

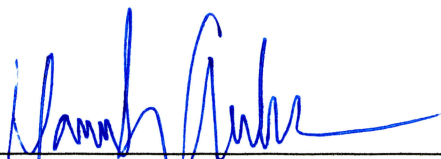
Mutations in Nuclear Fiction: Atomic Age to the 21st Century

Senior Project

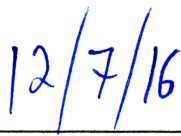
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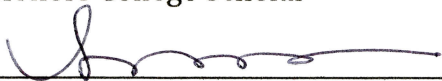
Hannah Anderson
English, Theatre, and Foreign Languages Department
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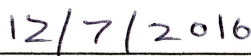
Hannah Anderson
Honors College Scholar



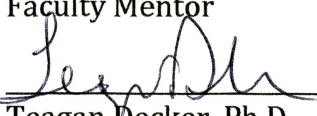
Date




Scott Hicks, Ph.D.
Faculty Mentor



Date



Teagan Decker, Ph.D.
Senior Project Coordinator



Date

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Abstract

With this project, I look to examine how nuclear fiction influenced popular culture during the 1950-1970s, the height of U.S.-Soviet tensions during the Cold War and the peak of what will be hereafter referred to as the Atomic Age. Nuclear fiction is loosely defined as fiction centered on nuclear war, nuclear apocalypse, or other nuclear-related events. I will analyze popular culture sentiments during the Atomic Age, extract the themes from four prominent fiction novels written between 1950-1970, and determine the influence nuclear fiction had on everyday American life. I will then compare the themes unpacked from Atomic Age nuclear fiction to those found in nuclear fiction during the 2000s and 2010s through the new medium of video games. The *Fallout* franchise, particularly the title *Fallout 3* and *Fallout 4*, will serve as the basis of my twenty-first century analysis. Comparing nuclear fiction from the Atomic Age to example of nuclear fiction in the twenty-first century will further an understanding of the ways in which current popular culture has been influenced by the depiction of nuclear warfare or nuclear apocalypse in various media. The link between past and present American societies is in part based in each period's cultural anxieties, as explored through comparing and contrasting themes in the art and writing produced within those eras. Analyzing certain trends in popular fiction, be it literary or electronic, can suggest why tropes such as imminent nuclear danger or the experience of post-nuclear life reoccur throughout popular history, even during times when dangers are not necessarily "nuclear" in origin.

Mutations in Nuclear Fiction: Atomic Age to the 21st Century

Nuclear power has been the subject of analysis and debate since 1898, when Marie Curie discovered the radioactive elements polonium and radium. As scientists continued to find radioactive elements and isotopes, nuclear power became the realization of a life only imagined in science fiction. As the science behind nuclear power and radioactivity continued to develop, the possibilities for nuclear power seemed endless: clean and renewable energy, advances in medicine, and, of course, extremely powerful weapons. It is this last possibility that captured the attention of the American public and culminated in the nuclear bombing of Hiroshima and Nagasaki in 1945.

The revelation of nuclear power as capable of unstoppable acts of war sparked tensions between the Soviet Union and the United States, each world power stockpiling nuclear weapons for potential use against the other. This period of history, from the mid-1940s to the dissolution of the Soviet Union in 1991, is often referred to as the Cold War. A specific span of twenty years during the Cold War, however, are considered both the rise and peak of anxiety about nuclear war in the United States: the 1950s and 1970s, hereafter referred to as the Atomic Age. During the Atomic Age, nuclear fiction emerged as a new subgenre of science fiction. Nuclear fiction is loosely defined as fiction centered on nuclear war, nuclear apocalypse, or other nuclear-related events, and often uses these aspects as catalysts to examine human responses to acts that demonstrate the effects of atomic power.

When coupled with the historical context of popular sentiments involving nuclear power in the United States post-World War II, an analysis of four prominent novels classified as nuclear fiction and published during the Atomic Age suggests the depths to which the fear of nuclear warfare permeated American culture. The themes and descriptions of nuclear warfare in literature, contextualized by analysis of government-distributed informational materials and the Atomic Age American public's reaction to those materials, reveal the profound influence of nuclear fiction on the American psyche. This influence endures in the twenty-first century, as nuclear fiction from the 2000s and the 2010s demonstrates through the contemporary medium of video games, specifically the *Fallout* franchise. Comparing nuclear fiction from the Atomic Age to examples of nuclear fiction in the twenty-first century will further an understanding of the ways in which current popular culture has been influenced by the depiction of nuclear warfare or nuclear apocalypse in various media from the past.

The link between past and present American societies is in part based in each period's cultural anxieties, as explored through comparing and contrasting themes in the art and writing produced within those eras. Analyzing certain trends in popular fiction, whether it be literary or electronic in nature, can suggest why tropes such as imminent nuclear danger and the experience of post-apocalyptic life reoccur throughout popular history, even during times when the dangers to the American public are not necessarily "nuclear" in origin.

HISTORY OF NUCLEAR FEAR IN AMERICA

Following the end of World War II, both the United States and the Soviet Union began nuclear testing on their own soil. The tests were conducted to discover deadlier, more efficient combinations of radioactive isotopes. American nuclear testing began in 1946, less than a year after the bombing of Hiroshima and Nagasaki, and these tests continued through 1963, extending their reach from the ground to the atmosphere (Jacobs 16). Test sites were located in Nevada and the “Pacific Proving Ground” in the Pacific Ocean (Jacobs 14). Details about nuclear testing, and more importantly the radioactive effects of such testing, were largely kept from the general American public until 1954, when BRAVO fusion testing was conducted with deadly results.

The BRAVO explosion took place at Bikini Atoll and was “twice as powerful as expected” (Jacobs 30); fallout from the blast contaminated a Japanese fishing vessel downwind (Weart 97-98). In the aftermath of the BRAVO blast, it became “immediately apparent” that the explosion had “produced incredible amounts of radioactive fallout,” so much so that the U.S. military raised the level of “permissible” radioactive exposure simply because personnel on site “could not avoid receiving the higher dose” (Jacobs 30). The American public began to learn the truth about nuclear testing conducted by the U.S. government, as media outlets reported openly about the catastrophic results of the BRAVO test. This heightened awareness truly began the nuclear panic peak of the Atomic Age.

After the BRAVO test, the concept of radioactive fallout became an active part of American life. Before the BRAVO test, the term “fallout” was never used; instead,

the tests were reported to have resulted in “residual” or “lingering” radiation (Jacobs 30). By the mid-1950s, the term “fallout” was used almost universally in reference to radiation produced by nuclear weapons testing (Jacobs 31). The importance of the distinction is that fallout became a sort of signal phrase, an indication of dangerous and deadly radiation. Prior to the revelation that nuclear testing was actually contaminating the environment and affecting humans nearby, fallout as a concept did not exist. Once the BRAVO test results were reported to the public through the mass media, however, the public soon associated nuclear power and weaponry with disastrous outcomes, and began projecting the fear and dread of those outcomes onto the word “fallout.” The association between danger and nuclear power in the public consciousness provided authors of the period a way to discuss nuclear warfare that was accessible to the general American public, along with providing certain terminology – such as “fallout” – specific to nuclear power and its effect to tap into readers’ preconceptions.

The fear of fallout was not the only aspect of nuclear power that shifted Americans’ opinions from optimism to fear. Social scientists soon aroused anxiety when they theorized a concept of “cultural lag” shortly after the bombing of Hiroshima. “Cultural lag,” as leading sociologist William Ogburn explained, “occurs when one of two parts of culture which are correlated changes before or in greater degree than the other part does, therefore causing less adjustment” (qtd. in Jacobs 43). Cultural lag in the atomic age was caused by the advancement of nuclear technology before the corresponding advancement of human civilization to properly handle that technology: human beings now possessed weapons with the capacity

and the ability to quickly and totally destroy one another and the planet, but it seemed to most Americans that humanity may lack the restraint to avoid doing so. While some psychologists held fast to the deterrence theory of nuclear warfare – that the main purpose of nuclear weapons is to act as a deterrent to war – others speculated that an inherent violence that human beings have displayed throughout their history would bring about the end of the world with a radioactive bang (Jacobs 54). As the term “fallout” had already absorbed a great deal of attention and concern from the American public, the actual, physical component of nuclear power known as fallout acted as a way for the general public to displace their anxieties and fears about impending doom onto something more tangible.

The typical U.S. citizen did not have the financial or practical ability to create any sort of shelter that would shield him or her from the deadly levels of fallout that would occur in a large-scale nuclear strike. The cognitive dissonance associated with cultural lag explains the projection of fears onto certain terminology, which was then avoided in polite conversation, in order to avoid the principle of circular thinking: “the more unthinkable the [nuclear] war becomes, the more we must think about it” (Brians, *Nuclear Holocausts*). Applying the concept of cultural lag to this situation clarifies the thought processes of typical Atomic Age U.S. citizens as they shifted their fears from warfare they could not prevent toward nuclear testing which they could at least attempt to ban. Nuclear testing on or near American soil was the main source of fallout affecting citizens in the continental U.S., so the efforts made to ban nuclear testing gave the American public a tangible goal to focus on that was possible to achieve. Focusing on the goal of preventing nuclear testing on

American soil gave U.S. citizens something to think about other than the possibility of all-out nuclear war. The shift in the response of the American public to nuclear power and its uses influenced the American fiction writers of the Atomic Age, particularly those who had already been working in science fiction, to tackle the issue of cultural lag surrounding nuclear power and its possibilities. The works that resulted urged the creation of a new subgenre: nuclear fiction.

TRAITS OF NUCLEAR FICTION

Although science fiction has always discussed methods of power generation similar to nuclear power, the first novel actually classified as nuclear fiction by science fiction critics is Judith Merrill's *Shadow on the Hearth* (1950). It was not marketed as such, and indeed Merrill's original title for the manuscript of *Shadow on the Hearth* was changed in order to remove the presupposition of nuclear war (Brians, *Nuclear Holocausts*). In the novel, Merrill sets forth the now-classic aspects of a nuclear fiction novel, thus defining the genre for decades afterward.

Authors of nuclear fiction were at a disadvantage during the inception of the subgenre as there were no precedents to help them shape their work. Although nuclear fiction often contains narratives about nuclear wars, the genre is in fact more similar to stories of "a great catastrophe," such as natural disasters like floods and plague, than war stories or memoirs (Brians, *Nuclear Holocausts*). Thus, while Merrill's novel fleshes out many of the conventions of nuclear fiction, conventions of the genre developed increasingly as more of a contrast to other genres than as conventions existing in the genre itself. The conventions of broader science fiction was the primary genre that Atomic Age writers worked against when developing the

style and themes of nuclear fiction. While the standard method of science fiction novels is to “pose a problem and find a technical development which would solve it”, nuclear fiction starts with a technical development meant to solve issues that instead causes irresolvable problems (Brians, *Nuclear Holocausts*). Novels written and published in the early years of nuclear fiction were not written for mere entertainment or exploration of a setting, but instead as experimental case study narratives meant to prod readers into considering the dangers of nuclear power, nuclear weaponry, and the very possible future of nuclear warfare.

Despite their aspirations toward provoking informed debate regarding nuclear power and warfare, the majority of Atomic Age nuclear fiction’s novels and stories fail to promote critical thinking about nuclear warfare, its costs, and its aftermath. a trend that continued well after the Atomic Age and through the end of the Cold War. These novels and speculative stories about the aftermath of nuclear warfare take an uncritical approach to nuclear warfare and instead place white, male, loner-type protagonists in a lawless post-nuclear landscape, with little to no discussion of the psychological or moral effects of nuclear warfare and hardly a mention of the radioactive fallout that follow such an event. Paul Brians, a prominent scholar of nuclear fiction, refers to these heroes as “radioactive Rambos,” named after the muscular protagonist hero of *First Blood*, released in 1982, the first installation of a series of action movies starring the character of Rambo (“Nuke Pop”). Brians also cites the *Mad Max* series of films, the eponymous first installation of which was released in 1979, as an example of works featuring “radioactive Rambo”-esque protagonists. In addition to their absence of critical thought about a

post-nuclear setting, these novels often include a plethora of senseless violence, explicit gore, and sexual situations which further detract from the goals of the original nuclear fiction writers.

Although many novels fall under Brians' category and display "a surprising lack of pessimism about [nuclear war's] long-term consequences," there are stand-out novels that elevate the genre of nuclear fiction to higher standards of critical thinking. A sampling of four of these novels, published from 1950 to 1959, represent the peak period of literary nuclear fiction written during the Atomic Age, a time when American sentiments toward nuclear warfare grew especially anxious and despairing.

SURVEY OF NUCLEAR FICTION

The novels included in this survey of noteworthy nuclear fiction feature many of the conventions of critical thinking that have developed since the inception of the genre, though each approaches the topic of nuclear warfare from a unique perspective. The novels are presented in order of publication year, with a summary of the novels' plot points, thematic elements, and setting, as well as an analysis of how the novels compare or contrast with one another.

Shadow on the Hearth

As previously mentioned, Judith Merrill's *Shadow on the Hearth*, published in 1950, is often considered the first example of an American nuclear fiction novel. Merrill's novel is one of the few early nuclear fictions novels written by a woman. The overall concept of the novel is simple: Gladys Mitchell, a housewife living in the

suburbs of Manhattan, must protect her two daughters and her household without her husband during the aftermath of the nuclear bombing of New York, all while navigating social changes that occur with the bombings, such as riots and looting bands of neighbors. She fears for her husband, Jon, who was doing business in Manhattan as the bombs fell, and she vouches for her maid, Veda, when the local authorities accuse Veda of being a Soviet agent involved with the bombings. Gladys offers shelter to a government dissident, Dr. Levy, a nuclear scientist kicked from the atomic program because he voiced concerns about its safety.

In the end, everything returns to normal. The initial bombs are all that fall, as the U.S. military responds quickly and viciously to the attacks, and Jon comes home, injured and weak but alive. Her youngest daughter, Virginia, recovers well from radiation sickness, and Gladys bonds with her oldest daughter, Barbara, over surviving the turbulent times. The novel ends without any explanation of how New York recovered so quickly from the bombs or how the Mitchells' lives will be changed after the nuclear attack.

Merill's novel creates the conventions that most nuclear novels contain. There is evidence that the government, both federal and local, withholds information during crucial periods of the novel, and Gladys often worries over which guidelines she should follow. There is a breakdown of social order, as evidenced by rioters and looters, and the government silences or imprisons those who speak out against nuclear warfare or who are wrongly accused of working with the Soviet Union as sleeper agents. Local officials are willing to prosecute anyone acting out of line in order to provide the people with a scapegoat, offering up

citizens who disobey their orders as subjects of displacement to keep the civilization that barely exists after the attacks in place.

Two particular themes in *Shadow on the Hearth* are especially important, as they force readers to consider how nuclear war affects citizens. Throughout the novel, Gladys expresses disbelief at how quickly her life has changed, and she agonizes over whether or not her previous way of life will return. She realizes that the routine she had meant to follow the day of the bombing—attending a luncheon in town with her friends—would have left her exposed to deadly radiation:

She knew where it had happened. She knew where Edie had been
at the critical time.

If Veda hadn't been sick...

If Barbie hadn't insisted on the laundry...

If Edie hadn't refused to understand the difficulty...

If I had gone to the luncheon ... ! (Merill 188)

This realization leaves Gladys in a state of semi-shock as she contemplates how different her new reality is to that of her life before the bombing. These themes are important because their mere description causes readers to contemplate what their own situation might be like after a nuclear attack on their hometown.

The importance of *Shadow on the Hearth* might not be evident in its summary, but Merill paints a detailed picture of how ordinary life in the 1950s could have taken a drastic turn for the worse if the fears of nuclear warfare had been justified with an attack on U.S. soil. Merill subtly lends credence to the idea that society would break down after nuclear warfare, an idea that the American government argued would

never come to fruition; moreover, she criticizes the government's policy of remaining silent about the dangers and realities of the power of nuclear weapons. *Shadow on the Hearth* became an influential novel, both in the peak of the atomic age panic and in later revivals of nuclear fiction.

On the Beach

Nevil Shute's final novel, *On the Beach*, was published in 1957, only a year before his death. The novel is set in Melbourne, Australia, in 1963, a year after World War III has triggered a wave of deadly nuclear fallout circulating around the globe. All human and animal life in the Northern Hemisphere, by the time of the beginning of novel, has succumbed to radiation poisoning, and the only survivors are located in the southern-most countries. There is no main character in Shute's novel, though one might argue that the majority of the novel focuses on five central characters: Commander Dwight Towers, the last American naval officer who is now under the Australia naval command; Lieutenant Commander Peter Holmes, naval liaison officer to the American USS *Scorpion*; his wife, Mary; Professor John Osbourne, a scientist specializing in radiation; and Moira Davidson, a Melbourne native who becomes romantically involved with Commander Towers.

The crew of the nuclear submarine USS *Scorpion*, in port at Melbourne, go out for a final mission to determine the source of a Morse code signal coming from Seattle, Washington, where everyone is presumed dead. Along the way, they are asked to provide evidence either supporting or denying the Jorgenson Effect, a scientific theory that suggested that radiation levels might decrease by weather

effects and allow for human life to continue in southern Australia or Antarctica. The trip offers no consolation, however, as the message is determined to have been sent by a broken window frame and an empty soda bottle. Towers, Holmes, and Osbourne return to Melbourne with the knowledge that their impending death is unavoidable.

The remnants of the Australian government provide free suicide pills for citizens to take as the symptoms of irreversible radiation poisoning begin. Holmes euthanizes his baby daughter, and he and his wife take their pills together in bed. Osbourne takes his pill in the racing car he restored after his mother dies. Commander Towers scuttles the *Scorpion* to fulfill his last remaining duty to the United States Navy, and Davidson takes her pill along the coastline where Towers and his crew submerge the submarine.

Shute paints a bleak picture of the aftermath of nuclear war, with an important amendment: nuclear war affects everyone, not just the countries involved. The United States, the Soviet Union, China, Egypt, Albania, the United Kingdom, and Italy were the combatants in the war, but the radiation killed off every last living thing on the planet. Since the Australians were some of the last people alive, they had the unpleasant experience of knowing their death was approaching and being able to do nothing about it for about six months after the war ended. Like *Shadow on the Hearth*, the characters in *On the Beach* find it extremely difficult to believe in the effects of nuclear warfare. Even as the radioactive fallout is rapidly moving downwind towards him, Lieutenant Holmes discusses his inability to comprehend his impending death with Professor Osbourne:

[Holmes] stopped smiling. "The trouble is, I can't really believe it's going to happen. Can you?"

"Not after what you've seen?"

Peter shook his head. "No. If we'd seen any damage..."

"No imagination whatsoever," remarked the scientist [Osbourne]. "It's the same with all you service people. 'That can't happen to *me*.'" He paused. "But it can. And it certainly will."

"I suppose I haven't got any imagination," said Peter thoughtfully.

"It's—it's the end of the world. I've never had to imagine anything like that before."

John Osbourne laughed. "It's not the end of the world at all," he said.

"It's only the end of us ..." (Shute 88-89)

This inability to accept impending death refers back to the psychological concept of displacement caused by cultural lag, especially manifested in the ways the characters spend their remaining time alive. Peter and Mary Holmes plant a garden that they will never see grow and purchase an outside bench for a summer they will not see. Moira Davidson's father, a farmer, plows his fields with manure in preparation for a planting season that will never come. Commander Towers buys gifts for his wife and two children that they will never receive, as they died in America several months prior to the novel's beginning.

Shute's characters react with irrationality and a tragic sort of uncomprehension, much in the way Gladys does in *Shadow on the Hearth*. Unlike Commander Towers and the others, however, Gladys is expected to have a chance at

restoring her old life at the end of her novel. The irrationality in *On the Beach* is almost understandable—their former way of life is gone, poisoned and dying just as they are. This irrationality is commonplace throughout the novel, and it reflects the sort of inability to process the changes that cultural lag describes; intellectually the characters have not caught up with the technology of nuclear power and therefore they cannot comprehend the immediate, resolute consequences they are facing. Life has irrevocably changed for the characters in *On the Beach*, but they aren't able to make the cognitive and emotional leaps necessary to process and response to that change.

Level 7

Level 7 is a unique rendering of an apocalyptic nuclear war, as no real war scenes are ever experienced. Mordecai Roshwald's novel, published in 1959, is written as a diary of soldier X-127 living in the eponymous underground military complex Level 7, located 4,400 feet below the Earth's crust. After X-127 is forced into the Level 7 military shelter, the novel seldom journeys above the surface to observe the post-nuclear landscape. The grotesque aspects of nuclear war, such as radiation sickness and the horrible fates suffered by those in the blast radii of the bombs, are never directly addressed. Instead, readers follow X-127 through his daily life after being inducted into the life of Level 7.

The characters' nationalities in *Level 7* are never revealed, and the "democracy" depicted is just as likely to be Soviet as American or British. There are no geological references or individual names, which discourages readers from

attempting to read a political agenda into the novel. The novel focuses on dehumanization and reliance on machines; X-127 is a button pusher, meaning that his sole job on Level 7 is to press the buttons to launch nuclear payloads at enemies. There are a total of four button pushers, one of whom experiences a mental breakdown before the war begins and during his tour of duty as button pusher. The war lasts two hours and fifty-eight minutes, and both sides declare themselves victors (Roshwald 121, 125). After the destruction is reported and the fatalities counted – thanks to a map of the enemy territory that begins white and blacks out with color as the bombs hit – that same button pusher, X-117, commits suicide. X-127 reflects on the cause of X-117's despair as the narrative continues on.

Level 7 ends with humanity's extinction a mere four months after the nuclear war took place. After all radio contact with the enemy and neutral countries has been lost, as well as all radio activity with the six levels above Level 7, X-127 writes that the people in Level 7 are beginning to become sick as well. Before his own death, X-127 reveals how the impenetrable Level 7 was contaminated: the nuclear reactor that powered Level 7 began to leak, delivering fatal doses of gamma radiation to everyone living in Level 7.

Roshwald's novel exemplifies the dehumanization that occurs with cultural lag: if technology has advanced beyond a culture's moral and emotional capacity to comprehend it, that culture cannot understand the consequences of such action. *Level 7* is one of the best examples of nuclear fiction because of its ability to push the reader into situations that require critical thinking. In addition, Roshwald writes a biting critique of both the United States and the Soviet Union during the Cold War,

pointing at the failures of both governments to consider the costs of nuclear warfare on themselves and the planet.

Like *On the Beach*, Roshwald's *Level 7* ends with the extinction of all life on planet Earth. In addition, neutral countries in *Level 7* are wiped out just as thoroughly as the countries involved in the war, just as the entire world in *On the Beach* is wiped out by radioactive fallout from a war in which most countries were never involved. Unlike Shute's novel, however, irrationality as a response to nuclear warfare is not explored as thoroughly.

The seemingly irrational behavior displayed by the button pushers, who feel they are an integral part of the war when they are situated in an underground complex and simply push a button, is more a product of dehumanization of both themselves and their enemy than a product of the fears and anxieties of nuclear war. In fact, the residents of Level 7 never truly fear the war: they were pre-selected to have no family or close contacts, and they subsequently feel that the war will never touch them. The irony that Roshwald writes into the ending, where the last life on Earth is ultimately destroyed by nuclear power meant for peaceable use, underscores the idea of cultural lag, the use of technology and power without the comprehension to understand it.

Level 7 also counters a viewpoint expressed in Merrill's *Shadow on the Hearth*. In Roshwald's novel, X-127 and his fellow Level 7 residents never question the orders they are given. The government, they assure themselves, has a perfectly good reason for every action they demand. The quarters and arrangements for sunlight, food, water, and power are rationalized by X-127 and his roommate, X-107, as being

the “best of all possible systems” (Roshwald 35), an expression reminiscent of Voltaire’s ill-fated *Candide*. While Gladys and her family question orders given by their local authorities and aid government dissidents in *Shadow on the Hearth*, X-127 and his comrades in *Level 7* merely accept the design of their lives as they now know it.

Alas, Babylon

Pat Frank follows reservist Randy Bragg and the members of the fictional community of Fort Repose, Florida, after Russia delivers devastating coordinated nuclear missile strikes on major U.S. cities and military bases on what the characters later refer to as The Day. Bragg is forewarned of the impending nuclear by his brother in SAC Intelligence in Nebraska with a coded message and takes in his brother’s wife, Helen, son, Ben Franklin, and daughter, Peyton, as they fly into Orlando the day before the airstrikes land. Not long after The Day, Bragg and his neighborhood listen to the new President, the former Secretary of Education, as she declares the entire state of Florida a “prohibited zone,” an area too radioactive for the remnants of the U.S. government to use resources and forces to reclaim.

Bragg’s authority as a military officer is reinstated effective immediately and he, along with his neighboring Black family of Reverend Henry, the Fort Repose physician Dr. Dan Gunn, postal worker Florence Wechek, librarian Alice Cooksey, and his girlfriend Lib’s family, the McGoverns as well as other minor characters, various residents of Fort Repose. As the reality of The Day sets in, lawlessness takes over: the once-peaceful town of Fort Repose is drained of resources overnight as

shops and businesses are looted, doctors and nurses are murdered for the small clinic's supply of drugs, and the head of the Fort Repose bank kills himself when it becomes apparent that paper currency means nothing.

After the initial spree of looting and death, Bragg maintains law and order, cracking down on smugglers who bring in radioactive loot from the remnants of Miami and executing four highwaymen to keep the peace. With the help of the citizens of Fort Repose, Bragg brings the community back to a semblance of civilization, with a trading post, an appointed squadron of deputies, and a policy of living off the land as much as possible. The novel ends a year after *The Day*, when a helicopter lands and Air Force members emerge to collect samples, establishing a connection between Fort Repose and the outside world once again.

Alas, Babylon is unique among the four examples of Atomic Age nuclear fiction in that it goes beyond the devastating effects of nuclear warfare and follows the human response and willingness to survive even after the world as they know it has been destroyed. *Level 7* and *On the Beach* map out possible long-term futures of human extinction after nuclear war, and *Shadow on the Hearth* explores short-term survival in the chaos of a nuclear attack, but *Alas, Babylon* gives readers a chance to experience a world where every aspect of civilization has changed and yet humanity still continues to find ways to survive.

In *Alas, Babylon*, the themes of perseverance and survival found in *Shadow on the Hearth* are reiterated, though on a larger scale. Whereas Gladys and her neighbors have order and power restored within a few days, Bragg and his community must face the realization that the power may never come back on within

their lifetimes. Major cities and military bases have fallen in *Alas, Babylon*, and with them fell the power plants, the canned goods manufactures, and the hospitals.

Unlike *On the Beach*, Fort Repose is not condemned to a certain death by radioactive fallout and instead must carry on surviving the best they can. Frank gives concrete details about the steps Bragg and his community take to reestablish the resources they require, and unlike the characters in *On the Beach*, the members of Fort Repose live to harvest their crops and run out of electricity and oil. While there are still moments and acts of nihilistic abandon similar to those in *On the Beach*, Bragg and his community move past the initial panic and fear and make their best efforts to survive and even thrive in the world after The Day.

The four examples of nuclear fiction during the Atomic Age overlap and contrast in various ways. In terms of demographics, *Level 7* and *On the Beach* examine how the human race as a whole faces the concept of its own extinction – and the extinction of all other life on the planet – regardless of nationality or creed. This is in spite of the nationality of the authors: Mordecai was Russian and Shute was Australian, but even though *On the Beach* is set in Australia, the reactions of other nations and peoples are taken into account, including the American Commander Towers. In fact, in *Level 7* the nationality of the characters is deliberately obscured in order to provide a comprehensive critique of any major power's reaction to nuclear power. Analyzing nuclear fiction outside of the U.S. is helpful in gauging the global attitude towards nuclear power and weaponry, which overall tends toward a negative, pessimistic outlook on the future following a major nuclear incident.

Shadow on the Hearth and *Alas, Babylon* however are distinctly, specifically American, focusing on how the U.S. government protects or fails its citizens in times of crisis and gives multiple, conflicting examples of how any given American citizen may respond to a nuclear attack or nuclear warfare. Another aspect of the American novels to consider is the time frame in which they take place. While *Hearth* follows survival for a week or two after a major nuclear incident, *Alas, Babylon* addresses how American life may continue after the unimaginable becomes the new normal. The repeating theme of continued survival of the human race in the two American novels suggests that American nuclear fiction authors were perhaps still caught in cultural lag, while the rest of the world may have already come to terms with the ramifications of using nuclear technology.

2000-2010s: NUCLEAR FICTION AND NEW MEDIA

By the twenty-first century, the Cold War ended, the Soviet Union disintegrated, and the U.S. tangled with other countries. When the fear of Y2K proved unfounded and the world still existed past the year 2000, attentions shifted towards advancement and progress. The fears of the Atomic Age seemed to have passed onto other scenarios and situations. Nuclear fiction as a genre, however, was still alive and well, as represented by its transition into a new narrative medium: video games. Video games and nuclear fiction collide in the *Fallout* franchise by Bethesda Games, a series of titles set in an alternate, post-nuclear-war future that diverges historically from our own after the year 1945 (*Fallout 3*). There are five installments in the *Fallout* series, but the main focus of this analysis falls on *Fallout 3*, published in 2008.

Fallout 3 is an action roleplaying game (RPG), in which the players interact with the game as the protagonist. This protagonist can be customized in a variety of ways: age, gender, race, hair color, eye color, hairstyle, almost everything about the character can be personalized. This allows the protagonist to function as a player insert, the primary purpose of an RPG: the game functions so as to encourage players to take on the persona of the character, develop a hybrid persona of the character and themselves, or act out their own personas through the character. Everything happening in the game is addressed to the protagonist/player, who must make decisions that affect the dynamic environment of the game.

Protagonists in *Fallout 3* can be good or bad, depending on the choices you as the player make in the context of the protagonist character: which battles you fight, which groups you join, whether or not you kill certain characters, most major decisions in the game affect how your protagonist character is viewed by other non-player characters (NPCs), therefore affecting your experience in the game as a player.

In *Fallout 3*, protagonist characters are known to NPCs as the Vault Dweller. The Vault Dweller must leave the safe, unexposed vault they have lived in all their lives to find their father who has left the vault. Through the game's narrative, they learn that they were not born in the vault but in fact brought into the vault when their mother started to go into labor, delivering them safely but dying in the process. Their mother and father are scientists who were working on water purification technology to support regrowth in the post-nuclear world of *Fallout*.

The most critical decision in the main narrative of *Fallout 3* for the Vault Dweller is whether or not to use the power of the water purification technology developed by their parents for peace by providing radiation-free water for everyone living in the wasteland or “protection” of the human race by inserting a virus that will kill off all mutated beings, even those who have a consciousness or are sentient. This decision echoes the American struggle of what to do with nuclear power, whether nuclear energy should be used for peace to provide energy for all citizens, or for protection as weaponry.

The themes of *Fallout 3* echo the themes of the American Atomic Age nuclear fiction novels, which isn't surprising given that Bethesda Studios is housed in the U.S. *Fallout* does not just reflect the same narrative as *Shadow on the Hearth* or *Alas, Babylon*, nor does it swing toward the existential concept of total human extinction found in *Level 7* or *On the Beach*. Instead, *Fallout 3* blends both of these narratives throughout the game itself, combining the apocalyptic end of the world with a humanity that still fiercely clings to its existence. *Fallout* also furthers the time span in which the human race has survived by several hundred years.

Most importantly, *Fallout 3*'s narrative forces players to actively contemplate the possibility of nuclear war and to actually respond to that reality without having to live through that reality. RPG narratives involve dynamic quest lines, dialogue, and characters, and offer players the opportunity to relive a scenario as many times as they like. This aspect of video games discourages players from participating in cultural lag, making them more active members of their own societies and realities

by helping them develop a conceptual response to difficult situations and decisions without having to suffer real consequences.

NUCLEAR FICTION: MOVING FORWARD

The issues raised during the Atomic Age still linger in modern times. The anxieties of the use and abuse of power continue, as exhibited by the Gulf War, tensions in the Middle East, and the strained relationship between the United Nations and North Korea, a country that has no qualms conducting nuclear tests despite a worldwide ban. Once again, American society seems to be in a peak period of cultural lag, where the technology that enables to-the-second communication and global citizenship has made ideas of patriotism and nationalism that date back to the Atomic Age seem more fascist than democratic.

The conventions authors use in nuclear fiction, under examination, suggest the evolution of emerging science fiction genres may be, in part, a response to the society in which they first developed. The ways in which nuclear fiction conventions have persisted in twenty-first century narratives through the dynamic medium of video games such as *Fallout* suggest the possibilities in which other genres and media may address and respond to cultural lag in the future. One possibility for future study is that of the zombie apocalypse narrative, which seems to stem from anxieties about the economic system of free market capitalism and the consumerism and wealth gaps it exacerbates. The conventions of nuclear fiction that have survived into the twenty-first century offer standards by which contemporary scholars may assess the ability of other subgenres to explore societal fears, both in

the present and in the future, which may promote more critical thinking about the causes of these fears and, perhaps, their solutions.

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