reagan’s tenure the vast galaxy

of American antinuclear organizations, and the NWFC in particular, succeeded, much more effectively than during previous antinuclear mobilizations, in exploiting the fear of an atomic confrontation to fuel a public debate on the effects of nuclear war and the strategic doctrines associated with it (Santese, *Ronald Reagan* 496-520).³

2. The Double Nature of Atomic Power

The development of nuclear technology deeply influenced the public imagination and the cultural output of the post-WWII era. The cultural impact of an invention as revolutionary as the atomic bomb was particularly profound in the United States. Since its inception this technology had two sides. There was the so-called “sunny side” of the atom, the possibility of developing a large-scale civilian nuclear industry to produce cheap electricity, or in the words of the Atomic Energy Commission Chairman Lewis Strauss, “electrical energy too cheap to meter” (“Abundant Power from Atom Seen” 5). The second one, the atom’s “dark and scaring side,” related to its military applications and the development of atomic arsenals with a previously unimagined destructive power.

Faith in nuclear technology led to the production of books, novels and films that illustrated the positive potential of this revolutionary discovery, and minimized and obscured its destructive side. These works fueled the so-called “culture of atomic consensus” (Henriksen xv) and were useful for the governmental effort aimed at, as underlined by Paul Boyer, the exaltation of the future benefits that could be derived from nuclear energy and the playing down of the threat posed by nuclear arsenals to human survival (Boyer, *By the Bomb’s Early Light* 100, 351).⁴ A relevant example of this kind of cultural production is *The Walt Disney Story of Our Friend the Atom*, published in 1956 and adapted into an episode of the *Disneyland television series* the following year. Intended to explain how nuclear science began and how a huge scientific effort had discovered the energy produced by the atom, the illustrated book, produced with the collaboration of the German scientist Heinz Haber, described atomic technology as a generative force, not a destructive one.⁵ Using lines of argument similar to those of

the above mentioned illustrated book, after the revised *Atomic Energy Act* of 1954, the US government, through the Atomic Energy Commission, engaged in “aggressive promotion of the benefit of the peaceful atom” in hopes of staving off public criticism of nuclear power plants, and it worked on “transcending rather than augmenting nuclear technology’s military image” (Smith 239, 237). As emphasized by Spencer Weart, the strategy of US public officials, beside emphasizing the peaceful applications of the atom, was also based on the exploitation of the “nuclear fear” in order to influence public opinion, and this approach proved to be effective at least for the first fifteen years of the atomic age. In particular the scenario of a possible Soviet attack was useful to contain the anxiety associated with the same existence of the US nuclear arsenal, although in the end the fear of nuclear technology was redirected towards the civilian production of nuclear energy, which was thus subjected to more stringent constraints than the military application of nuclear technology.⁶ The strategy to promote peaceful atomic applications in order to eclipse or forestall criticism of the military worked until the beginning of the 1960s when the new counter-cultural movements, in conjunction with the developing antinuclear protest movements, began to criticize nuclear technology, particularly the nuclear arms race. The contradictory nature of atomic technology thus had an impact on cultural production, bringing about what Margot Henriksen has described as “the culture of [atomic] dissent,” one that “revised its perceptions of the past that had given rise to this atomic age system of power, exposing the immorality and the insanity of a system with such a potential for annihilation” (xxii, xxv). The culture of atomic dissent emerged in opposition to “the culture of atomic consensus” that “adapted to the bomb by stressing the American tradition of optimism and its secure belief in progress and technology,” helped by governmental efforts (xxv).

The most famous example of this developing culture of atomic dissent is Stanley Kubrick’s film *Dr Strangelove*, an explicit critique of the deterrence system and the MAD theory. The 1964 film “suggests that the entire arms race and broader standoff between the superpowers are intrinsically insane even if political and military leaders – unlike the caricatures in the film – are nominally ‘reasonable’. No degree of retail sanity, the satire implies, can ultimately disguise the wholesale madness at its core” (Mausbach

12). Sidney Lumet's *Fail Safe*, also released in 1964, focused on another terrifying scenario: how a breakdown of communication systems could trigger a nuclear war. The dangers posed by the civil nuclear industry were not critiqued until 1979 in the movie *The China Syndrome*, which described a cover-up of an incident that could have produced a core meltdown at a nuclear power plant outside Los Angeles. The movie thus questioned not only the safety standard of nuclear reactors but also the honesty of the utilities producing commercial nuclear power. Coincidentally, *The China Syndrome* was released only 12 days before the accident at the nuclear reactor at Three Mile Island, in Pennsylvania, the most serious accident in the history of US commercial nuclear power.⁷

3. Science and Fiction

Hence, although the narrative of atomic catastrophe appeared well before the 1980s, it was only during this decade that such fictional accounts became more detailed in their description of the consequences of a nuclear Armageddon. While the movies above underlined the danger posed by nuclear technology, whether civilian or military, they did not offer a detailed account of nuclear radiation's effect on humans or the environment. In the 1980s, building on scientific data and models, books and films described in detail the adverse consequences of radiation on both the environment and human beings, and provided a realistic description of the biological and climatic consequences of a nuclear war.

The most successful attempt to make the consequences of a nuclear war realistic and comprehensible was by Jonathan Schell. Relying on the scientific data of *The Effects of Nuclear War*, a report published in 1979 by the Office of Technology Assessment of the Congress, Schell published a series of articles in 1982 in *The New Yorker* that vividly described the consequences of a total nuclear war which, had it occurred, would have caused the extinction of humankind. His work was later published as the bestselling book *Fate of the Earth*. As Alan Winkler observes, the first part of Schell's series, "A Republic of Insects and Grass,"

was a graphic prediction of what the nation might become following a nuclear war. In terms a layman could understand, Schell began with the basic principles of radiation and summarized the fundamental effect of a blast. He spoke as well of ancillary results and described the impact of fallout and electromagnetic pulse, which could wipe out all communication. He argued that the destruction of the ozone layer in the atmosphere could cause devastating climatic change. (190)

Fate of the Earth, with its realistic and clear narration of the effects of a nuclear war, was hugely successful – it “became the focus of church sermons and community meeting around the country and helped create a diffuse but still real public sense that something needed to be done” (192). Schell’s writings made the public aware of issues that up to then had been the monopoly of a small group of politicians, bureaucrats, and defense experts.

In 1983, other educational productions joined the *Fate of the Earth*: scientist Carl Sagan began to inform the public about the so-called “nuclear winter theory” or “nuclear winter scenario”, and the TV movie *The Day After* was broadcast. Although neither was designed as an explicit propaganda manifesto for the antinuclear movement, they triggered a debate analogous to that produced by *Fate of the Earth* and brought a heightened sense of the nuclear threat to millions of Americans. The public debate around these works was due also to the fact that for at least two years the United States had been swept by a cross-party and cross-class antinuclear mobilization, capable not only of exerting pressure on the nuclear stance of the Reagan Administration but also of immediately catalyzing the attention of public opinion and the media.

The result of studies conducted by Richard Turco, Owen Toon, Thomas P. Ackerman, James B. Pollack and Carl Sagan, the nuclear winter theory was first made public at a scientific conference in Cambridge in April 1983 and then published in the journal *Science*. The research team, known by the acronym “TTAPS,” studied the biological and climatic effects of a hypothetical nuclear conflict. They concluded that even if a nuclear war was limited to the northern hemisphere, the soot and dust produced by the burning of the cities would obscure the sun, darken the earth’s surface, and lower global temperatures enough to cause a nuclear winter that would make human life impossible. The TTAPS group pledged to

make media appearances to publicize not just their conclusions, but what they considered to be the fundamental strategic and political implications. Indeed, as Carl Sagan wrote in an essay in *Foreign Affairs*, “the inevitable conclusion” was that we had to “reduce global nuclear arsenals below the level likely to cause the type of climate catastrophe and the resulting devastation expected by new studies” (259); such a reduction would have left only “a small fraction of the current global strategic arsenals” in place (292).⁸ The nuclear winter concept attracted widespread media coverage and had a deep impact on public opinion. As Wilfred Mausbach writes, “while the visual image of an overwhelming mushroom cloud had already evoked the vision of man’s extermination of his species by means of his own technology, it was the concept of nuclear winter that gave ‘concrete substance to that image’” (31). In the context of its battle against the antinuclear movement and as the latter was proving capable of influencing American public opinion on the issue of nuclear war, the Reagan Administration took the nuclear winter scenario seriously, setting up a program to examine it, while Congress approved numerous bills asking the Pentagon to develop “a comprehensive study of nuclear winter and its potential effect on defense strategy and doctrine” (Mausbach 33).

Even though the nuclear winter theory was contested by some members of the scientific community, it was extremely well disseminated, and it deepened the debate about the nuclear peril that the antinuclear movement had started. TTAPS’s efforts to communicate their results outside the scientific community and their realistic depiction of the effect of nuclear war found fertile ground in a public opinion already sensitized to the antinuclear and environmental issues by the mobilization of the previous years. After all, in the 1970s, environmental concern mounted around the world, leading to “the emergence of global-scale environmental anxieties and awareness” and the birth of the modern environmental movement (McNeill 263).

4. *The Day After* and Its Political Fallout

The debate over the nuclear winter theory fed into the controversy set off by the ABC broadcast on November 20, 1983 of the made-for-TV film *The Day After*. Directed by Nicholas Mayer, the film depicted the aftermath of total nuclear war and its effect on a group of Americans in the city of Lawrence, Kansas. The choice of Lawrence underscored the fact that, in the eventuality of a nuclear war, not even small cities would be safe, because the two superpowers had enough nuclear missiles to guarantee no place would be spared from the effects of nuclear fallout. While the Reagan administration, through the Nuclear Arms Control Information Policy Group (NACIPIG), was busy trying to counter the NWFC's influence on public opinion and regain control of the debate on nuclear arms negotiations, it became very concerned about the film's possible political fallout.

Even before the scheduled broadcast, *The Day After* became a battlefield between the Reagan Administration and the NWFC. President Reagan saw a preview on October 10, 1983, while at Camp David for Columbus Day. He wrote in his personal journal that the movie

has Lawrence Kansas wiped out in a nuclear war with Russia. It is powerfully done – all 7 mil. worth. It's very effective & left me greatly depressed [...]. Whether it will be of help to the 'anti nukes' or not, I can't say. My own reaction was one of our having to do all we can to have a deterrent & to see there is never a nuclear war. (Reagan 186)

David Gergen, White House Director of Communications, was particularly worried about the potential effect of the broadcast on public opinion. Indeed, according to a White House memorandum, while “the film's producers, director, etc. at ABC deny the film is a political statement” this perception is “unavoidable,” “if for no other reasons than timing. It airs on November 20th (postponed from May 1983) not long before the first Pershing II missiles are deployed in West Germany and about the same time widespread demonstrations against the missiles are expected to be organized in Europe” (Muskett n. pag.). Moreover, the White House

was also worried about how clearly the film demonstrated the uselessness of civil defense plans and ineffectiveness of governmental efforts to aid a population suffering from radiation poisoning, which together suggested that no planning could deal with the unimaginable consequences of nuclear war. Antinuclear groups, meanwhile, saw the film as an opportunity for public education, one that would build their constituency. Antinuclear movement documents reported that *The Day After*

graphically shows many of the major short and long terms effects of nuclear weapons. [...] It shows the effect of blast, heat and radiation as well as firestorms: people vaporized instantly, a young boy blinded by looking at the flash, buildings exploding and collapsing, an entire city burning to ashes, fallout travelling on the wind, the progress of radiation poisoning – bruises, hair loss, weakness – taking its toll on initial survivors. It shows the devastating scenario survivors face – dead animals, barren fields, fallen buildings. (*The Day After: Beyond Imagination*” n. pag.)

The film also displayed the way the electromagnetic pulse disabled all electronic devices, the medical community’s inability to respond to the emergency, the total destruction of physical surroundings, the complete social disintegration, and the absence of governmental assistance. According to antinuclear activists, given its realistic depiction of nuclear war, “its impact on the public is expected to be significant. People will be shocked, depressed, devastated. Many will, for the first time, become receptive to information about halting and reversing the arms race. There’s no question that *The Day After* will be the main topic of conversation at Thanksgiving dinners across the country” (“SANE and the Freeze” n. pag.). SANE, a big antinuclear group, and the same NWFC even organized viewing groups across the country to provide places for people to watch the film together – and to exploit the occasion for communication and recruitment.

Considering this, the Administration feared that the film would create an emotional reaction in the public and lead to nuclear panic. As Bruce Chapman noted in a memorandum for David Gergen, “[p]eople are going to want to talk out the feelings of despair with which *The Day After* leaves one. The greatest danger in the film is the uses to which the ‘No Nukes’

people – including the film’s producers and actors – will put it afterwards. Teach-ins in church basements and media echo effects will heighten the political fallout for us” (Chapman n. pag.). To deal with the political fallout, talking points, prepared by the White House, instructed public officials to stress that “the film is powerful and graphic in presenting the horrors of a nuclear holocaust, but it leaves unanswered the central question: how we prevent this catastrophe from ever happening?” (“White House Talking Points” n. pag.). The answer to that, of course, was the Reagan Administration policy of deterrence and arms control. The White House also organized a roundtable on ABC featuring Robert McNamara, General Brent Scowcroft, conservative commentator William F. Buckley, philosopher and holocaust survivor Elie Wiesel, Henry Kissinger, Carl Sagan, and then Secretary of State George Shultz, which was broadcast immediately following *The Day After*. The aim was to reassure the public. As Reagan wrote in his personal journal, “George [Shultz] is going on ABC right after its big Nuclear bomb film Sunday night. We know it’s ‘anti-nuke’ propaganda, but we’re going to take it over & say it shows why we must keep doing on what we’re doing” (199).

Commenting on the movie’s unprecedented advance publicity, *The Washington Post* wrote that “administration officials are worried that the film will heighten fears that President Reagan’s nuclear arms policies, such as the current deployment of nuclear missiles in Europe, are dangerous”⁹; but *The Post* added that “the White House is awfully dumb, however, to be whipping up a counterattack against this program. There is no better way to seem implicitly to validate the doubts many people have about Ronald Reagan’s nuclear proclivities” (Perl 37) Moreover, according to some press rumors, the battle between the administration and the ABC network had begun even before Reagan saw the film in advance. Nicholas Mayer, the director of the movie, while denying that he was the victim of pressure from the television network, told *The Los Angeles Times* that he would not believe in the actual airing of the film until he saw it projected on the screens whereas *Nuclear Times*, a magazine of the antinuclear movement, went so far as to write that the Pentagon had tried to persuade the writers to change the script before the film was even shot.¹⁰

It is impossible to know if *The Day After* was “the most powerful

television program in history”, as claimed by Rep. Edward Markey (D-MA), an outspoken opponent of the nuclear arms race, but, according to *The New York Times*, it was certainly viewed by a huge audience (Corry n. pag.). According to *The Wall Street Journal*, about 100 million viewers watched part or all of it, “making the nuclear-war movie one of the most-watched television programs ever” (Landro 16). With its large audience, the efforts of antinuclear groups to use it as an opportunity for education and recruitment and, paradoxically, the White House’s campaign against it, *The Day After* transformed itself from a TV movie into a political phenomenon and it helped to further broaden the debate on nuclear issues that was sweeping the country and which had been favored by the large support enjoyed by the antinuclear movement.

5. Conclusion

While movies or books about the nuclear menace appeared with the emergence of the “culture of atomic dissent”, only during the 1980s did they depict the nuclear Armageddon in terms of an environmental catastrophe. These works, based on scientific data, described in a realistic and graphic way the biological and climatic effects of a nuclear confrontation, addressing a public opinion sympathetic to ecological issues because of the spread of a new environmental awareness. Although cultural production about the nuclear menace started in conjunction with the second wave of the antinuclear movement, it reached a wide audience only in the 1980s, when it fostered a true national conversation over the dangers of nuclear war. Indeed, while in the past, issues concerning nuclear doctrine, the nuclear arms race and nuclear war had been the prerogative of a small group of diplomats, military and politicians, during Reagan’s tenure, with the formation of a popular no-nukes front, these issues reached a broader audience and were discussed outside narrow elites. The enlargement and in some ways the democratization of the debate on the nuclear issue and, more generally, the formation of a new antinuclear culture, in the context of which the above discussed cultural works are placed, was the product of a series of factors that emerged only during the

1980s. Mass antinuclear mobilization, Reagan's apparent unwillingness to reduce nuclear stockpiles, and growing bipolar tensions, ensured that the fear of nuclear war and its devastating consequences on humankind led to a wide debate over the effect of a nuclear war, not only reaching a broader audience but shaping a new antinuclear culture that has become deeply rooted in American public consciousness.

Notes

¹ Lawrence S. Wittner refers to three waves of the antinuclear movement: the first wave developed inside the international scientific community, during the design of the atomic bomb and ended in 1953; the second wave begun in 1954, following the radioactive contamination of the Lucky Dragon boat, and ended after the Limited Test Ban Treaty of 1963; the third wave started in 1977-1979, reaching its climax after Reagan's inauguration and ending in 1987 with the signing of the INF Treaty. See Wittner *One World or None, Resisting the Bomb*, and *Toward Nuclear Abolition*.

² On the antinuclear mobilization of the 1980s see Harvey; Wittner *One World or None, Resisting the Bomb*, and *Toward Nuclear Abolition*; Meyer; Solo.

³ During the 1980s in the US the antinuclear movement was so popular and much more effective from the political point of view if compared to the previous upsurge of no-nukes criticism to the point that the Reagan Administration felt the need to create the Nuclear Arms Control Information Policy Group (NACIPIG). This latter was an *ad hoc* interdepartmental group formed in order to counter the NWFC's influence on public opinion and regain control of the debate on nuclear arms negotiations. On this see Santese *La pace atomica*.

⁴ On the cultural reverberation of atomic technology see also Boyer *A Historian Reflects*; Masco; Nadel; Zeman and Amundson.

⁵ See Haber.

⁶ See Weart *Nuclear Fear* and *The Rise of Nuclear Fear*. On the mobilization against nuclear facilities in the US and more generally on the attitude of public opinion on nuclear energy see Santese "The Rise of Environmentalist Movements"; E. Smith, *Energy*; Graetz; Wellock; Wills.

⁷ On the near meltdown of Harrisburg, see Walsh; Walker; Del Pero.

⁸ On the nuclear winter theory see Badash and "The Winter After the Bomb."

⁹ See also Friedman.

¹⁰ See Sharbutt; Dudley.

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