

# Under the Shadow

The Atomic Bomb and Cold War Narratives

David Seed

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Cold War Narratives

**David Seed**

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For Joanna



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# Contents

Introduction	1
1 The Atom—From H. G. Wells to Leo Szilard	9
2 The Dawn of the Atomic Age—The Bomb and Hiroshima	24
3 The Debate over Nuclear Refuge	42
4 Do-It-Yourself Survival	62
5 Philip Wylie on the State of the Nation	75
6 Cultural Cycles in Walter M. Miller’s <i>A Canticle for Leibowitz</i>	95
7 The Pathology of Warfare in Bernard Wolfe’s <i>Limbo</i>	112
8 Push-Button Holocaust in Mordecai Roshwald’s <i>Level 7</i>	130
9 Whales, Submarines, and <i>The Bedford Incident</i>	147
10 Nuclear Safety Procedures in <i>Fail-Safe</i>	163
11 Uncovering the Death Wish in <i>Dr. Strangelove</i>	181
12 Mapping the Postnuclear Landscape	199
13 Future Reportage on World War III	215
14 Beyond the Cold War	231
Notes	243
Bibliography	272
Index	287





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## Introduction

The time is one year in the near future. An American professor of physics returns to his hometown after a nuclear war to find it completely flattened. The aggressors are unknown; they are simply the “people with bombs and planes.”<sup>1</sup> It seems as if civilization itself has been destroyed—that is, until a piece of uranium isotope is discovered that releases powerful energy from the thought waves of the individual holding it. At this point the novel, Murray Leinster’s *Fight for Life*, slides from a disaster narrative into a compensatory fantasy. The protagonist summarizes the nuclear subject as marking the demise of war as we know it. “There can’t be an atomic battle,” he declares. “There can only be atomic massacre. There can’t really be an atomic war. There can only be a contest in destruction.”<sup>2</sup> The attack on America is depoliticized into an act of blind force.

The novel was published in 1947, before the Soviet Union developed a nuclear capability, which legitimized its new status as the national enemy. In short, nuclear war is presented as the ultimate act that denies the citizen any option but the sheer need to survive, and this is where Leinster’s quasi-magical isotope comes in. Extrapolated partly on an analogy with J. B. Rhine’s experiments at Duke University into parapsychology, it restores power to the individual and rescues him from being a plaything of blind chance. What is striking about Leinster’s novel is its generic indeterminacy. It was marketed simply as a “novel of the atomic age,” but the nuclear subject contorts its narrative, which veers from an unpalatable evocation of ultimate endings into a series of fanciful speculations about the power of the mind to alter the present and maybe also the future.

Leinster’s novel represents an early demonstration of one of the main themes in this volume, namely the challenges to expression posed by the nuclear subject and the narrative contortions that resulted.

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It has long been recognized by critics and commentators on the Cold War that representations of atomic energy and nuclear weapons were unusually complex rhetorically. This complexity often approached paradox. World War III was depicted frequently in graphic detail, exploiting one of the central tenets of realism that concrete specificity conferred authenticity, but in the hope that the very vividness of these depictions would make the event less likely. The British novelist Martin Amis introduced his collection of nuclear stories *Einstein's Monsters* (1987) with an essay entitled "Thinkability," where he reflected on how very difficult it was to engage with the subject, declaring, "Although we don't know what to do about nuclear weapons, or how to live with nuclear weapons, we are slowly learning how to write about them. Questions of decorum present themselves with a force not found elsewhere. It is the highest subject and it is the lowest subject. It is disgraceful, and exalted. Everywhere you look there is great irony: tragic irony, pathetic irony, even the irony of black comedy or farce; and there is irony that is simply violent, unprecedentedly violent."<sup>3</sup>

The decade of the 1980s saw the recognition of a body of writing about the nuclear subject that demanded critical attention in its own right. Apart from the publication of the first critical studies, a number of special issues of critical journals appeared.<sup>4</sup> In addition, the International Society for the Study of Nuclear Texts and Contexts (ISSNTC) was formed in 1988 to maintain a newsletter surveying scholarship on aspects of the Cold War. It ceased production in 1995.

The rise of what was briefly known as "nuclear criticism" in the 1980s was triggered initially by Jacques Derrida's famous 1984 essay "No Apocalypse, Not Now."<sup>5</sup> In the words of his commentator Christopher Norris, Derrida attacked the "self-deluding premise that strategies of deterrence (or nuclear war-fighting plans) are matters of applied expertise and rational provision. But this is to ignore the *rhetorical* dimension to nuclear thinking, the fact that every new weapons system, every shift in the prevailing policy of "defence," will entail some largely unpredictable change in the way such moves are construed by the "other side."<sup>6</sup> Derrida was not addressing only or even primarily literary material, and his insistence on the priority of discourse connects closely with subsequent studies of Cold War rhetoric which argue that the period was characterized by a war of words. Indeed, he declares boldly that "our thesis is that political rhetoric creates political activity."<sup>7</sup> For Paul Williams, the school of nuclear criticism growing out of this essay addressed a broad range of issues, namely nuclear apocalypse, the relation between literary criticism and the discourse of the arms race, the assimilation of terror into the consciousness of the culture, gender critiques of the arms race, the relation of nuclear weapons to Western technology, and the connections

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between “nuclear manoeuvring [and] military and strategic history.”<sup>8</sup> The broad implications of Derrida’s essay for nuclear culture as a whole were spelled out by Ken Ruthven in his 1993 study *Nuclear Criticism*, which remains the best introduction to this subject.

Derrida’s initiative was followed by a number of works like Peter Schwenger’s *Letter Bomb* (1992), which took Russell Hoban’s *Riddley Walker* (1980) as typically exemplifying a pattern in nuclear fiction, namely “the traces of a long-past nuclear war are read—or misread—in an effort to decipher its nature. Often the act of reading these traces with a mythological mindset creates an origin which never existed.”<sup>9</sup> Schwenger’s summary of the nuclear fictional subject is helpful in foregrounding the often cryptic nature of the signs that protagonists have to read, but his approach is directed primarily at self-conscious examples of the genre and at narratives set some considerable time after a nuclear war. Nevertheless, the emphasis by Schwenger and others on the rhetoric of nuclear fiction usefully complements studies like those by David Dowling, which concentrates on the paradigm of apocalypse, and Patrick Mannix, which draws on Aristotelian logic.<sup>10</sup>

The rhetorical focus of nuclear criticism injected a welcome rigor into discussion of works dealing with nuclear war. It also helped to demonstrate how textual the nuclear subject was, a point that can be demonstrated from three sample stories taken from Walter M. Miller’s 1985 anthology *Beyond Armageddon*. The first of these, Ray Bradbury’s “To the Chicago Abyss” (1963), very clearly demonstrates the importance of absence in nuclear narratives. As its title suggests, the story describes the area around what used to be Chicago, the main sign of a broader absence in the aftermath of a nuclear war. The story focuses on a chance encounter between a youth and an old man, whose statements are lists of the consumer goods long gone. In a sense, he embodies a memory apparently missing in the other survivors, but his lists consist of signs without referents. Nuclear war, in other words, has damaged language itself, severely limiting its expressive range. Erasure of this kind could apply to the United States as a whole. At the end of Philip Wylie’s *Triumph* (1963), the United States has been so badly destroyed in a nuclear exchange that not only will it cease to exist as a nation, but its very name will disappear from the map. A second possibility is described in J. G. Ballard’s “The Terminal Beach” (1964), where the disused installations for testing nuclear weapons on a Pacific island like Eniwetok are explored by a perverse, death-obsessed character named Traven. Despite the insistent physicality of the concrete bunkers and other buildings, the setting becomes internalized as surreal images within Traven’s consciousness and begins to whirl round in a hallucinatory sequence prior to his death. Here the status of the referents becomes destabilized

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and the objects described take up a position between actuality and dream. Finally, Norman Spinrad's "The Big Flash" (1969) satirically presents nuclear apocalypse as a stage effect promoted by a "freaky" rock group called the Four Horsemen. Spinrad conflates a countdown to a nuclear blast with excitement mounting to a sexual climax in a narrative that exploits an extended pun, once again positioning its descriptions between two apparently disparate fields of meaning.

In these and many other cases, the nuclear subject is presented as so mysterious, so challenging to rationality that it stretches the rhetorical resources of those texts attempting to give it expression. And this problem of expressivity did not originate in the Cold War but began to become evident with the emergence of radium. As Albert I. Berger has pointed out, atomic energy "was the central component of the belief that technological innovation was the principal revolutionary force in the world [giving] promise of actually fulfilling dreams of unlimited power."<sup>11</sup> This only tells half the story, however. Even before the Manhattan Project culminated in the atomic bomb, depictions of radium and atomic energy reflected a deep ambivalence over this power source. On the one hand, it offered unlimited energy, as Berger states; on the other, it could easily reverse into equally unlimited destruction. Robert A. Jacobs has struck a more appropriate note in his conclusion to *The Dragon's Tail* (2010), where he argues that nuclear weapons were perceived as so exceptional that they were positively magical, and as such they presented a unique challenge to understanding.<sup>12</sup>

The destabilizing of rhetoric noted above finds its counterpart in representations of the parameters of time and place in nuclear fiction. As Ken Ruthven has rightly noted, time now contracted startlingly: "The revelation that it took less than three seconds to destroy Hiroshima effects so profoundly a nuclearisation of temporality that . . . fictional accounts of a third world war accordingly stress its brevity."<sup>13</sup> These narratives stress the suddenness of the event, and it is often seen as just that—a single event with such a brief duration that the war is frequently depicted as happening within a single day. However, the sheer scale of destruction that would be unleashed in even a limited nuclear exchange challenges authors' capacity to describe this process, which they sometimes attempt to do through slow-motion effects like running a film at half speed. If the war is brief, its consequences could last for centuries, and we shall see how the landscape itself becomes transformed into a shattered terrain that has to be laboriously explored often in the far future in order to gain an understanding of what happened. Because the prime targets in a nuclear war would be not only military installations but also cities, these cultural centers might be entirely erased, as in Bradbury's story.

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Exactly who would do the erasing is sometimes made explicit and at other times coyly hinted at. The enemy is usually presented as an alien aggressive force located elsewhere but capable of striking America where it will. During the late 1940s, once the Soviet Union had become a nuclear power in its own right, there emerged the central dualism of the Cold War, the “two worlds” ideology: “The world is split into two camps. In blunt summary terms, there are on the one hand those who believe in freedom and the dignity of man and on the other hand those who believe in a supreme conquering state to which all men must be slaves.”<sup>14</sup> When this ideology is converted into spatial terms, it has the effect of encoding different geographical areas as, in some sense, belonging to one super power or the other. *The Bedford Incident* (novel 1963, film 1965) dramatizes the critical consequences of such territorial presumptions. The action is set in the Arctic, during days with very brief periods of light and with fog and generally poor visibility. It is therefore difficult to gain bearings visually and so the terrain has to be scanned electronically.

Narratives of nuclear war constantly problematize their endings because of the uncertainty over the very possibility of survival. Even in the less bleak accounts society is shown to be so ruptured by war that it can only continue to exist in a fragmented form. In such cases, the narratives engage in a quasi-archaeological process of decoding the traces of the shattered culture. The most pessimistic accounts close with impending death, presenting the reader with an ending whose narrative provenance often remains unclear. As Richard Klein has explained, “The nuclear sublime is that all too familiar aesthetic position from which one anticipatorily contemplates the end, utter nuclear devastation, from a standpoint beyond the end, from a posthumous, apocalyptic perspective of future mourning, which, however appalling, adorably presupposes some ghostly survival, and some retrospective illumination.”<sup>15</sup> It is impossible to conceive of an ultimate ending because the very existence of the physical text presumes a kind of survival. Nevil Shute’s *On the Beach* (1957) famously presents a nuclear war taking place in 1963 in the northern hemisphere from the perspective of inhabitants of Australia. The war thus seems initially as remote, but later as irresistible, as an act of nature, and the novel concludes with a character settling down to commit suicide. By displacing the war, Shute uses it as an absence, setting up an implicit analogy between fallout and a contagious disease, a sort of radioactive plague that is gradually wiping out humanity.

Endings thus represent the worst case, and if the novel is narrated by a character within the action, the reader is positioned claustrophobically within what appears to be a narrative cul-de-sac. The narrator of Helen Clarkson’s much-neglected

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novel *The Last Day* (1959) has lived through a nuclear exchange seen from the distance of the Eastern Seaboard of the United States and describes its immediate aftermath as a gradual spatial contraction down to the location of her own death. She concludes with fatigued resignation: "At last, worn out by vain weeping, I lay down to sleep in the only place I knew in the whole world that was windless and clean."<sup>16</sup> The pathos of this ending, where the narrator grieves for the demise not just of her loved ones but of the whole earth, is offset by the fact that the novel carries a dedication "to the next generation," which signals to the reader that the novel, like much nuclear fiction, functions rather like a jeremiad, warning an implied public against the very possibilities it describes. A different strategy is followed in Mordecai Roshwald's *Level 7* (1959), where the diary of an operative in an underground nuclear bunker tails off as he approaches death. Because he has been keeping this diary deep underground, its provenance remained unexplained until the restoration of Roshwald's original narrative frame describing the discovery of the diary by visitors from another planet.

Since the end of the Cold War, nuclear criticism has modulated into a more historical mode, where literature is more systematically related to its cultural context, an approach admirably practiced by the historian Paul Boyer. This cultural mapping has been practiced by critics like Albert E. Stone, Daniel Cordle, and, more recently, Robert A. Jacobs.<sup>17</sup> Cordle's 2008 study, *States of Suspense*, for instance, explores the different ways in which nuclear anxiety finds expression in Cold War narratives, fictional and nonfictional. His incorporation of threats to language itself within his discussion testifies to the ongoing legacy of nuclear criticism, and indeed he has argued eloquently that the latter continues to offer important and productive approaches to cultural criticism long after the end of the Cold War.<sup>18</sup> It is a sign of the continuing vigor of criticism in this field that Paul Williams has explored a complex racial subtext to Cold War debates in his 2011 study *Race, Ethnicity and Nuclear War*.

Built on a project I started with my 1999 book, *American Science Fiction and the Cold War*, this study includes more material about and gives more detailed attention to key nuclear narratives. It opens with a discussion of the first novel to describe atomic war, H. G. Wells's *The World Set Free* (1914), and considers the fictional treatment of radium up to the Second World War. Having established this context, I move on in chapter 2 to examine the different strategies used to describe the atomic tests and the bombing of Hiroshima by John Hersey and his contemporaries. Once full-blown narratives of nuclear war took shape from the late 1940s, they participated in an ongoing debate over whether it was possible to survive such a war and how useful domestic or communal shelters might be. This


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is the subject of chapter 3, whose central figure is the writer Judith Merrill. Pursuing the issue of survival, I next examine Pat Frank's *Alas Babylon* (1959), one of the most popular but least discussed of all nuclear novels, relating it to subsequent survivalist writing. Frank's confidence that nuclear war needed a resolute will to cope with it was not shared by Philip Wylie, the subject of chapter 5. Wylie saw himself as a latter-day Cassandra haranguing the American public for its shortcomings, initially in its failure to take civil defense seriously. In his later writings he became pessimistically preoccupied with humanity's capacity for self-destruction, a central theme in chapter 6, which focuses on Walter M. Miller's classic *A Canticle for Leibowitz* (1960), where nuclear technology is presented as triggering a rerun of Western history culminating in yet another nuclear war.

This compulsion is also featured in Bernard Wolfe's *Limbo* (1952), the central focus of chapter 7, which explores Wolfe's complex exploration of the pathology of aggression through a narrative satirizing the very idea of disarmament. The mechanistic streamlining of a war machine is only hinted at in Wolfe and more fully represented in Mordecai Roshwald's *Level 7*. Chapter 8 examines Roshwald's satirical use of one of the most prominent icons of the 1950s, the push button, through a dystopian narrative of how humans become reduced to mere components within a military machine. Chapter 9 turns to the tradition of the hunt in American culture in order to explore the links formed during the Cold War between *Moby Dick* and nuclear submarines. The focal text in this discussion is Mark Rascovich's *The Bedford Incident* (1963). The issue of control over the military machine returns in chapter 10, this time examining Eugene Burdick and Harvey Wheeler's novel *Fail-Safe* (1962). One of the main ironies of this novel is that its very title identifies a precautionary device that, in the narrative, fails. Control yet again is central in *Dr. Strangelove* (novel and film 1964), where the action is premised on the possibility of a renegade Air Force officer launching a preemptive strike against the Soviet Union. Chapter 11 discusses the absurdist techniques used in the novel and film, including their suggestion of thinly disguised sexual motivations for military action. The next two chapters draw a number of threads together. Chapter 12 surveys examples of narratives that describe postnuclear explorations of the shattered American landscape, sometimes in the immediate aftermath of war, sometimes centuries later. Chapter 13 turns to accounts of World War III, considering future histories of this imagined conflict and also ironic condensations of such a cataclysm into short stories.

The focus throughout this study will fall on the different kinds of narrative used to describe the use of nuclear weapons. Throughout the Cold War there was a constant fear that they might be used but a predictable resistance to the worst-case





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scenario that they might wipe out all human life. Nuclear narratives in their different ways all evoke massive ruptures to life but then explore possibilities of survival. In this sense, they repeatedly attempt to balance the fears of the time against tenuous hopes for a postnuclear world.

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## CHAPTER 1

# The Atom—From H. G. Wells to Leo Szilard

The discovery of radioactivity in the 1890s would qualify as beginning what Thomas Kuhn calls a paradigm shift in scientific knowledge. In *The Structure of Scientific Revolutions* he uses the term “paradigm” to signify the set of beliefs shared by scientific communities and asks the question, Does the world itself change with paradigms? His answer: “Outside the laboratory everyday affairs usually continue as before.”<sup>1</sup> Supposing, however, a writer wanted to incorporate such a discovery into a novel. Kuhn himself recognizes that paradigms exist with slightly different meanings in linguistics and the law and even began speculating on its applicability to the arts. If we take the term to indicate a characteristic or exemplary narrative pattern, then a shift in the scientific sense might carry implications of related shifts in narrative. This is what happens in fiction dealing with the extraordinary forces unleashed by nuclear fission in a context of war. From H. G. Wells’s *The World Set Free* on, atomic war does not only kill thousands and cause massive destruction, but it also causes a rupture in the narratives themselves, introducing discontinuities that become important for the narratives to bridge over. Again and again in the postwar period novels dealing with nuclear war are set in a future where the past has to be painstakingly reconstructed by regaining access to history. Typically these novels set up a future retrospect, a future vantage point from which to examine how events have developed from the reader’s present to the postwar era of the narrative present.

Spencer Weart points out that nuclear energy tales typically tend to focus on some “tremendous forbidden secret” and, because they deal with one of the most hidden aspects of nature, an “attack upon the secret things in search of mastery.”<sup>2</sup> Robert Cromie’s *The Crack of Doom*, the first novel to describe an atomic weapon,

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describes the attempts by Herbert Brande (probably named after Ibsen's obsessed idealist), a scientific genius whose talents include telepathy, to destroy the world with a new device. The novel is narrated by a young medic, Arthur Marcel, whose interest in Brande is stimulated when he tells him roundly, "The Universe is a mistake!"<sup>3</sup> For the rest of the novel, Marcel tries to discover Brande's plan and prevent him from putting it into practice. In other words, the action is an investigation of Brande's mentality rather than the technology of the weapon he has devised, and his logic runs: The atom is the smallest unit in nature but it can be destroyed; therefore, nature is destructible. In fact, strife is a principle of nature, since it is the way life itself emerges, and Brande's fantastic dream is of merging humanity back into the matrix of protoplasm. This "nirvana," as he calls it, therefore represents a kind of atomic mysticism where he doesn't see himself as killing, only returning humanity to the life pool in the universe. Comparing himself with earlier seekers of the principle of life, he uses a characteristic Victorian image of achievement, of attaining the heights: "But we know more than they. We have climbed no doubt in the footholds they have carved, and we have gained the summit they only saw in the mirage of hope."

Although he describes himself as a scientist, Brande actually leads a cult of devoted followers very like the physicist in J. B. Priestley's 1938 novel *The Doomsday Men*. Priestley describes an enormous secret installation in the Mojave Desert; Cromie's hero has chosen a deserted Pacific island. Priestley's scientist's motivation is less clear, but he declares that he wants to perform "one last triumphant stroke, one supreme act of defiance" in deciding the moment of humanity's exit.<sup>4</sup> Shortly before Brande detonates his device, he declares his intention in ringing tones: "I stand . . . I may say with one foot on sea and one on land, for I hold the elemental secret of them both. And I swear by the living god—Science incarnate—that the suffering of the centuries is over, that for this earth and all that it contains, from this night and for ever, *Time will be no more!*"<sup>5</sup> In both novels the discovery of atomic fission licenses the scientist to play destiny with the whole race and forms part of a Promethean dream of power to control one of the forces in the universe and, more importantly, to control or even erase time. In both cases power is appropriated and embodied in the researchers who have uncovered this force in nature. In the quotation above Brande takes on quasi-divine powers that he intends to use to wipe out the limits of mortality: terrestrial life itself. It is a symptomatic irony that the first representation in fiction of atomic energy should show it being used for destruction.

*The Crack of Doom* is a search narrative based on realist premises of social interaction that Brande is determined to break through. He refuses any limits,

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whereas, fortunately, our plucky hero and narrator sabotages his scientific formulae and does not prevent an explosion but at least contains it as a local earthquake that destroys the island but leaves the rest of the world intact. The dramatic climax to the novel comes when the narrator and his companions flee the island as it is exploding—or perhaps “erupting,” because the analogy with a volcano contains Brande’s device within known nature. And this is the same analogy used by the engineer in Karel Capek’s *Krakatit* who names his own super-explosive after Krakatoa. We should also note that it is an analogy which problematizes human control of the explosive process. Cromie’s sensational title combines two senses of rupture—aural (thunderclap) and spatial, as suggesting a break in the surface of nature.

Cromie’s application of the new science is superficial compared to that of H. G. Wells, who used a text by the radio-chemist Frederick Soddy. In his book of lectures, *The Interpretation of Radium*, Soddy waxes enthusiastic about radioactivity because it seems to change one of the projected grand narratives of life: “With all our mastery over the powers of Nature we have adhered to the view that the struggle for existence was a permanent and necessary condition of life.” Now, however, there seems to emerge a post-Darwinian possibility of unfettered progress toward a goal of ultimate power, an “unlimited ascent of man to knowledge, and through knowledge to physical power and dominion over Nature.”<sup>6</sup> “Mastery,” “power,” and “dominion” are terms that can slide easily from science into imperial politics. But note here Soddy’s excitement over radium as an inexhaustible energy source. For him, radium is a sublime substance giving humanity a glimpse of the forces hidden within the “treasure-house of Nature” and destabilizing matter into a constant process of “flow, continuous change.”<sup>7</sup> If we were to render his enthusiasm as a graph, a rising line of constant improvement now replaces the falling curve of entropy.

As early as 1904 Soddy had recognized the military potential of radioactivity when he declared: “It is probable that all heavy matter possesses—latent and bound up with the structure of the atom—a similar quantity of energy to that possessed by radium. If it could be tapped and controlled, what an agent it would be in shaping the world’s destiny! The man who puts his hand on the lever by which a parsimonious nature regulates so jealously the output of this store of energy would possess a weapon by which he could destroy the Earth if he chose.”<sup>8</sup> At this stage Soddy only phrases the possibility in individual terms. In *The Interpretation of Radium* he briefly mentions the possibility that fission might produce an “explosive incomparably more powerful in its activities than dynamite,” but then he quickly moves on to consider the more benign implications of radium. “In the background,” he declares, “there has always been the tacit assumption that the

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supply of fresh energy is only apparently inexhaustible, and that in some remote future a time will at length arrive when the supplies of fresh energy are exhausted and all things will come to a stop and remain at rest for ever.”<sup>9</sup> This entropic end to everything is approached by Wells’s time traveler when he glimpses the cosmic sunset far into the future in *The Time Machine*. Radium enables Soddy to reauthorize progress as entering a whole new phase with the final ending indefinitely deferred: “We find ourselves . . . at the pinnacle of one ascent of civilisation, taking the first step upwards out onto the lowest plane of the next.”<sup>10</sup> Soddy is certainly not giving any sort of dispassionate account of scientific discovery but, rather, a “message of hope and inspiration” to humanity because “radium has taught us that there is no limit to the amount of energy in the world available to support life.”<sup>11</sup> *The Interpretation of Radium* is strikingly inspirational for a scientific study, full of millenarian hope for a new postindustrial era soon to dawn. The one thing Soddy does not consider is how radium can be transformed into an industrial process. This was an absence addressed by Wells.

*The World Set Free: A Story of Mankind* acknowledges its debt to Soddy in an unusually direct way, being dedicated to *The Interpretation of Radium* itself rather than the author.<sup>12</sup> And Soddy returned the compliment by praising Wells’s novel in *Wealth, Virtual Wealth, and Debt* (1926). Wells’s 1914 novel might seem to belong with *The War of the Worlds* (1898) and *The War in the Air* (1908) as forming a trilogy about modern weaponry.<sup>13</sup> This is the way Roslynn Haynes takes them when she argues that all three novels “warn of the levels of violence to which warfare must inevitably escalate if the resources of technology are turned simply to the task of producing the most efficient weapons possible, without heed to the morality of their use.”<sup>14</sup> The problem with this approach is that it oversimplifies the works concerned and ignores the fact that *The World Set Free* is the only novel of the three not to have “war” in its original title and that it carries the subtitle *A Story of Mankind*. In fact, the novel breaks down into four phases: prophecy, application, war, and an aftermath of world government. It is a hybrid narrative, opening as a chronicle of technological development and including extended quotations from lectures and a latter-day sage as well as sections from a bildungsroman of a young man living through the war years. As John Canaday has rightly argued, Wells’s book is a multigenre work attempting to “unsettle the assumptions we would associate with any single narrative mode.” The constant shifts are thus aimed at unsettling the reader’s habits of thought. Wells “obliges us to see [the book] from many narrative perspectives at once, hoping that in this way we may, perhaps, be able to avoid the mistakes made by the inhabitants of his future world.”<sup>15</sup>

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Wells read and admired Soddy's book, writing him into the narrative as Professor Rufus, whose declaration in a lecture that radioactivity is signalling the "dawn of a new day in human living" continues Wells's opening narrative role as the chronicler of human progress.<sup>16</sup> This is the prelude, set in the 1914 reader's present. The next phase covering the 1930s comes when a visionary scientist discovers a method of releasing and controlling this energy with the result of coal disappearing as a fuel. As these changes take place, Wells's (Soddy's?) utopian hopes of social transformation start to take on a more somber tone, because for every advance there is an unexpected problem. The abolition of coal cleans up the environment but throws thousands out of work. By the end of the section, society has become more polarized than ever by rapid technological change. At this point the action moves into open warfare.

An atomic war breaks out in the mid-1950s that totally shatters European society. Wells's description of what he calls the "last war"—a variation on the catchphrase "war to end all wars" that he helped to popularize, to his later embarrassment—is introduced by a statement on its sheer illogicality: "Viewed from the standpoint of a sane and ambitious social order, it is difficult to follow the motives that plunged mankind into the war that fills the histories of the middle decades of the twentieth century."<sup>17</sup> And since it is difficult, Wells does not try it. The war that breaks out between Central Europe and the Allies is presented as the inevitable outcome of early-twentieth-century nationalism. In a preface he wrote in 1921, Wells made his thesis clearer: "Because of the development of scientific knowledge, separate sovereign states and separate sovereign empires are no longer possible in the world, . . . an attempt to keep on with the old system is to heap disaster upon disaster for mankind and perhaps to destroy our race altogether."<sup>18</sup> The difference between his worldview at the time of writing the novel and the postwar period is fundamental for Wells, even so early in the century. Whereas in 1913 he saw a general belief that prosperity would increase indefinitely, now "the world is growing accustomed to a steady glide towards social disintegration."<sup>19</sup>

*The World Set Free* anticipates postwar accounts of actual and imagined atomic bombing in introducing the iconography of bird's-eye charts: "In the map of nearly every country of the world three or four or more red circles, a score of miles in diameter, mark the position of the dying bombs and the death areas that men have been forced to abandon around them."<sup>20</sup> Schematic representations of inner and outer blast areas became a common image after 1945, as did the fragmentation of perspectives on atomic blasts. Here again Wells anticipates this development. We are told that "no complete contemporary account of the explosion of the atomic

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bombs survives” and so later ages have to reconstruct their narrative retrospectively.<sup>21</sup> This means that the reader gets vivid isolated images or episodes, such as when a palace in Berlin is bombed. We are given the viewpoint of a bombardier looking down on the scene from his plane: “It was like looking down upon the crater of a small volcano. In the open garden before the Imperial castle a shuddering star of evil splendour spurted and poured up smoke and flame towards them [the two airmen] like an accusation. They were too high to distinguish people clearly, or mark the bomb’s effect upon the building until suddenly the façade tottered and crumbled before the flare as sugar dissolves in water.”<sup>22</sup> In describing a continuing explosion, Wells notes the targeting of a building symbolic of a regime or nation, the representation of apparently solid structures as totally vulnerable to the atomic blast, and also, more importantly, the problem of witness. We are given a firsthand account that is negated by the height of the vantage point as well as by subsequent events. Shortly after this description, the two airmen themselves are blasted into smithereens. Notice, too, the hint of guilt in the phrase “like an accusation.” Cromie had chosen a title linking the super weapon with hell. Wells continues this association but separates the construction and use of atomic bombs from any individual. Now he disperses evil into collective national courses of action. He anticipates a designation of the hydrogen bomb in his phrase “Hell Bomb” and describes the atomic bombs on Holland as “falling like Lucifer in the picture,” breaching the dykes and causing a new flood of biblical proportions.<sup>23</sup> Wells’s reviewers agreed that these sections were the most powerful in the novel. C. L. Graves commented appreciatively that Wells was a “past-master in the conduct of the *debacle*, an expert in Armageddons.”<sup>24</sup> The depiction of widespread destruction as a kind of sublime spectacle has led Paul Briants to argue that nuclear war narratives are closest to the disaster genre than any other.<sup>25</sup>

However demonically the atomic bombs are described, the sequel to the conflict was to present a “wave of sanity,” as he later recorded.<sup>26</sup> In the wake of the war a small number of idealistic, high-minded leaders take the initiative in forming a world government, which is achieved with amazing speed. Indeed, the only serious obstacle is presented by the King of the Balkans (the “slavic fox”), who tries unsuccessfully to retain two atomic bombs for his own purposes. With this ultimate change in world politics, it only remains for the Russian sage Karenin to construct a liberationist narrative and point out a rather disturbing moral. He stresses how diseased the world was and therefore how strongly it needed its atomic medicine. His metaphor of illness in effect dehumanizes the expendable masses into corruptions of the ideal body politic that will be established by a right-thinking elite. Switching the metaphor, he insists that the bombs “burnt our way to freedom,”

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nevermind the unnamed masses slaughtered in the process. They were dispensable, Karenin implies, and with one eye on postwar city planning he declares, “The great hole in the east of London scarcely matters.”<sup>27</sup> Wells clings to his central notion of liberation, but, as Martha Bartter has shown, focuses his hostility to the unplanned society in the city referred to as a place of sin and disorder crying out for “purging.”<sup>28</sup> Whereas Soddy recoiled in horror at the thought of nuclear weaponry when he saw the actual destruction caused by the First World War, Wells does not seem to have had second thoughts about his novel, although he felt that the war was a “revelation of the profound instability of the social order.”<sup>29</sup>

Wells recognizes that a super weapon raises special problems of control, not to say monopoly. Only two devices could produce enormous destruction and therefore have a threat value far exceeding any previous weapon, as his Balkan king knows only too well. Narratives from the interwar period attach far more importance to this question of ownership than to the technology of such weapons. In *The World Set Free* Wells’s military technicians construct their bombs out of an element called “carolinum,” and these new elements proliferated in fiction between the wars. In Upton Sinclair’s *The Millennium* (play 1914, novel 1924) a scientist discovers an element called “radiumite,” which startles those around him with its utopian potential as an unlimited power source: “Here is power enough to turn all the wheels in the country!” one exclaims.<sup>30</sup> But, as in other writers of the period, this hope is offset by a fear of its destructive capacity and of its tendency to slip out of human control. Sure enough, a container of radiumite is accidentally detonated in a “vivid, blinding light” that anticipates by decades the flash of a nuclear bomb.<sup>31</sup> The explosion kills off the entire world’s population, all except eleven survivors who can then set up a cooperative commonwealth in the Hudson Valley. Sinclair uses the super weapon to erase the mass of humanity who might obstruct the establishment of this utopia, and it is a measure of how little importance he attaches to its human consequences that he subtitles his novel *A Comedy of the Year 2000*.

In Capek’s *Krakatit* the inventor of the new device, who is consciously following in the steps of Rutherford, has a hallucinatory perception that “everything is an explosive.” Physical energy shades mental force, as he explains to a companion: “Every thought is a sort of explosion inside the head. When you give me your hand I feel as if something is exploding inside you.”<sup>32</sup> The engineer Prokop has internalized the notion of nuclear fission so completely that it has destabilized his sense of reality. Because he totally identifies with his weapon, Prokop himself becomes a valuable military commodity that rival nations try to appropriate. The actual use of such technology stays in the future of Capek’s narrative, unlike in Philip Frances Nowlan’s *Armageddon 2419 A.D.* (1928–1929, assembled as novel 1962)



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