

University of Nevada, Reno

Creature Features and Consensus:

Genre Fiction's Critique of Postwar Atomic Technology

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Abstract

Atomic paranoia is generally attributed to the postwar affluence of the United States, diplomatic tensions with the Soviet Union, and the adjustment to extreme scientific progress. However this research project will reveal how “nuclear terror” was the product of a specific historical event, and the public reporting of this event. First, by examining news reports about atomic technology in the 1940s this project will reveal the impact governmental censorship had on presentation of the atomic bomb. This work will also analyze how the atomic bomb was treated as a plot device in works of fiction, specifically those that would be defined as science fiction and fantasy. By examining these works of “genre” fiction, the intention is to show how the evolving depiction of the atomic bomb became entrenched in the American psyche. By drawing comparisons between the treatment of the atomic bomb in the press and in fiction this work traces the evolution of the depiction of the atomic bomb in America during the postwar period. Ultimately this is intended to challenge the historiographical trend of homogenizing the response of the American public to the bomb in 1940s and 1950s, and reveal that it actually experienced a change over time. By following the news reports, this research will identify specific events that contributed to shifts in depiction, and by incorporating genre fiction show how these new images were adopted into public consciousness.

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Introduction

On a quiet atoll in the Pacific Ocean the destructive power of humankind's technological advancements was first felt. The technology destroyed the ecological landscape, threatened communities, and spread fear throughout the world. This weapon, of course, was the radioactive crab monsters from the 1959 film *Attack of the Giant Crabs*. This film's existence illustrates the incorporation of real life atomic horrors into cheap science fiction films, and more deeply into the American psyche. This project sets out to trace the presentation of the atomic bomb and related technologies in the postwar period by examining works of genre fiction. From these often silly and preposterous works of science fiction and fantasy, a narrative of popular depiction can be discerned.¹

Media has served and still serves as a means of reinforcing a perceived shared experience, through the incorporation of popular reference. This expression can be seen in the explicit and implicit messages encoded into a single work of media. The impact such media would have on the general public is dependent on how effectively these messages are decoded by the audience, as well as how the audience interprets the message. When numerous works contain similar messages that are encoded in the same way one can devise a larger societal trend. That is the intention of this research, at its most basic: to examine these messages and examine them as a whole. It would be too extensive a project to examine how these messages were decoded and interpreted by the public. Yet, there is still much to be gleaned from examining the messages themselves as a whole. Genre fiction of the postwar era is especially useful in this task, as its messages

¹ *Attack of the Crab Monsters*, Film, Directed by Roger Corman, (Los Angeles, CA: Shout Factory, 2004).

were often only thinly veiled within the broadest of metaphors. Regardless of how the messages might have been interpreted by the audience, the structure of genre fiction's themes, character archetypes, and settings, encoded communications significant enough to warrant exploration. These messages became even more revealing when they are compared to one another and seen to follow trends unique to the Atomic Age.

For the purposes of this research, I must first define what genre fiction is, and why it is being used in this project. A work of fiction would be considered a part of the subset of "genre" if it follows a specific set of tropes and archetypes to create its narrative and inform its characters. Works of genre fiction are differentiated from "literary" fiction, as literary fiction does not generally follow a set series of forms.² Literary works like drama or comedy are created to elicit a specific emotional response from the audience, and can do so with any kind of plot, setting and character types. Genre fiction conversely is primarily plot driven, and includes expected settings as well as stock characters. Genre fiction is still intended to elicit an emotional response, but does so through elements like "world-building". Genre fiction has historically been placed in competition with literary fiction, with literary works normally receiving a higher status, yet for the purposes of this research, it is genre fiction that will produce the most information about the depiction of the atomic bomb in postwar America.

Types of genre fiction include Horror, Fantasy, Science Fiction, Romance, Mystery, and Western. All of these subsets are grouped together because they represent a specific set of expectations the audience will place upon the narrative to categorize the

² Christy Tillery French, "Literary Fiction vs Genre Fiction," AuthorsDen. <http://www.authorsden.com/visit/viewArticle.asp?id=18884> (Retrieved on 10 April 2013.)

work. Robert McKee defines genre fiction as "specific settings, roles, events, and values that define individual genres and their sub-genres."³ This research project will only examine works of Science Fiction and Fantasy, as these are the categories that contained the most obvious and numerous references to atomic technology in the postwar era. By following the forms implied in the use of genre, many creators in postwar America constructed narratives that spoke to futuristic hopes, global anxieties, and criticism of governmental nuclear policy, within the confines of their chosen genre.

As Bradford Wright argued in his book *Comic Book Nation*, encoded messages do not always require a great deal of analysis to decipher the intended message.⁴ In certain sectors of media, messages are not encoded under depths of metaphor and subtly but instead are communicated directly in the work. Genre fiction, with its built-in metaphors and themes, served as fertile ground for these less subtle messages. Science fiction and fantasy are especially useful when examining atomic issues because these genres often adapted nuclear issues to form the basis of their plot with almost no subtext. Often, the most biting criticisms were vaguely hidden within the guise of popular fiction, using aliens and wizards as to communicate real world messages. This research project will examine how messages about a controversial topic, the atomic bomb, were encoded into works of media and to what purpose.

While conducting research certain questions guided the inquiry and helped to mark significant themes within the works. Some questions were concerned with major

3 Robert McKee, *Story: Substance, Structure, Style, and the Principles of Screenwriting* (New York: HarperCollins, 1997). 87.

4 Bradford W. Wright, *Comic Book Nation: the Transformation of Youth Culture in America*, (Baltimore: Johns Hopkins University Press, 2001).

themes like, how did media respond to the changes in information concerning the atomic bomb? How did the depiction of the atomic bomb change, and how was this change evident in the media from the period? Other research questions helped to narrow down the research like, how did genre fiction in particular respond to changes in information about the atomic bomb? Was this different from other sectors of media, and why? Ultimately these questions showed that the Castle Bravo Test of 1954 forever changed the representation of the atomic bomb in America. This can be seen particularly in the genre fiction of the period, which responded with intensity to changes in the scientific community. Genre fiction, primarily science fiction and epic fantasy, embodied some of the most supportive and critical reactions to atomic technology as major plot elements, which follow directly the public understanding and attitude about the atomic bomb, and its changes over the fifteen years covered by this study.

Parameters of Research

The resources that have been examined for this research include many sectors of media. Newspaper and newsreel reports were examined in order to determine what the public understood of the atomic bomb. These sources provided the largest section of information to the general public and can thus be employed to trace the available information about the atomic bomb. With the news report information laying the foundation of depiction, one can then add the next layer of interpretation through the examination of media created during that time. Genre fiction will serve to show how the information about the atomic bomb was processed and later consumed by the populous. This research will examine works of fiction to see if the changes in attitude seen in the

news reports were reflected in the fiction and how these authors and creators responded to the increased knowledge about the bomb.

Historical Context

Media and news reports produced after 1945 and before 1960 compose the information set for this study. The year 1945 was chosen as the starting point because it marked the end of the Second World War and the introduction of the atomic bomb as a viable weapon. Historiographically this year also represented the beginning of the atomic age. The use of atomic weapons in Hiroshima and Nagasaki not only changed the destructive potential of conflict but also brought with it the potential to improve other sectors of technology and created a cultural attitude that is now defined as the “Atomic Age”. It is this potential for innovation with this new technology, as well as a postwar economic boom in the United States, that shaped an attitude of optimism indicative of the atomic age.

However, as the years wore on, discussions shifted from potentially useful applications of atomic technology to fears of nuclear proliferation and the possibility of global atomic war. The later part of the atomic age gained the characteristics of paranoia and fear of destruction. Even though the Cold War continued for another forty years, the 1950s as a decade included some of the highest tension of the conflict as it represented the introduction of the conflict and contained some of the earliest responses. When examining the media from this period the paranoia is palpable, as concerns of nuclear destruction were perceived as imminent. For this reason, the research in this study will extend through the 1950s as these years represent a period that still embodied a legitimate

fascination with atomic technology, yet it no longer had the joyful optimism of the earlier period.

Even though this research will extend through the 1950s it will end in the year 1959. This cut off is largely the result of a significant change in the media representation of the atomic bomb. Prior to 1960 discussion of the atomic bomb largely took place in the realm of genre fiction, as this study will show. Yet, towards the end of the decade concerns about nuclear technology began to take shape in other types of literary fiction. After 1960 films like *Failsafe* and *Dr. Strangelove* spread criticism of the atomic bomb into dramas and comedies, and also used these sectors of fiction as a means to criticize nuclear technology.⁵ Yet, it took nearly two decades after the introduction of the atomic bomb for these other types of genre to begin to address the complexities of atomic technology. Since the year 1960 marked the expansion of atomic criticism into other sectors of fiction, this work will focus on the earlier examples of criticism found in genre fiction and will thus end when the criticism began to expand into new forms of media.

Historiography for Castle Bravo

Unfortunately, the Castle Bravo disaster has not received a great deal of research from the historical community. The projects that do exist examine the event's military and scientific purpose, and primarily focus on its status as the introduction of the public to the existence and realities of the Hydrogen bomb. Works like Alex Wellerstein's *From Classified to Commonplace* examine how the Castle Bravo disaster contributed to the

⁵ *Failsafe*, Film, Directed by Sidney Lumet, (Hollywood: Columbia, 1964); *Dr. Strangelove, or, How I Learned to Stop Worrying and Love the Bomb*, Film, Directed by Stanley Kubrick, (Culver City, Calif.: Columbia TriStar Home Entertainment, 1964).

demystification of atomic technology in the United States,⁶ *Making the Very Best of the Worst* by William Vandercook referenced the Castle Bravo event having lifted the “uranium curtain of secrecy,”⁷ resulting in Eisenhower's “Fear” speech on April 5 1954.⁸ Yet, one work in particular expanded upon the concept of Castle Bravo being a fear-inducing event and explored how it actually started the aversion towards atomic technology.

Nina Tannerwald’s 2005 essay “Stigmatizing the Bomb” traced not only paranoia and fear that resulted from the atomic bomb, but also the rejection of the technology altogether.⁹ Tannerwald contrasted nuclear technology with other weapons that historically gained acceptance, while atomic technology garnered revulsion.¹⁰ Tannerwald’s assessments helped to shape this study, primarily because of Tannerwald’s assertion that “...starting in 1954, in the wake of the first U.S. hydrogen bomb test (Castle Bravo)...a grassroots movement against nuclear weapons spread across broad portions of the globe” and continued to shape depictions of the atomic bomb going forward.¹¹ By citing the Castle Bravo test as the starting point of the aversion towards atomic technology, “Stigmatizing the Bomb” emphasized the importance of historical context to the development of cultural attitudes. This research will follow Tannerwald’s example by

6 A. Wellerstein, "From Classified to Commonplace: The Trajectory of the Hydrogen Bomb 'secret'," *Endeavour* 32, no. 2 (2008): 48.

7 William F. Vandercook, (1986). “Making the very best of the very worst: the ‘human effect of nuclear weapons’ report of 1956,” *International Security*, 185. [fix formatting of this citation]

8 William F. Vandercook, “Making the Very Best of the Very Worst,” 190.

9 Nina Tannenwald, "Stigmatizing the Bomb: Origins of the Nuclear Taboo," *International Security* 29, no. 4 (2005): 7.

10 Nina Tannenwald, "Stigmatizing the Bomb," 5.

11 Nina Tannenwald, "Stigmatizing the Bomb," 21.

looking to the Castle Bravo event as a watershed moment which shaped the modern understanding of atomic technology, instead of a generalization about the 1950s being an era of atomic paranoia. With Castle Bravo as a point of departure, this research project will trace the effects of the disaster on the American public by examining the evolving attitude toward atomics as seen in genre fiction.

I intend to contribute to the overall historiography concerning Castle Bravo by showing that it was more than scientific mistake, but a major cultural touchstone. The Castle Bravo disaster and the resulting international incident had a significant impact on both the American public and the international community. Both perceived the atomic bomb with a completely new understanding after the event. This work will use media as a means of tracking this progression and reveal how a single event can reshape an entire community's representation of a technology, and the consequences of this for future generations. The entire series of events spoke to the magnitude of censorship during the postwar period as well as the place of media as an outlet for criticism. By comparing the story of Castle Bravo to a seemingly disconnected narrative of genre fiction in America, I intend to show how this media served as an archival resource of reactionary attitudes toward changing technology, and also reinforced these attitudes in the public.

Methodology

To accurately describe how the changes in information about the atomic bomb impacted the media portrayal of the technology, it will be vital to establish the realities of events surrounding the bomb and its testing in the fifteen years following its introduction in Hiroshima and Nagasaki. This will be accomplished by first looking to fifty years of

secondary scholarship on atomic technology, as a means of combatting the censorship and rhetoric of the period. The next step will be to establish what specific information was available to the public about atomic technology and testing. Contemporary news reporting will illustrate what information was made public at what time, to help create a timeline of public knowledge of the atomic bomb. The news reports will come from all over the United States, as the messages communicated were often identical from state to state. Both written news reports and news reels will be used because they served differing purposes in the sharing of information of the period, with newsreels often expressing a highly sanitized representation of events. While examining printed news sources I constrained the search to focus on works that would have reached the largest segment of the American public. For this reason, the works included in this project come from all over the United States, in that many similar stories appear in newspapers throughout the nation. To also ensure that these news reports were reaching the largest segment of the population, I focussed on articles that were found on the front page, or at least very early pages of the newspapers. These precautions are intended to reinforce this research project's goal of examining the presentation of the atomic bomb to the American public throughout the postwar period, to ensure that the information in the press was consumed by the largest audience possible.

It will be important to establish what information was available at what points in time because a main goal of this work is to de-generalize the postwar era as a time of paranoia and fear. By revealing that information concerning the atomic bomb was released very slowly over a ten-year period, this study will provide clarity about specific

attitudes expressed in various works of genre fiction. Often, historians pick a few works at random when examining media from this period in order to discuss cultural attitudes about the bomb, like C. Hendershot's *Darwin and the Atom* which focuses on three films from the 1950s: *The Beast from 20,000 Fathoms* (1953), *Them!* (1954), and *The Incredible Shrinking Man* (1958), with very little mention of the major revelations that concerned the atomic bomb which shaped how each of these works addressed the issue of the bomb in unique ways.¹² To avoid this pitfall, significant time will be devoted to establishing the state of information in the United States about the bomb, through these news reports.

This research project also follows the example set out by other historians who studied popular culture as the main resource. First it will be vital to the success of this study to consider popular cultural elements as not only a legitimate source for historical research, but also a valuable place to glean information about societal attitudes on a particular topic. Patrick Lucanio and Gary Coville hold 1950s media culture in high esteem in their book *Smokin' Rockets: The Romance of Technology in American Film, Radio and Television* in which they assert that "it is possible to discern a great deal about a culture from its ordinary art."¹³ They then proceed to "distill" from media messages about American cultural goals.¹⁴ This same theme of mining popular culture for the cultural attitudes they represented is evident in Tristan Abbott's essay "Bomb Media" in

12 C. Hendershot, "Darwin and the Atom: Evolution/Devolution Fantasies in: *The Beast from 20,000 Fathoms, Them!, and The Incredible. Shrinking Man,*" *Science Fiction Studies* Vol. 25 (1998): 319

13 Patrick Lucanio, and Gary Coville, *Smokin' Rockets: the Romance of Technology in American Film, Radio, and Television, 1945-1962*, (Jefferson, N.C.: McFarland & Co.), 2002.

14 Patrick Lucanio, and Gary Coville. *Smokin' Rockets. 4-30.*

which he asserted that “direct and indirect indictment of the government’s fallacious claims about the causes, effects, and survivability of nuclear war...films served to shift the enabling dialogue of nuclearism” in his research of both fiction as well as educational materials about the bomb.¹⁵ C. Hendershot’s article *Darwin and the Atom* called on three science fiction films from the period to reveal how “atomic energy was portrayed as a force which could lead postwar society to a utopian existence, even as the atomic bomb threatened to plunge the world into a horrific dystopia.”¹⁶ Hendershot's main thesis asserts that this dichotomy revealed itself in narratives that portrayed radiation as a force that could either physically jumpstart evolutionary processes, or cause a character to devolve. All of these historians began their research by calling on popular media from the postwar period and critically analyzing it to draw conclusions concerning the messages they portray, and their example will shape this research project.

As previously discussed the primary sources that will be employed in this project are limited to genre fiction, but this project will not limit the form in which this fiction was presented. This means that resources will include films in both long and short formats. The main consistent element will be the exploration of role of the atomic bomb within the work. This project will also look to works of written fiction both long and short format, specifically novels, comic books, and pulp works. Beginning in about 1938 and ending in the mid-1950s, the “Golden Age” of science fiction saw the rise of “linear narratives, heroes solving problems or countering threats in a space-opera or

15 Tristan Abbot, "Bomb Media, 1953-1964." *Post-Modern Culture* Vol. 18 (2008): 84.

16 C. Hendershot, "Darwin and the Atom: Evolution/Devolution Fantasies in. The Beast From 20,000 Fathoms, Them!, and The Incredible. Shrinking Man," *Science Fiction Studies* Vol. 25 (1998): 319.

technological-adventure idiom.”¹⁷ These elements can be seen in the novelized works of the time as well as the essays submitted to various science fiction magazines according to Adam Roberts’ *History of Science Fiction*.¹⁸ Since a period of creation was so significant for the history of genre fiction to be considered its “Golden” standard it will be important to include in this era in the research, especially since it is believed to have ended during an especially important period for the atomic bomb. Also it is important to include short form written fiction because in the postwar period this mainly took the form of comic books whose popularity continued into the first half the decade. Short form visual media is also vital to this research as the 1950s saw the rise of the television, reaching its peak in at the end of the decade. If one were only to examine the portrayal of atomic weapons in television or comic books in the postwar era one could develop a skewed view of the period due to shifts in popularity of the medium. By including a variety of mediums in this study, I intend to avoid such pitfalls by providing a breadth of resources.

Drawing on both visual and written forms of genre fiction is meant to show another important aspect about fiction at the time, which has been overlooked in present historiography. When the number of written and visual works are brought together they reveal how highly saturated American media was at the time with fantasies that included issues with the atomic bomb. For the most part historians have committed to exploring genre fiction in a single form, either visual as seen in Chon Noriega’s *Godzilla and the*

17 Adam Roberts, *The History of Science Fiction*, Basingstoke (England: Palgrave Macmillan, 2006.), 195.

18 Adam Roberts, *The History of Science Fiction*, Basingstoke (England: Palgrave Macmillan, 2006.), 47.

Japanese Nightmare, which examined six films from the postwar period,¹⁹ or Keith Booker's exploration into Golden Age science fiction novels in *Monsters, Mushroom Clouds and the Cold War American Science Fiction*.²⁰ By combining the two major outlets for genre fiction into a single narrative I hope to show that themes were not segmented to a single format, but were heavily evident throughout many sections of media.

These primary resources are examined in light of their historical context and medium of creation to decipher their encoded messages. As these are works of popular culture and were intended for mass consumption, these messages are not difficult to decode in light of the accurate historical context. References to atomic technology are noted and explored for metaphors and narrative elements that surround the technology. I also note how characters in the work address atomic technology within dialogue. It was especially revealing when characters expressed concerns, hopes, or general attitudes about the technology and its use, as this was a tool creators could use to voice their own opinions. It is also important to see how atomic technology was incorporated as a plot device as this may also reveal attitudes about the bomb, whether atomics are being used to accomplish something positive, or destructive. With these elements in mind, and sixty films, twenty-five books, fifteen comic books, and an assortment of short format visual works, this research project intends to provide an expansive exploration into the Atomic bomb's place in postwar media culture.

19 Chon Noriega, "Godzilla and the Japanese Nightmare: When "Them is U.S." *Cinema Journal* 27 (1987): 63-79.

20 M. Keith Booker, *Monsters, Mushroom Clouds, and the Cold War American Science Fiction and the Roots of Postmodernism, 1946-1964*, (Westport, Conn.: Greenwood Press, 2001).

The States of Genre Fiction after WWII

The definition of Genre Fiction was fiction that conformed to specific predetermined forms for the purpose of narrative clarity and consistency. Genre fiction was especially attuned to the changes in the scientific community because science fiction in particular drew inspiration from reality (or what could comprehensively be real). Scientific discovery served as both inspiration and content for the fiction. Genre fiction was also attuned to the unique themes and psychological concerns that accompanied scientific and technological advancements which can be seen in science fiction, future fantasy, and epic fantasy. Genre fiction's relation to current events was twofold, in a way unseen in other fiction and literature. It adapted to both the changes in technology brought on by new information and also the cultural reactions to changes in information.

Timeline

Soon after the end of the Second World War the use of atomic weapons captured the imaginations of the American public. The circumstances surrounding the bomb's use created an illusion gaining a reputation as a dangerous weapon that also had the potential to bring both security and advance other areas of technology to improve daily life. This was partly the result of the perpetuation of the myth that the bomb concluded the Pacific conflict by preventing immense bloodshed associated with a ground invasion of Japan. Governmental censorship exacerbated this situation, effectively concealing the true nature of the destruction in Hiroshima and Nagasaki. This constructed depiction of the bomb was progressively chipped away at by various incidents. In 1949 the Soviet Union successfully completed their first atomic test and this challenged the belief that only the

United States could be arbiters of atomic technology. Much of the discussion shifted from safety and optimism, to concerns of proliferation and questioning which nations were responsible enough to host this sort of weapon. This concern continued until 1954, the year the Castle Bravo disaster exposed the world to the true horrors of atomic technology. This event, even more than the Russian test altered depiction of the atomic bomb for the American public and this research will illustrate this assertion.

Chapter One: The Inconsistent Postwar Perspective

Introduction

The world after the bombing of Hiroshima and Nagasaki was one of both horror and wonder. The attack introduced the global community to the new destructive potential of humankind in the context of war, but also provided a hope that this technology could be adapted for peaceful purposes. This section will introduce how the atomic bomb was first presented to the public and addressed in newsprint, and how certain themes consistently manifested in the genre fiction. The first section will explore how the atomic bomb garnered a negative reputation in both print and in fiction, as these sources reported and exaggerated its destructive potential to the public. This will then be used to ground the second section, which explores the optimistic portrayal of the potential of atomic technology, as well as the underestimations of the destructive possibilities of the bomb. This section together will show that reports and media associated with nuclear advancements wholeheartedly adopted a very inconsistent view of atomic technology, which shaped the public understanding of the bomb in the early postwar period.

Fears and Espionage

The major concern communicated immediately after the end of the Second World War in regards to the bomb, was the fear that any other nation would create their own atomic weapon. The American government focused on maintaining the secrecy surrounding atomic technology, which resulted in heavy government censorship of the attack and its aftermath, as the news reports will show. This would ensure that the United States had sole access to the technology and created an advantage in international

disputes to come. The United States benefited greatly from the preservation of nuclear superiority, but this also put a great deal of pressure on the continuing secrecy of the atomic project. Since the American government was not going to share its new technology with the world the main concern became the threat of espionage. These concerns came out not only in American foreign policy but also the news media and later genre fiction from this early period.

Concerns about espionage, as communicated by the press, began as soon as the bombs fell on the cities of Hiroshima and Nagasaki. On August 14, 1945, a day before Japan announced its surrender, *The Port Arthur News* reported an attempted espionage plot that took place at the Oak Ridge Atomic Plant. From its introduction as an element of war, the atomic bomb was subject to espionage plots, and the public was made aware of this. The Oak Ridge plot was foiled by the "Army's counter intelligence corps," but this did not end the concern over espionage.²¹ This emphasis on the protection of secrecy continued in the public forum of news reporting until the American government announced that the Soviet Union detonated its own atomic bomb. According to the *Oakland Tribune* "The Russian atomic explosion announced by President Truman appears to have wiped out congressional opposition to sharing with Britain and Canada the full know-how of the A-bomb."²² The United States government was not even comfortable sharing information about the atomic bomb with its own allies for four years after the end of World War II. Not that this concern for secrecy was unwarranted. In 1948 three men

21 "Attempt to Espionage Atomic Plant Revealed," *Port Arthur News*, August 14, 1945.

22 "U.S. Still is Far Ahead in Atomic Weapons Says Experts: Solons Ready to share data with Britain, Canada," *Oakland Tribune*, September 24, 1949.

were reported to have been taken into custody for spying. *The Lubbock Morning Avalanche* reported that members of congress “declared today that the justice department should seek indictments against two American scientists and a third person on atom bomb spy charges.”²³ This is one of numerous accounts of attempted atomic espionage reported in the newspapers of this period. However, the message continually communicated to the American public was that the atomic bomb was the property of the United States and constantly at risk of being stolen by other nations. These articles emphasized the importance of the United States being the sole arbiter of atomic technology, and defending this status through secrecy and anti-espionage measures, but this emphasis on espionage fell away after the public was informed that these measures were unsuccessful, in 1949.

Genre fiction from this period followed this example of the patriotic anti-espionage campaign by creating narratives around stolen technology and attempts to retrieve it by loyal American heroes. The serial *The Crimson Ghost* created a world in which a university professor built an atomic device that could “detect and repel any atomic bomb attack” and intended giving it to the United States government. Yet, after a successful demonstration of the device, the titular Crimson Ghost arranged for the theft, intending to repurpose it as an offensive weapon which would knock out all electricity. It was eventually revealed that the Crimson Ghost was a colleague of the inventor who disguised his identity with a mask and cloak, calling on the themes of subterfuge as well

23 Rose McKee, ""Atom Spy Action Against Two Scientists, Mystery Man Urged"." *Lubbock Morning Avalanche*, September 22, 1948.

as violence being the primary means of obtaining atomic technology.²⁴ *The Crimson Ghost* also reinforced the concept that atomic technology, if used outside the governance of the American military, would inevitably be used for malicious purposes. *The Crimson Ghost* continued the theme of American atomic primacy by constructing the plot around the importance of recovering atomic technology from the wrong hands, speaking to the fears of espionage threatening American superiority.

Another work that emphasized espionage and the atomic bomb was the fantasy-thriller serial *The Black Widow*. In this work an obliquely foreign king sent his daughter Zombra to the United States to gain secrets about atomic technology so he could fulfill his “plan for world conquest via atomic rockets.” Zombra proceeded to impersonate a fortune teller to get close to members of the military who had information. The serial’s first scene included a man in uniform asking Zombra “You want me to sell my country’s military secrets to an espionage ring?” and refusing her offer of wealth and affluence. This was followed by Zombra poisoning the soldier. The fact that the film directly addressed the issue of subterfuge and bribery as the means of obtaining information about the bomb reflected the public understanding that this would be the way any other nation could get an atomic weapon. Zombra then employed spy tactics by impersonating a scientist’s secretary, using a mask and wig to transform into a facsimile of the other woman. With this disguise, Zombra infiltrated an atomic laboratory and stole multiple secret formulas. The rest of the serial followed the main characters’ attempts to recover the atomic secrets. The narrative of *The Black Widow* was constructed around the concept

24 *The Crimson Ghost*, Film, Directed by William Witney, (Hollywood: Republic Pictures, 1946).

that atomic technology was at great risk of being stolen through subterfuge, and used by foreign enemies to conquer the world. The narrative asserted that the United States was the only country capable of creating atomic weapons and that all of its citizens must prevent this secret from getting into foreign hands that would surely use it to “subjugate enemies of (their) culture.”²⁵

In other films the concern was not only preserving atomic technology as the property of the United States but preventing other scientists from developing further destructive technology. The important aspect was not only preventing espionage but also preventing any atomic innovation from empowering the “wrong hands”. This can be seen in the serial *Jack Armstrong the All-American Boy* in which Jack and his gang discovered a remote island emitting radiation and went to investigate, stating that it was illegal to conduct non-sanctioned experiments with radiation in the United States. The subtext of their investigation also revealed that any atomic experimentation abroad must be stopped. The scientists on the island revealed that their new weapon used “cosmic rays” and “could destroy cities, even entire nations,” and intended to control the world with their new device. Upon being confronted for this plot the scientists taunted Jack for being patriotic, while he asserted that he had a duty to protect American technology. Jack Armstrong was obviously a serial intended for a younger audience, however it still impressed the theme upon its audience that the United States government owned atomic technology, and it was Americans’ patriotic duty to defend against its proliferation.²⁶

25 *The Black Widow*, Film, Directed by Spencer Bennet, (Hollywood: Republic Pictures, 1947).

26 *Jack Armstrong The All American Boy*, Film, Directed by Wallace Fox, (Hollywood: Columbia Pictures, 1947).

As early news reports revealed, espionage was a major concern in the creation and use of atomic weapons. Even before the Second World War was officially over, reports of spies attempting to steal the atomic secret were already circulated. Genre fiction also incorporated this as a plot device as well as a narrative structure, taking the traditional spy thriller to new science fiction heights by incorporating fantastical elements of nuclear technology at the center of the plot. This transformed the previous standards of spy fiction, in which a MacGuffin drove the plot forward by its theft and recovery, to an early science fiction format. The audience would develop a deeper connection to the item at risk of being stolen in this new format because they were aware of how valuable atomic secrecy was to their own government. All three of these works incorporated more traditional elements of a detective story with elements from the science fiction and fantasy genres to match the circumstances of the new atomic era in which espionage and the atomic bomb were major topics of concern. These works laid the foundation for further explorations into the role of the atomic bomb in America, but this role would soon change when the bomb was no longer the sole property of the United States.

Fear of Imminent War

On August 7, 1949 the Soviet Union conducted their first test of an atomic bomb, which became known in the U.S. as Joe-1.²⁷ This shattered the illusion that the United States could maintain sole control of the atomic bomb. This event was so significant it shifted the discussion of the atomic bomb away from espionage toward the new possibility of nuclear war. A relationship that previously was contentious now had the

²⁷ Gerard J. DeGroot, *The Bomb: A Life*. Cambridge, (Massachusetts: Harvard University Press, 2005.), 254.

potential to erupt into an outright war of nations of equal technological standing. This also assured that attentions would shift from keeping the bomb out of the wrong hands as seen in the earlier years, to mitigating the Cold War and preventing complete nuclear war. This shift was evident in both the presentation of the events by the news media as well as the interpretation of these events by genre fiction.

Even though Joe-1 was detonated on August 7th, it was not until September 23, 1949 that the American government informed the public of the Soviet atomic test through the news media. *The Pampa Daily News* reported that “the United States has evidence of a recent atomic explosion in Russia” after President Truman made the announcement that the American government had evidence of an "atomic event" in the region.²⁸ The American government was still slow to confirm the fact that this was an actual nuclear bomb, with reports showing that "Western diplomats...weighed Moscow's latest bid for atom bomb control."²⁹ Earlier that same year the *Salt Lake Tribune* discussed how presidential cabinet advisors were in disagreement over the fifteen billion dollar defense budget, stating that such a small amount would "lose us the confidence of 'our potential allies and spread joy in the Kremlin."³⁰ The new topic on the mind of the American public, as communicated by news reports, was the possibility and potentiality of a real war with the Soviet Union, and this new evidence reshaped how the issue of the atomic bomb was broached in fiction.

A year later in 1950, Ray Bradbury published *The Martian Chronicles*, a series of

28 "HST Says Russia May have A-Bomb," *Pampa Daily News*, September 23, 1949.

29 "Diplomats Study Russ Atom Claims," *Laredo Times*, September 26, 1949.

30 "Defense Budget Under Fire," *Salt Lake Tribune*, January 2, 1949.

vignettes that explored humankind's travels to Mars as well as their nuclear conflicts on earth. One of the earliest tales was that of the "Taxpayer," a man who attempted to stow away on a rocket headed for Mars. When he was refused passage he warned: "...anybody with any sense wanted to get away from earth. There was going to be a big atomic war on Earth in about two years and he didn't want to be the direction of contemporary global diplomacy. Eventually, within the narrative, the nations of the world destroy each other with atomic bombs and the residents of Mars are encouraged to "Go Home" to their desolate planet.³¹ The atomic bombs were described as causing a chain reaction around the earth which transformed the planet into a fireball. Bradbury created a universe in which the ultimate consequence of nations having atomic weapons was their use in combat and desolation of the planet. The Cold War arms race changed the context of the discussion about the atomic bomb. Instead of intrepid heroes running off to save atomic secrets from falling into the wrong community's hands, the narrative became that of dread over any potential conflict, and death and destruction of all persons on earth. *The Martian Chronicles* showed a reactionary outlook to the new global crisis, and adapted its narrative to better reflect the new fears of nuclear annihilation and illustrated this point by physically destroying the earth.

This concern of imminent war between the United States and the Soviet Union manifested in shorter narrative forms as well. In *Bowman Wildman's* trading card series *Atomic Doom* the reader is treated to an image of a decimated earth with depictions of atomic blasts sweeping the globe. In this work, that was intended for a young audience,

31 Ray Bradbury, *The Martian Chronicles*, (Garden City, N.Y.: Doubleday, 1950.), 60.

the front of card number thirty-four contained this disturbing illustration and the back had information intended to educate the children about atomic war. Included with the image is a quotation that questioned:

What will a war be like if it comes? Science is constantly increasing the destructive power of the atomic bomb. In a future war not one or two but many of these weapons could be let loose on target areas.³²

The whole premise of this trading card a series was to introduce children to possibilities of nuclear war between the Soviet Union and the United States. It specifically pointed out the destructive potential of mankind to inform its audience of the new consequences of nuclear proliferation, and more importantly reinforce fear of such a conflict. This trading card revealed that not even children were safe from the discussion of the Cold War erupting, with their narratives being saturated with the message as well.

One of the more lasting films from the era also found its premise as a result of the new concern over global warfare. The main conflict in the film *The Day the Earth Stood Still* was the fact that an intergalactic police force determined the earth as dangerous to itself and the rest of the galaxy, and had visited earth to prevent this from happening. The alien spokesperson, Kaatu, warned that humankind could not be trusted with the technology they had developed and that the Alien federation feared “Earth’s ability to put atom bombs on a rocket.” To ensure that nuclear war would not break out and that other planets were safe from mankind’s inventions, Kaatu left behind Gort, a robot that was a far more dangerous weapon. Gort's purpose was to prevent humans from using atomic

32 “Atomic Doom.” Wild Man Picture Cards, No. 34, (Philadelphia: Bowman Gum Co. 1950).

bombs again. Gort's existence in the film communicated that the only means of ending the global conflict over nuclear technology and preventing atomic war was to employ even more dangerous technology that did not have any national allegiance. *The Day the Earth Stood Still* constructed its plot around a means of forestalling atomic war, doing so through intimidation and threats of violence, but in such a way that the overall goal was peace. This film reinforced the imminence of atomic war, in that the war was so likely that alien forces had to come down and prevent it immediately. This type of concern did not exist three years before when the United States was the only nation to have the bomb. The previous message was that the government was trustworthy enough to use the technology prudently, but after the Soviet Union gained the technology the concern transitioned to that of immediate war. *The Day the Earth Stood Still* used science fiction elements to provide a model by which war could be averted by encouraging active measures taken for peace, but this did not resolve the fears that a war was still on the horizon.³³

The work that most blatantly voiced fears and concerns over not only the possibility but the probability of war with the Soviet Union was *Invasion U.S.A.* Like the Atomic Doom, *Invasion U.S.A.* provided a narrative detailing what a military engagement would look like between two nations with atomic weapons. In the film the Soviet forces invaded Alaska and the west coast, dropping numerous atomic bombs on military bases. A character detailed the American response to these attacks by asserting that "for every bomb they drop here, we're dropping three over there," on military bases, hospitals, and

33 *The Day the Earth Stood Still*, Film, Directed by Robert Wise, (Beverly Hills, CA: Twentieth Century Fox Corporation, 1951).

schools. After all the death and destruction the end of the film revealed that all the events were an illusion created by a hypnotist to encourage a group of bar patrons to do their part to prepare for war. A business owner was encouraged to take a military contract and a young couple decided to give blood, as any little bit would help the war effort. The final image of the film is the quotation from George Washington “To be prepared for war is one of the most effectual means of preserving peace,” communicating the same message as *The Day the Earth Stood Still*, that imminent war could only be prevented through an active effort for peace. In both of these instances the narratives communicated that the only way to bring about peace would be to increase the threat of violence with an increase in weapons, but *Invasion* went a step further by communicating that the American people should actively prepare for a coming war.³⁴ However, in contrast with *The Day the Earth Stood Still*, *Invasion U.S.A.* characterized war as inevitable, and the only way to improve the outcome would be to prepare for an oncoming attack.³⁵

The possibility and inevitability of war became the new focus in genre fiction as soon as the Soviet Union detonated its atomic bomb test. This concern was first communicated through the national press media as soon as the information was made public, yet it took a new form in narrative fiction. As these examples show, the discussion transformed into one concerning human nature and the inevitability of war, as seen in the Taxpayer’s statements³⁶ as well as the push for preparation in *Invasion U.S.A.*³⁷ The new

34 *The Day the Earth Stood Still*, Film, Directed by Robert Wise, (Beverly Hills, CA: Twentieth Century Fox Corporation, 1951).

35 *Invasion U.S.A.*, Film, Directed by Alfred Green, (Hollywood: Columbia Pictures, 1952).

36 Ray Bradbury, *The Martian Chronicles*, (Garden City, N.Y.: Doubleday, 1950.), 13.

37 *Invasion U.S.A.*, Film, Directed by Alfred Green, (Hollywood: Columbia Pictures, 1952).

attitude of atomic dialogue also concerned what shape this sort of nuclear conflict would take as the fireball earths of *Martian Chronicles*³⁸ and *Atomic Doom* illustrated.³⁹ Peace also became a major concern in the new context of the Cold War, with some works asserting that peace could only be assured through increased military spending and threats of violence, in which the combatants must choose to remain peaceful or risk utter destruction as in the *Day the Earth Stood Still*.⁴⁰ Overall, these works communicated an anxiety about the perceived upcoming conflict between the United States and the Soviet Union, but also illustrated an attitude that a stalemate needed to be avoided through preparation and invention of better technology.

Environmental Fears

As the *Martian Chronicles* and the *Bowman Wildman* series illustrated, a major concern was the continued viability of natural resources and livable space after an atomic attack. Yet, the metaphor of a “dead” planet was far more prevalent in both newsprint and fiction soon after Joe-1. This concern was allowed to continue largely because the American government did not inform the public about the true nature of an atomic bomb blast, and imaginations were encouraged to run wild. This meant that the possibilities regarding what the consequences of a global atomic war might be were limitless. The lack of information about the actual nature of the bomb contributed to both overestimations of the atomic bomb’s potential and underestimations, as seen in the blasé attitude with which it was treated in *Invasion U.S.A.* This section will focus on the

38 Ray Bradbury, *The Martian Chronicles*, (Garden City, N.Y.: Doubleday, 1950.), 69.

39 “Atomic Doom,” Wild Man Picture Cards, No. 34, (Philadelphia: Bowman Gum Co. 1950).

40 *The Day the Earth Stood Still*, Film, Directed by Robert Wise, (Beverly Hills, CA: Twentieth Century Fox Corporation, 1951).

overestimations, and reveal how a lack of information in the print media led to a unique cultural narrative concerning the possible outcomes of nuclear war in fiction.

Immediately after the atomic bomb was dropped in 1945 news reports speculated about the nature of the explosion. This speculation was tacitly encouraged by the American government, which heavily censored information that came from the bomb site. News reports even addressed this lack of information, stating that:

...while a strict military censorship bottled up details of just what happened to Hiroshima, cryptic official reports and results of experiments with the atomic bomb indicated it was something like...clouds of smoke, debris.⁴¹

The news reports had very little information about the type of weapon the government was actually using and had to draw conclusions from the little information provided by the Department of Defense, as well as from testing. For this reason this same article reiterated that “some sources in Washington suggested the ‘details’ would show the city of more than 300,000 persons (Hiroshima) was just wiped out with a single bomb.”⁴²

Even though the atomic bomb was the most powerfully destructive device created at that time, it did not destroy the city’s entire population; casualty estimates were closer to 70,000 to 80,000 from the blast and firestorm.⁴³ This is not meant to diminish the

immensity of death and destruction, only to show how ill-informed the American public

41 "Japs Admit Atomic Bombs Devastation: Debris Blankets Hiroshima, Hit by New Explosive," *Ogden Standard Examiner*, August 7, 1945.

42 "Japs Admit Atomic Bombs Devastation: Debris Blankets Hiroshima, Hit by New Explosive," *Ogden Standard Examiner*, August 7, 1945.

43 *Hiroshima*. "U.S. Strategic Bombing Survey: The Effects of the Atomic Bombings of Hiroshima and Nagasaki, June 19, 1946. President's Secretary's File, Truman Papers." Harry S. Truman Library & Museum. p. 6. Retrieved March 15, 2009.

was. Of course as time progressed more information was slowly doled out to the public, but not enough to give the public an accurate understanding of the actual destruction that a bomb could cause, allowing people to think that the atomic bomb could be far more immediately destructive, with no thought given to the potential after effects.

This speculation on the unknown potential of the atomic bombs was quickly adopted by genre fiction. The usual form it took was this overestimation of the atomic bomb's destructive force, primarily communicated in the metaphor of a dead planet. For example in Robert Heinlein's *Rocketship Galileo*, the protagonists discovered that the moon used to be inhabited by an ancient civilization that went extinct due to a nuclear war. The characters even speculated that all of the craters on the moon were actually the result of atomic explosions. Their main conflict then occurred when they attempted to return back to earth to share this cautionary tale, but were prevented by a secret base of Nazis hiding on the dark side of the moon.⁴⁴ The 1950 film *Rocketship X-M* shared a similar premise to *Rocketship Galileo*, in which a group of scientists travel to Mars and discover its population had also been destroyed by nuclear war. They encounter the remnants of a great city and a population nearly wiped out after an atomic war. The protagonists of *Rocketship X-M* also felt tasked to rush home and inform the public of the destructive potential of global nuclear warfare.⁴⁵ Both of these works used an extraterrestrial planet to serve as an example of the future that may be in store for earth if nuclear weapons were not controlled. This plot device of a dead planet as a testament of the power of the atomic bomb allowed the creators to speculate about the potential

⁴⁴ Robert A. Heinlein, *Rocketship Galileo*, (London: New English Library, 1947).

⁴⁵ *Rocketship X-M*, Film, Directed by Kurt Neuman, (United States: Lippert Pictures, Inc., 1950).

outcomes of atomic destruction.

Other works took it a step further than merely showing the dead planet as an example against the possible outcomes of atomic war and instead placed the environmental destruction on earth itself. For example, in Isaac Asimov's 1950 classic novel *Pebble in the Sky*, a radioactive experiment accidentally transported the protagonist Joseph Schwartz fifty-thousand years in the future to find large sections of the earth was made uninhabitable due to the topsoil being "converted into artificially radioactive materials."⁴⁶ Asimov created a setting on earth in which a nuclear war's impact on the environment was so detrimental that humankind was confined to a few livable spaces that had not been destroyed by the bomb. Arthur C. Clark's *The Sands of Mars* included a section which discussed how an atom-fueled spaceship, if it were to be defective, had a "nuclear propulsion unit (that) could cover that distance (1000 kilometers to earth's surface) in less than a minute"⁴⁷ and destroy the surface below. And finally, the *Atomic Doom* trading card also included another warning about atomic detonation on earth. The back text of the card warned that an atomic "explosion might cause a chain reaction destroying the earth or rendering it so barren it could not support human or animal life."⁴⁸ The exaggeration of the destructive potential of the atomic bomb could be considered merely artistic license, yet the fact that multiple creators looked to the same metaphor to describe their concern about atomic technology's impact on the environment speaks to the information (or lack thereof) provided by news outlets.

46 Isaac Asimov, *Pebble in the Sky*, (New York: TOR, 1950.), 41.

47 Arthur C. Clarke, *The Sands of Mars*, (New York: Harcourt, Brace & World, 1951).

48 "Atomic Doom," Wild Man Picture Cards, No. 34, (Philadelphia: Bowman Gum Co. 1950).

The visual metaphor of a completely uninhabitable world, where a nuclear war had left the land desolate and barren, served as a means of taking the concerns of the atomic bomb to its furthest possible outcome. To the public, the atomic bomb would create a large blast and a firestorm destroying a city in a flash, but little mention was made of concerns of radiation. This being the extent of the information provided to the public, it was reasonable for creators to understand the atom bomb as just a larger form of an explosive, and the constant growing number of bombs due could result in worldwide destruction. Also as *Pebble in the Sky* and *Atomic Doom* showed, the public did not know what sort of domino effect a massive atomic war could start in the environment. The image of a blasted world left unreached areas uninhabitable, but because of a reaction with the environment, not radiation. The overall message sent by this thematic plot point was to warn that any conflict that employed atomic weapons as the main weaponry could result in unforeseen disaster for the entire planet, but because information was so limited, this disaster was shaped by previous standards of warfare. The atomic bomb, as a piece of new technology, provided immense opportunities to put the speculation in speculative fiction and reinforce the misinformation provided by the American government about the Atomic bomb.

Safety and the Bomb

Due to the lack of usable information provided to the public, safety precautions for the atomic bomb were generally vague enough to not cause any panic. Instead these advised precautions reassured the public that there were means of surviving an atomic blast. The lack of information in the news media or scientific community about the

atomic bomb, its safety precautions, and the bomb's destructive potential, were subject to interpretation and speculation. The breadth of possible safety measures was evident in the speculation from new media as well as from genre fiction.

The main means of protection against an atomic blast, communicated immediately after the Soviet atomic test, emphasized preparation as a means of surviving an atomic attack. The American government first communicated that it had to prepare itself for the new possibility of war, by completing a "radar fence," investing in Civil Defense, and creating more atomic weapons.⁴⁹ These statements were intended to calm the American people and ensure the public that their government was taking steps to protect its people in a time of crisis. Yet as time progressed and means of preventing an atomic attack began to fade away, the reports also began to reflect this. In a 1952 article Dr. Lloyd Berkner "did not think control over nuclear destruction will be 'forever impossible'" but that this was not "anywhere in sight."⁵⁰ However, Dr. Berkner also reassured the news audience that more civilian access to atomic technology for study purposes could result in this defensive breakthrough. With this breadth of information out in the public, differing organizations stating there were and were not ways to protect against atomic attack, the public was encouraged to misunderstand the true nature of the bomb. This miscomprehension about countermeasures that could be taken against an atomic attack was extremely evident in the genre fiction of the time.

Just as the rhetoric of the American government immediately after Joe-1 stated,

49 "Atomic Explosion in Russia," *Syracuse Herald Journal*, October 4, 1949.

50 "Control of Atomic Destruction Not Anywhere in Sight: Scientist Says Army Un-excited over efforts at control," *Logansport Press*, October 2, 1952.

some works of genre fiction asserted that the bomb itself was America's best defense against atomic attack. For example, in *Crimson Ghost* when the device created to deflect an atomic attack was introduced one of the characters stated in awe that he hadn't "felt so safe since the bomb fell on Hiroshima."⁵¹ Essentially this statement is meant to communicate, in the context of the film, that the existence of the atomic bomb made the character feel safe, and served as a protective measure for the United States, and a defensive weapon took this safety one step further. Yet, because the atomic bomb was primarily an offensive weapon the United States was left vulnerable to possible attacks, and the device the *Crimson Ghost* attempted to steal would close this gap in defense by providing a counter to atomic weapons.⁵² Similar messages were presented in short films created for child audiences. Films like 1951's *Duck and Cover* encouraged Civil Defense-dictated precautions for atomic bombs, such as its title would suggest, taking refuge to protect against an atomic attack. *Duck and Cover* was actually produced by Civil Defense and reassured children that if they took minor precautions, mainly seeking shelter and listening to adults during an attack, they would be safe.⁵³

In the 1953 film *Beast from 20,000 Fathoms* after San Francisco was attacked by a giant lizard a reporter stated "Civilian Defense is fully mobilized and shelters have been opened in an effort to stop the mounting hysteria" and to protect citizens from the diseases spread by the monster. Since the giant lizard was meant serve as an analogy for the atomic bomb, and the Civil Defense measures were shown to have created an

51 *The Crimson Ghost*, Film, Directed by William Witney, (Hollywood: Republic Pictures, 1946).

52 *The Crimson Ghost*, Film, Directed by William Witney, (Hollywood: Republic Pictures, 1946).

53 *Prelinger Archives: Duck and Cover (1951)*, Film, Directed by Civil Defense, (Lawrenceville, NJ: Films Media Group, 1951).

atmosphere of safety in a time of crisis, this suggested their actual effectiveness in the case of an actual atomic attack.⁵⁴ These sorts of works helped to reinforce the delusion that the American public was legitimately made safe by and also safe from an atomic technology. This showed an attitude about the atomic bomb in which it was considered an object that provided safety and could also be safely averted through small measures, like hiding under a desk. This blasé attitude towards safety revealed one extreme end of the spectrum of responses to the atomic bomb, as it was seen as a form of global protection as well as something that could easily be protected against.

Other works supported the concept that atomic technology could exist safely if its proliferation was managed prudently. For example, in the novel *Uller Uprising*, atomic bombs were used for mining on distant planets governed by feudal lords who were beholden to a large mining corporation. One of the corporate overseers explained that they doled out nuclear weapons very slowly to the feudal lords to prevent them from creating a stockpile for the same reason “as not allowing guards who have to go in among convicts to carry firearms.”⁵⁵ This statement revealed an attitude that saw the potential usefulness of atomic technology, but also asserted that the technology needed to be monitored and controlled by a larger outside force, like a non-governmental entity. The General Electric cartoon *A is for Atom* also reinforced this concept, by describing a hope that the United Nations would control atomic technology because they and Civil Defense were “wise.”⁵⁶ It also asserted that humankind could control the bomb:

54 *The Beast from 20,000 Fathoms*, Film, Directed by Hal E. Chester, (Burbank, CA: Warner Home Video, 1953).

55 H. Beam Piper, *Uller Uprising*, (New York: Ace Science Fiction Books, 1952).

56 *A is for Atom*, Film, Directed by Carl Urbano, (Hollywood: General Electric Co., 1953).

But all are within man's power, subject to his command. On man's wisdom, on his firmness in the use of that power depends now the future of his children and his children's children in the new world of the atomic age.⁵⁷

This work, like *Uller Uprising*, represented both a fear of atomic destruction but also a confidence that mankind through prudence could control the technology for the betterment of the earth.

As discussed previously, extreme unease about the safety of the atomic bomb was rampant. Yet, because of the lack of information given to the public by the press, there were also a variety of interpretations about the technology's safety. Some felt that the existence of the bomb made them safer, others knew it was dangerous but hoped it could be controlled for the betterment of society, and as previous examples explored, some overestimated the destructive potential of the bomb. The disparity between these attitudes reveals how uninformed the public was about the bomb and how it impacted public representation. Paranoia about the atomic bomb destroying the planet existed alongside the belief that hiding from a bomb would be an effective safety measure, or that through guided diplomacy, the atomic bomb could be managed and controlled. The American public was surely in a state of confusion and ignorance during this period, and it took an extreme accident to create circumstances that informed the public about the bomb.

Hope for Atomic Technology

The most consistently prevalent theme, evident in the works from this period,

⁵⁷ *A is for Atom*, Film, Directed by Carl Urbano, (Hollywood: General Electric Co., 1953).

communicated an optimistic attitude about the potential of atomic science to be incorporated into other peacetime technologies to improve their function. This was a major way the news media reinforced this optimism around the atomic bomb, in an attempt to alleviate some of the concerns about the technology. This potential for atomic technology to improve other technologies was also coopted into genre fiction. Because genre fiction employed fantastical elements as a trope, the potential of atomic technology's incorporation into different aspects of life served as an easy shorthand for this genre standard. Despite the numerous concerns communicated in the press and in fiction the potential improvements that atomic technology could bring held the imaginations of the public despite the horrors of the atomic bomb.

The Sheboygan Press interviewed an atomic researcher soon after the detonation of Joe-1 and the questions presented to the scientist are especially revealing of the hopes the public had for the atomic bomb. For example, the interviewer queried Dr. Lilienthal:

Is atomic energy so important that it might conceivably be a means of prolonging human life, a means of supporting by food an increased population on the face of the globe?⁵⁸

revealing a hope that atomic technology could create as well as destroy. Dr. Lilienthal answered that these sorts of hopes could be achieved in the coming years, reassuring the reporter that “we can look on this decade as having a profound effect on health and lengthening life.”⁵⁹ The news press also reported with great excitement that the “first

58 "Lilienthal Grants Interview on Atomic Energy for Peace to U.S. News & World Report," *Sheboygan Press*, December 5, 1949.

59 "Lilienthal Grants Interview on Atomic Energy for Peace to U.S. News & World Report," *Sheboygan Press*, December 5, 1949.

postwar furnace using atomic power to generate electricity” was near completion a few months before the previous news report.⁶⁰ This report on the potential benefits of atomic technology came only a few months before the Soviets announced their nuclear capabilities, revealing that both before and after confirmation of nuclear proliferation and the new fears of impending nuclear war, there were still great hopes for the potential of atomic technology. This atomic hopefulness was evident in the news media, but it was unavoidable in the realm of fiction, as speculative fiction adopted atomic technology as the main means of ushering in the new age of technology and living.

The first and most prevalent manifestation of atomic technology into peacetime devices was the use of nuclear energy to power rockets. The fascination with space is an expected part of science fiction, but the fact that this technological “advancement” was incorporated into so many works of genre speaks to a widespread hope for peacetime applications of this technology to space travel. Films like *Rocketship X-M*⁶¹ and *The Day the Earth Stood Still* included atomic fueled spacecraft. The character Kaatu even informed a child that “nuclear technology is not just for bombs.”⁶² *Rocketship Galileo*⁶³ (1947) and *Sands of Mars*⁶⁴ (1951) both also included this trope, revealing that this optimism about atomic technology, literally fueling space travel, existed before and after the detonation of Joe-1. And even though it’s not a work of genre, the children’s book *Rockets, Jets, Guided Missiles and Space Ships*, intended to educate children about the

60 "First Postwar Furnace," *Kokomo Tribune*, January 1, 1949.

61 *Rocketship X-M*, Film, Directed by Kurt Neuman, (United States: Lippert Pictures, Inc., 1950).

62 *The Day the Earth Stood Still*, Film, Directed by Robert Wise, (Beverly Hills, CA: Twentieth Century Fox Corporation, 1951).

63 Robert A. Heinlein, *Rocketship Galileo*, (London: New English Library, 1947).

64 Arthur C. Clarke, *The Sands of Mars*, (New York: Harcourt, Brace & World, 1951).

new technologies of the atomic age and included a section that spoke of the potential of using atomic energy to fuel rockets and use this for space travel.⁶⁵ The existence of this thematic element would be expected in a genre that thrived on speculation while still rooted in the technology of the present, yet since this technology was known to only be a destructive force in reality, the existence of this trope speaks to a larger trend towards optimism.

Atomic technology was incorporated not only into space exploration, but also into normal domestic life in fiction. The most common domestic application of nuclear technology was the creation of endless energy in *Pebble in the Sky*⁶⁶ and *Uller Uprising*.⁶⁷ The potential of a technology to provide energy to cities was a fantastic idea, and because of the little information about the bomb, the potential of atomic energy was hoped to be unlimited as explored in *Pebble in the Sky*.⁶⁸ The domestic incorporation of atomic technology also was spread to industrial pursuits in *Uller Uprising*, which used atomic bombs in mining.⁶⁹ Yet, atomic technology's incorporation went further than just corporate projects, with a character in *Martian Chronicles* having an atom powered watch, revealing the hope that even the common consumer would have access to the benefits of the technology.⁷⁰ The diversity in which nuclear technology was incorporated into civilian use expressed the deeper hope that the atomic bomb would not only defend the United States but also improve the standard of living.

65 Jack Coggins and Fletcher Pratt, *Rockets, Jets, Guided Missiles and Space Ships*, (New York: Random House, 1951).

66 Isaac Asimov, *Pebble in the Sky*, (New York: TOR, 1950).

67 H. Beam Piper, *Uller Uprising*, (New York: Ace Science Fiction Books, 1952).

68 Isaac Asimov, *Pebble in the Sky*, (New York: TOR, 1950).

69 H. Beam Piper, *Uller Uprising*, (New York: Ace Science Fiction Books, 1952).

70 Ray Bradbury, *The Martian Chronicles*, (Garden City, N.Y.: Doubleday, 1950).

Conclusion

The manner in which the atomic bomb was presented to the public by news media and reinforced through genre fiction was quite inconsistent in the immediate postwar period. Initially the only concern voiced in the press and explored in genre was the theft of atomic secrets, and the implications for American supremacy. As soon as the Soviet Union tested an atomic weapon the discussion shifted to an even more mixed interpretation of the technology. Some authors and journalists speculated on the potential harm a global nuclear war would have on the planet. Others saw the atomic bomb as a force that protected the United States from attack. Conversely, some expressed a distrust of atomic weapons, but hoped the technology would be incorporated into other fields, and were thus generally optimistic. Even though the public understanding was mixed, it did mean that in some ways the public felt positive about the existence of the atomic bomb. This inconsistency in public media portrayal of the atomic bomb was the result of the overall confusion concerning the technology. The general lack of information led many to create uninformed opinions about the bomb and created unfounded hopes as well as exaggerated fears. This situation was perfect for authors and creators to mine for stories and create genre fiction. For these reasons the atomic cinema of this early period, prior to the Castle Bravo disaster, should be considered distinctly unique representations of the bomb in America, representative of the overall lack of information, and hopes for the future.

Chapter Two: Castle Bravo and its Many Consequences

Testing Prior to Castle Bravo

As the previous chapter explored, the information about the atomic bomb available to the public was sparse and misleading, and this was only reinforced by media culture of the time. However, this trend of misinformation was even more prevalent in reference to the nuclear testing in the Pacific that began in 1946. This is not to say that the public was not informed that tests were taking place. This fact was communicated in the press as soon as the bombs were dropped to end the Second World War. Thirty news reporters were allowed access to the bomb testing site at Los Alamos in order to disprove claims coming from Japan after Hiroshima. The *El Paso Herald Post* reported that:

Thirty news correspondents walked into the world's first atomic bomb crater in New Mexico Sunday, and today Japan stands branded a liar for their claims that continuing radioactivity-gamma rays-killed persons who went into atomized Hiroshima after August Smash.⁷¹

This was followed with a quote from Major General Leslie R. Groves which attributed the deaths to the Japanese's poor health care.⁷² This public relations stunt performed by the American government was intended to discredit Japanese accusations of using inhumane technology. This was a direct response to statements leveled by the Japanese emperor that the United States "has begun to employ a new and most cruel bomb, the power of which to do damage is, indeed, incalculable, taking the toll of many innocent

71 "Bomb Test Crater Shows Japanese Ray Burns Stories False," *El Paso Herald Post*, September 12, 1945

72 "Bomb Test Crater Shows Japanese Ray Burns Stories False," *El Paso Herald Post*, September 12, 1945.

lives,” in his acceptance of the Potsdam Declaration.⁷³ By placing members of the associated press on the testing site the American government intended to characterize the bombing as similar to conventional bombings, and disprove the claims about nuclear fallout harm to people. The American government ensured through a policy of censorship as well as media manipulation that the extent of damage caused by radiation was censored from the public discourse about the bomb.

Almost a year later in June of 1946 the American government announced the continuation of atomic testing, now not only in the American deserts but also in the middle of the Pacific. An article was published in many newspapers that claimed to educate the reader about the nature of the atomic bombs as well as the tests. This article first asserted that although the tests were investigatory in nature the data “will not be announced to the public” due to its military significance.⁷⁴ When describing the potential problems with radiation the article stated that despite fears that “the bomb would be dangerously radioactive, (it) does not seem to be the case” because “in the Japanese and New Mexico explosions, practically all the radioactive products of the explosions were carried upward in the ascending columns of hot air.”⁷⁵ This article portrayed itself as a legitimate scientific resource, yet made no mention of concerns about radiation causing cancer at Japanese bombing sites. This revealed it to be more a work of nationalistic propaganda to garner support for Pacific testing, than a true report of the facts.

73 "Speech by Emperor Hirohito accepting the Terms of Surrender, 14 August 1945," Speech by Emperor Hirohito accepting the Terms of Surrender, 14 August 1945.
<https://www.mtholyoke.edu/acad/intrel/hirohito.htm> (accessed September 1, 2013).

74 "Atomic Bomb Facts: Simple Information to Understand Bikini Test," *Syracuse Post Standard (Syracuse)*, June 16, 1946.

75 "Atomic Bomb Facts: Simple Information to Understand Bikini Test," *Syracuse Post Standard (Syracuse)*, June 16, 1946.

Other news reports reinforced this message about testing as a safe, positive boon to the United States. A newsreel showed the relocation of Bikini natives to a different island so testing could commence. The move was portrayed as improving the people of Bikini's quality of life, compensating them for their land, and assuring that they would be a safe distance away from the atomic blast.⁷⁶ It also characterized them as a primitive community, without modern medicine, further justifying this forced removal by asserting that they would now have access to modern comforts and technologies in exchange for their cooperation. The message this newsreel communicated was that not only Americans but the global community would benefit from this scientific research. The early reporting on the testing in the Pacific characterized it as a research project that would ultimately better mankind through knowledge, thus making it worth the human cost, yet this depiction did not last.

Castle Bravo

On March 1, 1954 the American military detonated the first thermonuclear hydrogen bomb on the Bikini Atoll. The test was a part of Operation Castle, being the most powerful device ever detonated by the United States.⁷⁷ Its fallout exceeded the early estimations and got carried by the wind, resulting in the safety perimeter, meant to protect individuals against radioactive fallout, failing. For this reason, residents of the Rongelap and Utrik Atolls in the Marshall Islands, as well as the crew of a Japanese fishing vessel received dangerous amounts of radiation.⁷⁸ The Japanese crewmen reported a cloud of ash

⁷⁶ *U.S. Plans Test of Atom Bomb on Pacific Atoll*, Film, (Hollywood: Buyoutfilms, 1946).

⁷⁷ "Operation Castle," Operation Castle, <http://nuclearweaponarchive.org/Usa/Tests/Castle.html> (accessed September 2, 2013).

⁷⁸ P. K. Gellert, "The Ecological Revolution: Making Peace with the Planet," *Contemporary Sociology*:

covering their vessel, and the Marshallese assumed that the blast meant a new world war had begun.⁷⁹ The following section will review the different trends evident in the reporting of the disaster, and compare these trends with themes found in genre fiction from the period.

These works of fiction are differentiated from those in the preceding chapter because these following works directly referenced the Castle Bravo event, the hydrogen bomb, or in a few cases similar instances of atomic testing. In contrast, the works in Chapter Three will show an alienation of the event from the root cause of the Castle Bravo disaster and an incorporation of these themes into a broader cultural narrative. This section will also reveal how these works, as representational of post 1954 genre fiction, were different thematically from the genre fiction produced before Castle Bravo. Robert Adam in his *History of Science Fiction*, placed the end of the “Golden Age of Science Fiction” at roughly the mid-1950s, noticing a lack of optimism previously represented in the narratives.⁸⁰ This work is not asserting that the Castle Bravo disaster as an individual event brought about the end of this style of genre fiction. However, this research will characterize Castle Bravo as a catalyst which prompted the evolution of public depiction and thus genre fiction away from an unsubstantiated optimism and toward a more suspicious and wary world view in regards to atomic technology.

The Human Impact

A Journal of Reviews 39, no. 4 (2010): 444-445.

⁷⁹ “Operation Castle,” Operation Castle. <http://nuclearweaponarchive.org/Usa/Tests/Castle.html> (accessed September 2, 2013).

⁸⁰ Adam Roberts, *The History of Science Fiction*, Basingstoke (England: Palgrave Macmillan, 2006.), 86.

The primary concern discussed in the news reports immediately after the Castle Bravo disaster story broke was the cost to individuals caught in the radioactive cloud. This issue took two forms in the newspapers. First, the most prevalent topic of discussion was the crew of the Japanese fishing vessel the *Lucky Dragon Five*, who had been caught in the radioactive fallout causing severe burns and the death of one crew member. The second trend in humanitarian stories in the press was a concern for the wellbeing of the servicemen and Marshallese people who were also near the blast. For the first time the American public was made aware through the news media of the extent of damage radiation could cause to an individual, and once Castle Bravo had been confirmed as a hydrogen bomb, the fear of danger only increased.

Lucky Dragon

Some of the earliest reports of Castle Bravo included a story of a Japanese fishing boat, *Lucky Dragon Five*, that got caught in the aftermath of the bomb. Some reports used the Lucky Dragon as a means of assessing the power of the bomb, prior to the government confirming it to be a hydrogen bomb. After only mentioning that one individual received burns from the fallout, *The Albuquerque Journal* reported that “the ‘*Lucky Dragon*’ was 80 miles from the blast center, (which) suggested a far more powerful blast than those caused during World War II by atomic bombs at Hiroshima and Nagasaki.”⁸¹ This type of reporting revealed a priority on determining the nature of the bomb over reporting on the plight of these fishermen.⁸² However, after time progressed

81 "Atomic Blast in the Pacific Rains Cloud of Ash," *Albuquerque Journal (Albuquerque)*, March 17, 1954.

82 "Atomic Blast in the Pacific Rains Cloud of Ash," *Albuquerque Journal (Albuquerque)*, March 17, 1954.

and the American government admitted to the type of bomb, news reports became more sympathetic to the fishermen of the *Lucky Dragon*. A report from the *Long Beach Independent* described the results of contact with the radiation, stating that “the victims’ hair was falling out and exposed skin was turning black.”⁸³ The fishermen quickly became the center of this story, with day after day new reports revealing the types of medication they were taking⁸⁴, as well as how the American government sent aid.⁸⁵ The *Madison Wisconsin State Journal*, reported that the American Navy had “tripled the distance ships must keep between them and the center of future mid-Pacific explosion” to prevent another *Lucky Dragon* incident.⁸⁶ The crew of the *Lucky Dragon* lost a member due to Castle Bravo, and the American public followed all of these stories in horror because this was their first introduction to the destructive potential of the atomic radiation. With every report on the degrading health of the fishing crew the public was made more and more aware of the consequences of this technology, on which their hopes for the future were once pinned.

As this research will show, many genre fiction narratives drew inspiration from the *Lucky Dragon*, and its emphasis on the human cost of nuclear testing. However, the work of fiction that most closely drew inspiration from the plight of the *Lucky Dragon* crew was Richard Matheson’s *The Shrinking Man*. In this 1956 novel, a man caught on a boat near an atomic test, received a dangerous dose of radiation.

83 "Hiroshima Atomic Burns Experts to treat Radiation-Hit Boatman," *Long Beach Independent*, March 18, 1954.

84 "New Medicants Help Build Up Corpuscle; Recovery is Expected," *Marion Star*, March 20, 1954.

85 "Hiroshima Atomic Burns Experts to treat Radiation-Hit Boatman," *Long Beach Independent*, March 18, 1954

86 "H-Bomb in the Pacific," *Madison Wisconsin State Journal*, March 21, 1954.

He remembered the afternoon on the boat, the mist washing over him, the acid sting on his body. A spray impregnated with radiation.⁸⁷

This experience resulted in the man's body losing its ability to maintain growth, and he physically shrank to the size of a mouse.⁸⁸ Even though the consequences of radiation were far more fanciful, *The Shrinking Man* drew direct reference from the events experienced by the *Lucky Dragon* crew. *The Shrinking Man* explored themes like humankind's relationship to nature, and also their place in the universe. By replacing real radiation sickness with this shrinking mechanic, Matheson reinforced the message that atomic technology made humans small and vulnerable in comparison to the power of the bomb, through extended metaphor.

A year later *The Incredible Shrinking Man* was adapted for film, and the closing monologue spoke to this concern for humankind's place in the universe. Upon accepting that he would continue shrinking into non-existence, the main character Robert Carey compared his plight to that of all people when humans are compared to the "vast majesty of creation."⁸⁹ With this revelation he also wondered if "there were other bursts of radiation, other clouds drifting across seas and continents, would other beings follow (him) into this vast new world?" Carey accepted his fate as man had always assumed a role of the infinitesimal when compared to the power of the universe. Humans were now at the mercy of the unseen force of radiation, just as they had been subject to storms and earthquakes. By beginning the narrative with a copy of the experiences of the *Lucky*

87 Richard Matheson, *The Shrinking Man*, (New York: Rosetta Books, 1956.), 113.

88 Richard Matheson, *The Shrinking Man*, (New York: Rosetta Books, 1956.), 217.

89 *The Incredible Shrinking Man*, Film, Directed by Jack Arnold, (Universal City, CA: Universal, 1957).

Dragon crew, the film and the novel made grand statements about technology in the atomic age, that it was no longer empowering people but belittling them. *The Shrinking Man* and its film adaptation *The Incredible Shrinking Man* incorporated details from the experiences of the *Lucky Dragon* crew to create a metaphor which emphasized humankind's insignificance in the face of atomic technology, which was promoted to a force of nature in the narrative.

The second film to draw directly from the *Lucky Dragon* news story also came from Japan, *Gojira*. This 1955 monster movie is credited with beginning the “creature feature” trend, as well as being one of the most famous cultural products to come from Japan. However, underneath the imaginative narrative is a biting commentary on the continuation of atomic testing in the Pacific.⁹⁰ In the introductory scene of *Gojira* a group of fishermen were struck by a flash of light which caused a fire on the ship and caused it to lose contact with the mainland. This plot point served as the major introductory narrative device for the film, by concealing the identity of the monster, but still drawing in the audience with the mystery of a missing ship. The mysterious cause of the destruction of ships was intensified when a few fishermen were found adrift in the ocean covered in burns. Before dying one of the crew members stated that "The ocean just blew up."⁹¹ All of these elements pointed directly to the experiences of the *Lucky Dragon* crew, who also described seeing bright flash, received severe burns, and a death caused by radioactive exposure. The director of *Gojira*, Tomoyuki Tanaka, even said he was

90 This research project will differentiate the 1955 film *Gojira* shown in Japan from the 1956 re-edit that was brought to the United States, as the changes are so significant between the two works that they may use the same footage, but do not have the same themes, narrative, or message.

91 *Gojira*, Film, Directed by Ishiro Honda. (Japan: Toho: 1954).

inspired to create the film when flying over the ruins of Nagasaki soon after the Castle Bravo disaster. Tanaka revealed that “in those days, Japanese had a real horror of radiation, and that horror is what made *Godzilla* so huge...from the beginning he has symbolized nature's revenge on mankind,⁹²” for creating the bomb. Under the guise of a science fiction blockbuster, *Gojira*, gave a grave and accurate depiction of the experiences of the Lucky Dragon crew members, as well as critical assessment of American nuclear policy disguised as a silly monster movie.

Other films drew inspiration from the radiation sickness experienced by the Lucky Dragon crew, if not directly referencing the Castle Bravo event. For example, in the 1955 film, *The Day the World Ended*, characters escaped a global atomic attack but then encountered irradiated flesh-eating people. These irradiated individuals exhibited radiation burns, and in the fantasy of the film, these burns turned to metal to protect them from future radiation blasts.⁹³ The 1954 novel *I Am Legend* also explored how radiation would impact humans, in this case transforming them into pseudo-vampires, after first killing them slowly with flu like symptoms.⁹⁴ Even though these works did not explicitly reference the *Lucky Dragon*, like the previous works, the prevalence of the story of the crew members in the media, and the proximity of these works to the actual event revealed how these events were beginning to be incorporated into the cultural narrative surrounding atomic technology as soon as the information was made available to the

92 Brian M. Raftery, (2000). "Forty-four years ago, Godzilla, King of the Monsters invaded the U.S". *Entertainment Weekly* (New York, N.Y.: Time, Inc.) (537): 116.

93 *The Day the World Ended*, Film, Directed by Roger Corman, (Culver City, Calif.: Columbia TriStar Home Entertainment, 1955).

94 Richard Matheson, *I am Legend*, (New York: ORB, 1954).

public.

Testing in the Pacific

The other major human cost to the Castle Bravo test was reported as being the irradiation of the inhabitants of the Marshall Islands. As previous news reports had stated, the residents of the Bikini Atoll had been moved to a distance that was assumed to be safe. However, the amount and dispersion of fallout was miscalculated and the safety perimeter proved inadequate, resulting in those islands also being covered in a cloud of ash. The earliest report on the Marshallese provided a vague story, stating that "The U.S. personnel and natives who were touched by radioactive material after they had been moved from the test area presumably were on an atoll...of Bikini."⁹⁵ Just as in the case of the crew of the *Lucky Dragon*, the Marshallese people served as an example of what an atomic blast could do to a human, at a further distance. These early reports focused on the changes in policy resulting from the miscalculation of the radiation, reporting that "the United States, surprised by the devastating power of the hydrogen blast March 1, has more than tripled the distance ships must keep between them and the center of future mid Pacific explosions."⁹⁶ Finally, the plight of the Marshallese took a different turn in the press when they brought charges to the United Nations in hopes of ending nuclear testing near their homes, but these wishes went unanswered.⁹⁷ Although the United Nations did not stop testing in the Pacific this was a means by which the Marshallese could call

95 "Atom Bomb Test Reaches Natives," *Lubbock Morning Avalanche*, March 18, 1954.

96 "H-Bomb in the Pacific," *Madison Wisconsin State Journal*, March 21, 1954.

97 "Marshall Islanders' Petition to U.N. Outlines Fears of Nuclear Tests, Possible Removal from Homes." *Newport Daily News*, June 10, 1954.

attention to the continued consequences of Castle Bravo. Eventually, radioactivity forced some Marshallese to be removed from their homes again, with the land still not recovering to this day. Overall, the Marshallese were treated as poor primitives who had been caught in the mechanism of progress. As testing continued it revealed that their land and persons were not as valuable as the knowledge continued testing would bring. Yet the story of the Marshallese people was sympathetic enough to garner pity from the global community.

Films from the period took the greatest interest in reflecting some of the issues faced by the Marshallese. They tended to emphasize the islanders' supposed "primitive" status as well as their isolation. The 1956 American edit of the film *Godzilla* reassigned a scene to mimic conditions in Bikini. In the original *Gojira* some fishermen was ashore on a small island off of the coast of Japan, and after hearing their description of the monster, the residents compare it to a mythological beast and observe a play that commemorates the monster *Gojira*.⁹⁸ Yet, in the American version of the film the same play was explained, to the inserted white lead character, as a means by which the inhabitants hoped to ward off the monster, which used to be accompanied with the sacrifice of a virgin.⁹⁹ This island is then attacked by *Godzilla*, and the inhabitants are relocated to a supposedly safer place.¹⁰⁰ Since the original *Gojira* drew from Castle Bravo for plot points, first the fishermen are attacked by the monster and then the inhabitants of a small island, the American version maintained this narrative structure but characterized the islanders a

98 *Gojira*, Film, Directed by Ishiro Honda, (Japan: Tohō : 1954).

99 *Godzilla*, Film, Directed by Terry Turner (Stamford, CT: Vestron Video, 1956).

100 *Gojira*, Film, Directed by Ishiro Honda, (Japan: Tohō : 1954); *Godzilla*, Film, Directed by Terry Turner (Stamford, CT: Vestron Video, 1956).

primitives, just as the Marshallese had been in the press. By doing so the American audience of *Godzilla* was treated to an allegory of the Castle Bravo disaster, as intended by the original film makers, but with an American shift in perspective, which better represented how the disaster was seen in the press.

Another aspect of the Bikini testing that garnered a great deal of press was concern for the wellbeing of service members and researchers near the blast site. As many of the previous reports showed, the major safety precautions were implemented with the express purpose of protecting the American military, like the new safety perimeter. The film *Attack of the Crab Monster* played upon these fears by constructing its narrative around a group of researchers who traveled to the deserted atoll to investigate a missing group of researchers. The new team discovered that their predecessors were eaten by radioactive crab beasts and their consciences absorbed into the monsters. The film began by describing that the scientists traveled to “an uncharted atoll in the Pacific” which had received “a tremendous amount of the radioactive fallout.”

¹⁰¹ The characters and setting of this film pointed directly to the concerns for the American researchers and military members in the Pacific who witnessed the Castle Bravo test. This made sense since the news reports often only questioned the safety of the scientists and naval vessels after the disaster. *The Attack of the Crab Monster*, through its extreme and fanciful narrative, suggested that the consequences of the research were not worth the risks posed by the technology. The potential human cost of continued testing in the Pacific received a great deal of criticism in the form of science fiction works, where

¹⁰¹ *Attack of the Crab Monsters*, Film, Directed by Roger Corman, (Los Angeles, CA: Shout Factory, 1957).

deadly monsters stood in for radiation.

The Environmental Impact

Another major element consistent in the reporting of the Castle Bravo disaster was the environmental havoc wreaked by the radiation within the blast radius. Reports encouraged audiences to avoid fish that came from that region, as they might contain unsafe levels of radiation. The day the news of Castle Bravo broke a report included the statement that “health inspectors went on a frantic hunt for the 1000 pounds of tuna, believed radioactive, caught by the fishermen and already on the markets in Tokyo, Osaka, Nagoya, and elsewhere.”¹⁰² Besides the radiation damage caused to people on the Marshall Islands, the islands themselves were eventually deemed uninhabitable due to radiation, and whole communities had to be relocated.¹⁰³ Reports assured the public that radiation would make land uninhabitable and food sources dangerous for consumption. This new concept heightened atomic paranoia and was quickly adopted in both the press as well as the media.

The H-Bomb

The Castle Bravo test, as previously stated, was the first test of a hydrogen bomb, yet this information was not confirmed to the public for weeks after the event. Because of the lack of information about the cause of the disaster, news reports were confusing and suspicious of the government’s vague description. One of the earliest reports soon after the disaster stated that “23 Japanese fisherman [were] burned by radioactive ashes from

102 "Atomic Blast in the Pacific Rains Cloud of Ash," *Albuquerque Journal (Albuquerque)*, March 17, 1954.

103 "Marshall Islanders' Petition to U.N. Outlines Fears of Nuclear Tests, Possible Removal from Homes.," *Newport Daily News*, June 10, 1954.

an atomic or hydrogen blast in the Pacific.”¹⁰⁴ The same article also pointed out the government’s vague information, noting that “the Washington announcement of the blast called it simply a ‘thermonuclear device’”¹⁰⁵ which was the cause of the inconsistent reporting of the type of explosion that occurred. Finally, after a few more days of misinformation, media accounts informed the public: “U.S. officials have announced in Washington that it was a hydrogen explosion two to three times stronger than expected,”¹⁰⁶ which caused the disaster in the Marshall Islands. This delay of information about the nature of the nuclear blast resulted in a global crisis which made the revelation of the existence of a hydrogen bomb that much more significant in the public consciousness.

Many films referenced the hydrogen bomb directly as the main “boogie-man” of the new-nuclear age. After a giant octopus attacked a nuclear submarine in the film, *It Came from Beneath the Sea*, characters tried to decipher the cause of these attacks. One world-weary character asserted “H-bombs have been blamed for every freak accident since up to and including marine monsters being disturbed” when another suggested the creature was a product of nuclear testing.¹⁰⁷ The concern over the hydrogen bomb was characterized as being blown out of proportion by the character; however the narrative later revealed that this assessment was false, and that the hydrogen bomb had actually the caused the attacks. The narrative disproved the character’s underestimation of nuclear technology by providing an analogy for the atomic destruction with the monster octopus.

104 “Hiroshima Atomic Burns Experts to treat Radiation-Hit Boatman,” *Long Beach Independent*, March 18, 1954.

105 “Hiroshima Atomic Burns Experts to treat Radiation-Hit Boatman,” *Long Beach Independent*, March 18, 1954.

106 “New Mendicants Help Build Up Corpuscle; Recovery is Expected,” *Marion Star*, March 20, 1954.

107 *It Came from Beneath the Sea*, Film, Directed by Kenneth Tobey, (Culver City, Calif.: Columbia TriStar Home Entertainment, 1955).

It Came from Beneath the Sea showed the impact of atomic technology on the environment, and the hydrogen bomb on American culture, by placing the hydrogen bomb as the cause of the monster attack, to disprove inaccurate assessments of the technology.

Other films like *Attack of the Crab Monster* included references to the hydrogen bomb largely because the film was set in a stand in for the Bikini Atoll. On the ship ride over to the island one of the scientist characters had a conversation with the ship's captain which served as expository dialogue to establish the setting:

“Remember that first big H-bomb test?”

“Who can forget that?”

“A tremendous amount of the radioactive fallout came this way. A great seething burning cloud of it sank into this area, blanketing the island with hot ashes and radioactive sea water.”¹⁰⁸

In order to establish the context of the film, the characters drew on the Castle Bravo narrative, to connect the audience’s prior knowledge and establish the setting. From this point, the story then could create fantastic consequences resulting from the hydrogen blast. However, the description of the impact Castle Bravo had on the environment, as seen in this exchange, followed quite closely the descriptions provided by the Marshallese people. The characters were also shocked when they reached the fictional atoll to find that it lacked any plant or animal life, save for the giant crabs.¹⁰⁹ This element

108 *Attack of the Crab Monsters*, Film, Directed by Roger Corman, (Los Angeles, CA: Shout Factory, 1957).

109 *Attack of the Crab Monsters*, Film, Directed by Roger Corman, (Los Angeles, CA: Shout Factory, 1957).

pointed to a popular fear that the hydrogen bomb would kill off all wild life and make an area uninhabitable, which actually happened in Bikini as well as the fictional atoll of *Attack of the Crab Monster*. Even though the atomic age is not presently remembered as one of environmental activism, the Castle Bravo disaster thrust the importance of livable space into the public consciousness. Genre fiction embraced this concern by employing atomic technology within the narratives as a means of not only destroying an area but causing a domino effect in the ecological landscape, and serving as cautionary tales of this consequence.

Radioactivity and Mutation

As previously shown, the Castle Bravo disaster, as a cultural event, began the discussion of the consequences of radiation. In this way the Castle Bravo disaster also opened a dialogue around the increased research of radiation, and in some cases made this research available to the public. For example, the issue of radioactive fallout causing genetic mutations only began to be reported after Castle Bravo. Previous reports about atomic technology's use in farming only emphasized the use of radioactive isotopes to track the nutrient intake of plants.¹¹⁰ However, only a month after the disaster the *Bakersfield Californian* included a story in which an atomic researcher attempted to defend the continued study of atomic technology by again describing the potential resources it could improve. In this article Dr. Sterling Hendricks introduced the concept of genetic mutation, stating that "the use of radiation to effect (sic) genetic changes (is) known as mutation," and it could be used to create foods that lasted longer on the shelf or

110 "Control of Atomic Destruction Not Anywhere in Sight: Scientist Says Army Un-excited over efforts at control," *Logansport Press*, October 2, 1952.

produce a larger crop.¹¹¹ Before the disaster, this potential outcome of atomic technology was not discussed, and this concept of “mutation” not used in the relation to atomic radiation in the press. This was evident from the fact that Dr. Hendricks had to define what he meant by mutation to his audience. Also, researching the term “mutation” and its use in print showed that it was not used in this context in the previous years. Prior discussions of mutation in 1953 were confined to studies the air force conducted on fruit flies, exposing them to “mysterious cosmic radiation”¹¹² with no mention made to its relation to the atomic bomb. Other early articles indicated that the amount of radiation produced during bombs detonated in tests would dissipate quickly or be thrust safely into the atmosphere.¹¹³ Mutation in relation to an atomic bomb was not made public until after Castle Bravo, and once this floodgate opened the information only became more and more dire.

The negative information about the consequences of the hydrogen bomb did not end with the constant updates on the Lucky Dragon crew, the Marshallese, and the environmental impact on the Bikini islands. For example, a 1955 report in the Lubbock Morning Avalanche examined the claims of Dr. A.H. Sturtevant, asserting that “lingering radiation from atomic and hydrogen bomb already exploded is high enough to produce genetic effects, called mutations.”¹¹⁴ This geneticist, again, had to explain exactly what the term “mutation” meant. This article brought the issue one step closer to home by

111 "Atomic Power Brings Farming Revolution," *The Bakersfield Californian*, April 20, 1954.

112 "Fruit Flies Get a Ride," *Monroe Morning World*, January 25, 1953.

113 "Atomic Bomb Facts: Simple Information to Understand Bikini Test," *Syracuse Post Standard (Syracuse)*, June 16, 1946.

114 "Scientist Warns Even Unborn May be Affected by A-Bomb," *Lubbock Morning Avalanche*, January 13, 1955.

publishing Dr. A.H. Sturtevant's findings that the unborn could be impacted by the residual radiation in the atmosphere resulting in potential mutations. This shifted the atomic narrative because it indicated that one did "not have to be hit by an atomic bomb, or even be born at the time it exploded to suffer from the effects of it," bringing the issue out of a distant Pacific island, and right to the American doorstep.¹¹⁵ With James Watson and Francis Crick introducing the double helix DNA structure in 1953 and the Castle Bravo event in 1954 it did not take long for geneticists to hypothesize these new troubling consequences of atomic technology. When this information was made public the populace absorbed this information and anxiety and pessimism about the bomb increased.

This concept of genetic mutation as a result of radiation was not entirely new in the realm of speculative fiction. However, Castle Bravo made this rarely used topic extremely popular. A few works of genre fiction incorporated this definition of mutation as a major plot point, the most famous being the 1952 novel *The Starman's Son* by Andre Norton. Norton's post-apocalyptic adventure followed a main character, Fors, navigating an uninhabited radioactive wasteland. Fors' mother passed on near white hair caused by a genetic mutation, which marked him as a mutant and a societal outcast. Fors also hunted with the aid of a seven-foot long animal, which was a mutation of the domestic cat. Andre Norton's novel stood out as the only work prior to Castle Bravo that treated radiation in such a progressive manner. But, this does not overthrow the thesis of this project altogether, but instead reinforces it.

115 "Scientist Warns Even Unborn May be Affected by A-Bomb," *Lubbock Morning Avalanche*, January 13, 1955.

The information about the potential result of radiation was available prior to Castle Bravo; only it was not communicated in the popular press. One could draw conclusions about the potential power of the atomic bomb's radiation, if compared to reports on cosmic radiation, or early research into radiation. Andre Norton's work was visionary in a way that only genre fiction can be, by predicting not so much the actual outcomes of radiation, but being on the forefront of a future trend that would only catch on when Castle Bravo exposed to the general public the potential of the atomic bomb. Norton's accuracy is astonishing, however, after the hydrogen bomb detonation, mutated creatures and humans became a standard trope in genre fiction. Mutation became a topic of common discourse in both the press and fiction, only after Castle Bravo, by drawing on real events, while Norton's work required much more speculation to create her world and thus does not represent a grand thematic trend.¹¹⁶

As previously described, numerous movies drew on the concept of mutation after Castle Bravo. This trend was so popular these films gained the moniker of "Creature Features." These films constructed narratives around the concept of mutating animals, as the result of contact with radiation. These specific early films also referenced these creatures being the result of real world atomic tests. The main antagonists in *Attack of the Crab Monster* were twenty-foot tall crabs who were able to absorb the consciousnesses of scientists by eating their brains, all caused by the radiation from the Castle Bravo test.¹¹⁷ The creators of *Godzilla* made the monster a fifty-foot tall fire-breathing dinosaur that

116 Andre Norton, *Starman's Son*, (New York: Ballantine Books, 1952).

117 *Attack of the Crab Monsters*, Film, Directed by Roger Corman, (Los Angeles, CA: Shout Factory, 2004).

was impervious to all modern weaponry, as a result of atomic testing in the Pacific.¹¹⁸ *Them!* included hundreds of enormous ants that were the product of atomic testing that occurred in New Mexico.¹¹⁹ Even *The Day the World Ended* included a character mentioning animals being mutated by atomic testing he had witnessed.¹²⁰ These Creature Features drew directly from current events to create fantastical worlds which illustrated the consequences of atomic testing. By creating narratives around genetic mutation, these works criticized the United States' continued atomic program by connecting it with speculations of the imagined outcomes of the testing with real-life tests made public by the press.

Together genre fiction along with press coverage reinforced a message that atomic technology was beyond the control of humankind, and posed severe risks for the entire world. This message deviated greatly from the optimism of the pre-Castle Bravo world, representing a shift in the image of the technology. No longer would the atomic bomb be considered a dangerous but potentially helpful part of postwar society. Science fiction changed from using atomic technology to power the fantastic rockets into space, to cautionary tales of radioactivity causing mutation in people and animals. The Castle Bravo disaster not only changed how the atomic bomb was perceived in America, but greatly impacted global relations.

The Diplomatic Impact

For the American government the Castle Bravo disaster was nothing less than a

118 *Godzilla*, Film, Directed by Terry Turner, (Stamford, CT: Vestron Video, 1956).

119 *Them!*, Film, Directed by Gordon Douglas, (Burbank, CA: Warner Home Video, 1954).

120 *The Day the World Ended*, Film, Directed by Roger Corman, (Culver City, Calif.: Columbia TriStar Home Entertainment, 1955).

public relations nightmare. Already deeply entrenched in the Cold War, and recently resolving the Korean War, the United States government required domestic approval to ensure its status of power. However, the United States had also recently shed its isolationist policies of previous decades and required general diplomatic approval to also maintain this global status. During the Cold War with the Soviet Union, any diplomatic problems would be capitalized on by the “Reds” as a means of asserting superiority in the conflict. The Castle Bravo disaster called into question the safety of the American military’s scientific research within the diplomatic community, and with the creation of the United Nations provided a platform by which a mega-power like the United States could be held accountable for its actions. Testing had occurred in the Pacific for nearly a decade with little push-back from the global community; however, the Castle Bravo disaster created a global crisis from which the American government had to finally accept responsibility for the technology it had invented.

Relations with Japan

Even though the Castle Bravo test occurred nearly three thousand miles from mainland Japan, on the Marshall Islands, the diplomatic issues surrounding the disaster concentrated primarily between Japan and the United States. The earliest reports on the Castle Bravo disaster not only included statements from American governmental sources but also comments from Japanese diplomats. The global aspect of this event served as a valuable resource for reports to present a less censored representation of events. For example, when “Foreign Minister Katsuo Okazaki told the diet the United States may be asked to compensate the 23 victims for their secondary burns,” he was not only

communicating with the Japanese government but sending a global message about the nature of atomic testing in the Pacific.¹²¹ The United States was put in a place where it had to appease Japan, a country it had previously defeated and occupied. American diplomats did their best to make goodwill gestures toward Japan. Even U.S. Ambassador John M. Allison “offered the aid of doctors who had been members of the Atomic Bomb Casualty Commission at Hiroshima.”¹²² But these goodwill efforts were not sufficient recompense for the damage and Foreign Minister of Japan Katsuo Okazaki “told the Diet he would demand indemnities from the United States if it was found that the boat was outside the restricted areas as its captain said.”¹²³ The Japanese fishing industry also demanded reparations to compensate for losses in revenue due to an irradiated fish population. The American government eventually agreed to pay two million dollars in reparations to the Japanese fishing industry. This did not ensure completely positive diplomatic relations in that some diet members “suggested the matter be referred to the International Court at The Hague. Others insisted that no further atom tests be held on the high seas.”¹²⁴ The diplomatic implications of the Castle Bravo disaster were complex and ultimately harmed postwar relations with Japan as well as global stability.

The film *Gojira* represented one of the best challenges to American nuclear testing. However, when the film was brought to the United States, these criticisms were

121 "Atomic Blast in the Pacific Rains Cloud of Ash," *Albuquerque Journal (Albuquerque)*, March 17, 1954.

122 "Hiroshima Atomic Burns Experts to treat Radiation-Hit Boatman," *Long Beach Independent*, March 18, 1954.

123 "Hiroshima Atomic Burns Experts to treat Radiation-Hit Boatman," *Long Beach Independent*, March 18, 1954.

124 "Hiroshima Atomic Burns Experts to treat Radiation-Hit Boatman," *Long Beach Independent*, March 18, 1954.

removed by dubbing and re-edits. The United States had to appease the Japanese government due to the diplomatic pressure; however when it came to genre fiction the story was rewritten to be less critical of the United States. For example, at the climax of *Gojira* the scientist Daisuke Serizawa gave a speech asserting that it was his duty as both a scientist and a human being to prevent the dangerous technology he invented from harming people. Yet the American version of this scene did not include Daisuke Serizawa's statement about his refusal to use his "oxygen destroyer" device, because of humanitarian concerns.¹²⁵ Instead the American translation of the film characterized Serizawa as overly cautious, and tacitly responsible for the continued destruction wreaked by *Godzilla*.¹²⁶ Also in the final scene of *Gojira* Serizawa sacrificed himself to defeat the beast, while the film implied that he did so to ensure that the means to create the oxygen destroyer would die with him, preventing its use in future conflicts.¹²⁷ *Godzilla* contrastingly characterized his death as an accident caused by his inability to escape the oxygen destroyer in time.¹²⁸ By re-editing a cultural product of Japan, the American public was saved from hearing criticism of continued government nuclear testing policies. By contrasting this film with other creature features these re-edits reveal an attitude that accepted criticism if the source was American, but rejected genre fiction from some foreign countries that challenged American nuclear testing.

The inequality of power between Japan and the United States during the 1950s contributed to this censorship, and contrasted with the treatment of genre fiction from

125 *Gojira*, Film, Directed by Ishiro Honda, (Japan: Tōhō : 1954).

126 *Godzilla: King of the Monsters*, Film, Directed by Ishiro Honda, (USA: Toho. 1956).

127 *Gojira*, Film, Directed by Ishiro Honda, (Japan: Tōhō : 1954).

128 *Godzilla: King of the Monsters*, Film, Directed by Ishiro Honda, (USA: Toho. 1956).

western allies. A few works critical of American atomic testing came to the United States relatively unaltered. The book *On the Beach*, written by an Australian author Nevil Shute, was adapted into an American film in 1959 with much of its content preserved.¹²⁹ Also some foreign films like England's *The Crawling Eye*¹³⁰ and Canada's *Fiend without a Face*¹³¹ were distributed in the United States without alteration. However when *Gojira* was brought to the American audience, the director Terry Morse saw fit to completely change the film through editing, and diminish the original's more biting commentary.¹³²

Conclusion

The works of fiction created immediately after the Castle Bravo disaster expressed a change in public perception of the atomic bomb. In contrast to previous years when the technology was considered dangerous but worth the risks, post-Castle Bravo fiction openly criticized American atomic policy by adding fanciful elements to the existing narrative of the hydrogen bomb detonated in the Pacific. The public was newly made aware of the costs in both human lives and environmental destruction the atomic bomb demanded, and the American government could not continue their previous censorship. News reports revealed, through gruesome detail, how radiation harmed the crew of the *Lucky Dragon* and the Marshallese who got caught in the fallout. The news media also reported on the lasting ecological damage incurred on the land and wildlife by the Castle Bravo disaster. Fiction also became a platform to voice disapproval of diplomatic interactions surrounding the hydrogen bomb. Foreign comments could now be

129 Nevil Shute, *On the Beach*, (Heinemann: Sidney. 1957).

130 *The Crawling Eye*, Directed by Quentin Lawrence, (UK: Eros Films Ltd.: 1958)

131 *Fiend without a Face*, Directed by Arthur Crabtree, (Canada: Criterion: 1958)

132 *Gojira*, Film, Directed by Ishiro Honda, (Japan: Tōhō : 1954).

seen in the United States not only in the form of governmental exchange, but also in the cultural exports that sometimes actively criticized American atomic testing. These events were then incorporated as themes into the genre fiction of the period. Authors and creators embraced the concept of mutation as a major antagonistic force. Fictional characters newly had to overcome the deadly consequences of real world atomic testing. These works became platforms from which creators could and would criticize dangerous scientific testing by making real world tests the antagonist. The Castle Bravo disaster sparked a new level of atomic paranoia, and would forever change how the public perceived the technology, as encapsulated in the genre fiction of this period

Chapter 3: Thematic Consistencies in the Atomic Age

Thematic Consistencies

The overall goal of this research project is to trace the origins of the representation of the atomic bomb in the United States in the twentieth century. A focus on the thematic tropes will show an evolution of the concept of the atomic bomb in film to represent of more universal fears about the atomic age. By exploring tropes and themes that continually arose in genre fiction surrounding the atomic bomb, this chapter will differentiate the works that directly referenced a real world atomic event, from the more broadly focused works about atomic paranoia. The thematic consistencies shown in this section will reveal how the events of Castle Bravo were incorporated as the standard way to address the atomic bomb. Yet, since the atomic technology transformed from a reference into a trope, its use took on a new meaning. Atomic technology as a trope was alienated from its original source material and represented the proliferation of fear over the atomic bomb beyond the consequence of a few tests, but instead the larger implications of how the technology had forever changed society. By divorcing the issue of atomic testing from Castle Bravo, nuclear terror was incorporated into the larger mythos of speculative fiction. Atomic technology could now be employed as a short-hand for the destruction of the environment, the loss of empathy, or the challenges to youth culture. This thematic incorporation allow genre fiction to not only criticize continued atomic testing, but many other societal problems endemic in the atomic age.

Castle Bravo was not only an incident that prompted referential criticism of a single event, but a catalyst to encourage further challenging of the status quo. The

numerous works that incorporated atomic technology now did so as a means of expressing dissatisfaction with governmental action and societal complacency in its various forms. As previously stated Castle Bravo was a catalyst for the modern understanding of the atomic bomb. It opened up a dialogue and provided a format by which creators and authors could openly challenge numerous aspects of postwar life. This evolution from a means of inditing the atrocities of a single experiment, to challenging the larger societal implications of continued use and study of atomic technology represent a maturity of genre fiction which shaped the way the atomic bomb would be treated by the public for the rest of the century.

Contamination becomes a Tenet

As Chapter Two first pointed out, contamination and mutation quickly became a part of post-Castle Bravo genre fiction. It would be beyond the scope of this work to explore every work of genre fiction that employed radioactive mutation. However, there are certain works that were very popular in the period and represent various consistencies in the depiction of the atomic bomb and attitudes about its use and testing. For example, ecology became a major touchstone within genre fiction, but the nuclear technology took on a life of its own, becoming a stand in for numerous larger themes from youthful rebellion to deific punishment. Radioactive mutation also expanded its role and took the place of robbing people of their humanity within fiction. For genre fiction this was not only a metaphoric loss of the individual's personality, but was accompanied with a transformation into an inhuman beast. Mutation was a sort of metamorphosing entity that for the purpose of fiction reinforced the dangers of radiation and scientific hubris.

Contamination became an expected element whenever speculative fiction addressed the atomic bomb, even when no mention was made of real life atomic events.

Ecology

One of the major thematic elements that continued after the Castle Bravo test was the increased concern that radiation would have an irrevocable impact on animals and the ecological landscape. The concern for the impact of radiation on the global ecology took two major thematic forms once it was alienated from its Castle Bravo origins. The first major element consistent in many of the films was the plot point that the radioactive contamination was the result of an accident that occurred during some type of atomic experimentation. The second theme in ecologically based genre fiction was the trace radioactive materials being passed through the environment and intensified through the food chain. Finally, some films incorporated both of these elements into their plots continuing the prevalence of these trends. The impact radiation had on the environment in the Castle Bravo test was translated and alienated from its source by speculative fiction. Films and novels no longer included monsters that were caused by real-world atomic tests, but instead radiation infested the ecological landscape and created mutated creatures. Ecological contamination incorporated into genre fiction a message of environmental concern, by refocusing the concern about the atomic bomb from merely testing to the permanent impact on the landscape caused by radiation.

Many works of fiction from this period constructed plots around a scientific accident or a mismanagement of radioactive technology. These accidents caused greater events and were a common plot device in the genre fiction, but especially in those that

are now considered "creature features". These films were cheap to create and are now remembered for their impossible plots and poor special effects. The 1959 film *The Killer Shrews* is one of the best examples of the experimental mistake gone wrong within the subset of creature features. The driving force behind the plot was the accidental creation of man size shrews, when the scientist, Marlowe Cragis, intended to shrink human beings. Cragis' intentions were ultimately altruistic in that he desired to shrink humans to combat world hunger, decreasing the amount of food required per individual. However, during his radioactive experimentation upon shrews, one small mistake resulted in the shrews becoming the size of men and wreaking havoc on the island. Marlowe Cragis served as an allegorical example of the modern nuclear scientist, and the film served as a platform to voice criticism of their actions. For example, the subtext of the film communicated that it was Cragis' hubris, a belief that he could so significantly tamper with nature, that ultimately resulted in his downfall. In the context of the film, Cragis' altruism was treated with scorn by the other characters because of the literal monsters it created. *The Killer Shrews'* universe was one that challenged the necessity of continued atomic testing, no matter the humanist intentions, because the technology itself was far too dangerous. Scientists in these new films were not using nuclear technology for its destructive potential, yet still experiencing extremely negative consequences because of unforeseen consequences inherent in atomic technology. *The Killer Shrews* at its core was a silly and inexpensive B-movie, yet even still it openly challenged the American nuclear policy, and warned against the ecological damage atomic testing wrought.¹³³

133 *The Killer Shrews*, Film, Directed by Ray Kellogg, (Hollywood: McLendon-Radio Pictures Distributing Company, 1959).

Another main concern prominent in genre fiction of this period was the plot device of the unexpected ecological impact as a result of radioactive elements being concentrated higher in the food chain. In *The Giant Gila Monster*, the creature was described as being the product of radioactive elements in the water transferring to the vegetation and then consumed by the lizard, prompting its growth to seventy-feet. The magnification of harmful elements further up the food chain is and was a legitimate ecological concern, so it was not difficult to add a fantastical employment of radiation, and use this concept to make a monster for a work of genre fiction. In *Gila Monster*, a seventy-foot lizard, the product of ecological contamination, terrorized a group of teenagers. It ate young people parked on lover's lane and destroyed a building that was holding a sock-hop. Yet, the gila monster was finally destroyed after the teenage hero sent his nitroglycerin fueled hot-rod into the beast, resulting in an explosion. *The Giant Gila Monster* was definitely created to appeal to the new youth oriented market as a low budget monster movie; however, it also served as a warning against radiation's impact on the environment. *The Giant Gila Monster* asserted that ecological radiation, and its products, not only threatened the present, but also threatened the wellbeing of future generations, by literally attacking elements of youth culture. This thinly veiled metaphor is heavy handed and clumsily executed, but still represented the new development of overly negative perception of atomic technology within genre fiction.¹³⁴

The plot device of atomic contamination through the food chain can be observed

134 *The Giant Gila Monster*, Film, Directed by Ray Kellogg, (Chatsworth, Calif.: Image Entertainment, 1959).

in the film *The Giant Behemoth* as well. *Behemoth* blatantly referenced remnants of nuclear testing as the origins of the monster, but no specific test is cited as the cause. Instead the behemoth was the result of a previously unknown species ingesting radioactively contaminated fish. The beast was a combination of dinosaur and electric eel, and when imbued with radiation, could shoot radioactive fire. Evident from its name as well as statements from characters in the film, *The Giant Behemoth* adopted a more biblical perspective on the issue of atomic technology. One witness compared the monster to a biblical beast called the behemoth, as well as a plague visited on Egypt. In this way the damage done to both the plants and animals by radioactivity was analogous to the punishments visited from God as the consequences of humankind's trespasses. Just as with the *Giant Gila Monster*, *The Giant Behemoth* was poorly produced with a nonsensical plot for its period, however, by connecting radioactive fallout to a punishment of Biblical proportions, *Behemoth* communicated both a reverence for the natural world and a distrust of the pride of humankind.¹³⁵

Attack of the Giant Leeches was a 1959 genre film created primarily to highlight its lead actress, Yvette Vickers. Attack constructed its narrative around seven foot leeches, spawned by radioactive minerals contaminating the water source. Throughout the film Vickers, who had posed for Playboy magazine earlier that year, was placed in exploitive situations by the attack from leeches. Her character, Liz Walker, was portrayed as deserving the attacks for her promiscuous sexuality and adultery. After being abducted by the leeches Liz Walker was left in a manner that emphasized her helplessness and ensured

135 *The Giant Behemoth*, Film, Directed by Eugene Lourié, (Burbank, CA: Distributed by Warner Home Video, 1959).

she was scantily clad. In the narrative, monsters that resulted from radioactive fallout served as punishment for the immoral actions of the characters. Even though *Attack of the Giant Leeches* was primarily concerned with titillating its audience with an attractive woman, it still drew on the theme of fallout being a punishing force in the world.

Radiation no longer was a concern only for members of the military or scientists. *Attack* presented a world in which all people had to pay for the crimes against nature, as punishment for their own sins. Radioactive contamination served as means of creating a narrative that characterized it as a vindictive force, creating ecological conditions that punished humans for their immorality, primarily the sin of creating the bomb but also violations of other social codes.¹³⁶

Other works that drew on the theme of ecological damage from radiation incorporated both of the plot devices of scientific experimentation gone-wrong, and environmental contamination creating monsters. *The Beginning of the End* is one such film, in which giant grasshoppers grew by eating irradiated vegetables created in hopes of causing the growth of huge vegetables and ending world hunger. These grasshoppers then proceeded to attack and destroy Chicago and were only stopped when the same scientist who created them used sound waves to draw them into Lake Michigan. The male lead of the film, Dr. Ed Wainwrights, accidentally allowed his research to get beyond his control, resulting in the creation of fifty-foot grasshoppers that not only attacked people but functioned as a horde of locusts. This meant the grasshoppers had the potential to destroy the world's food supply. In this way, the products of radioactive accidents were shown to

136 *Attack of the Giant Leeches*, Film, Directed by Gene Corman, (Minneapolis, Minn.: Mill Creek Entertainment, LLC, 1959).

accomplish the exact opposite of the goal of the scientific research. By combining the two plot devices, and having a research mistake result in ecological contamination, *The Beginning of the End* reaffirmed that all nuclear technology was beyond human control. It also proposed that experimentation would result in harm that directly conflicted with the purpose of the research. It took monstrous grasshoppers to illustrate this point, but this heavy-handed message at the heart of the film served as another example of the new pessimism associated with radioactivity, in that all tests were doomed to not only fail but to accomplish the opposite of the intended goal.¹³⁷

In the early postwar period, ecological destruction was not a concern of the American media-consuming public; evident in how often atomic technology was used without concern for the environment. However, after the Castle Bravo test the public was exposed to the horrors of radioactive fallout, and new paranoia about its contamination seeped into speculative fiction creating a major plot device. Atomic technology had already been incorporated into the genre for the last decade, so after radioactive contamination became a public concern, its use in fiction was inevitable. By creating works that challenged the destruction of the environment through atomic research, authors and creators now had a plot device that could both be an antagonist as well as a means of punishing wrong-doers, often within the same work. In this way genre fiction anthropomorphized the atomic bomb into a beast of its own which visited vengeance upon its creators but could be overcome by the pure of heart. The bomb became a threat to the joys of youth as seen in *Gila Monster*, destroying the new American way of life

¹³⁷ *Beginning of the End*, Film, Directed by Bert I. Gordon, (Chatsworth, CA: Image Entertainment, 2003).

and its prosperity. It also became a plague of judgment from God, enacted to punish human hubris, pride, and wickedness, as in *Beginning of the End*,¹³⁸ *Giant Leeches*,¹³⁹ and *Behemoth*.¹⁴⁰ The only characters to survive this thematic trend acknowledged that atomic research in itself was a sin from which society needed to turn away, and those who did not repent suffered the wrath of radioactive destruction. In comparison, radioactive contamination became a Frankenstein's Monster by punishing its inventors for the trespass of tampering with nature. The ecological damage enacted by atomic testing took a unique position in genre fiction, as a violent and vindictive force in the world, creating a standard by which future works of fiction would draw, and completely rejecting the older optimistic attitudes about the atomic bomb. The fiction after this period expanded the role of the atomic bomb as an evil in the world beyond a single test to characterizing atomic tests as inherently wrong. This also alienated the technology from Castle-Bravo by accepting the bomb's existence in society but challenging its continued testing through metaphor instead of direct reference.

Humanoid Mutation

Radiation in fiction definitely harmed and mutated animals and the environment after the Castle-Bravo incident, but the effects of radiation on humans received the most attention in the period's media. Mutation again served as the consistent theme that continued through all these works. Sometimes this mutation manifested physically, by

138 *Beginning of the End*, Film, Directed by Bert I. Gordon, (Chatsworth, CA: Image Entertainment, 2003).

139 *Attack of the Giant Leeches*, Film, Directed by Gene Corman, (Minneapolis, Minn.: Mill Creek Entertainment, LLC, 1959).

140 *The Giant Behemoth*, Film, Directed by Eugene Lourié, (Burbank, CA: Distributed by Warner Home Video, 1959).

transforming or regressing an individual. Other works maintained the plot device of good intentions with this technology, resulting in irreversible damage to people. The public feared the cost to atomic radiation on their environment and wildlife, but they were especially paranoid of the ways radiation may affect them personally, and this manifested frequently in the media after 1954. And since radiation did not have to come from a single real-world experiment, it took new forms once it was divorced from its origins.

Fiction endowed radiation with the ability to transform a human into a human-beast hybrid and this plot device was used often. In *Attack of the Sun Demon* the main character was exposed to deadly amounts of radiation while clumsily conducting a lab experiment. He remained unaffected until his doctors exposed him to the sun's rays, at which point he “evolves backwards” and became a human lizard. His rampage only ended when his humanity briefly won over his animalistic urges and he threw himself off of a building, to prevent his “lizard brain” from taking control and killing more people. By instituting the mutation as a consequence of the main character’s carelessness with radioactivity, the film leveled serious criticism against the scientific community and its perceived mismanagement of nuclear technology. The rampage only ended when the scientist realized that he was the source of all the problems and ended his own life. In the same way *Gojira* placed the responsibility for the atomic destruction on the shoulders of the scientists who conducted the research,¹⁴¹ *Attack of the Sun Demon* presented a narrative in which atomic destruction, contamination, and death were halted by the sacrifice of the scientist. However, in this *Sun Demon* the main character also caused all

141 *Gojira*, Film, Directed by Ishiro Honda, (Japan: Tōhō: 1954).

of the damage, and his death was meant to end suffering, not prevent future use of technology. This work also avoided referencing a specific atomic test, by instead creating a more generic scenario, that would ultimately challenge all atomic testing, not only that for bombs. The film also functions under the metaphor that the study of radiation dehumanizes individuals, with the character literally reverting to a more primitive evolutionary form to illustrate this point. Radioactive contamination worked as a punishing force in this world, but in this case attacked its creator more directly.¹⁴²

The Day the World Ended also contained this element of human mutation, but in this case, was not an indictment of the scientific community. The only reason the characters survive a global nuclear war in this film was because a former scientist who had witnessed nuclear bomb tests created a sanctuary against radiation. Any person caught outside the safe valley was transformed into a monster that survived by eating raw flesh. These creatures also grew horns and claws like an animal. By recognizing the error of his ways before the blast the lead character preserved his family and survived the atomic war. Ultimately, rainwater killed all these mutated humans, and cleansed the world of radiation, leaving it open for rebuilding by those individuals who had learned of the dangers of the atomic bomb. This fanciful vision of the effects of radiation represented a more inherent fear that nuclear technology would strip away one's humanity and leave them a beast. It also drew on Biblical themes, like the story of Noah to create another analogy, comparing radiation to God's punishment for sins. The issue of mutation was grounded in fantasy, but played into deeper fears that the bomb was not

¹⁴² *Hideous Sun Demon*, Film, Directed by Robert Clarke, (Chatsworth, Calif.: Image Entertainment, 1959).

only a boogieman, but the judgment of God, from which only the just would survive. In the case of this film, the just were those people who recognized the dangers of the atomic bomb and prepared accordingly, and the unjust were transformed into physical manifestations of their callous, dehumanized attitude that brought about the creation of the bomb. Contamination is shown to accompany the end of civilization and the rise of brutality, however, even this is, literally, washed away, leaving the new world to be inhabited by a few worthy individuals.¹⁴³

The more humanist interpretation of radioactive contamination revealed not just a concern for the environment, but also a real concern for how the bomb was changing attitudes in society about the value of life. This tenet of genre fiction almost always created humanoid creatures that had many beast-like qualities. In a way, contact with the atomic bomb was perceived as making individuals violent, mindless, and cruel, which can be interpreted as an indictment of the contemporary atomic diplomacy. In this way, these works were illustrating that atomic technology devalued human existence, and made violence more likely. Individuals who did not properly respect the power of the atomic bomb were punished and became less than human through radioactive contamination. These characters were not portrayed as victims, but instead deserving of their punishment. These beast humans were only defeated by other characters that had appropriate fear and reverence for atomic technology, as well as a compassion for humanity. Just as with the ecological mutations, hubris garnered the greatest punishments from anthropomorphized radiation. Ultimately these works revealed an attitude that

143 *The Day the World Ended*, Film, Directed by Roger Corman, (Culver City, Calif.: Columbia TriStar Home Entertainment, 1955).

contamination took away characters' humanity, not only physically, but also emotionally. By divorcing the atomic narrative from its real world origins, these works could say more about the societal costs of all atomic experimentation.

Complete Global and Cultural Destruction

Another major concern communicated throughout genre fiction was the global destruction of society and contemporary culture. In this way, many nuclear narratives followed examples set by previous post-apocalyptic works with a new radioactive bent. The incorporation of utter nuclear destruction into fiction took two forms in this period, the first being a physical decimation of the planet from nuclear fallout, and the second being the end of all culture and technology. These two different interpretations of worldwide destruction reveal a larger concept of the elements that composed contemporary society. Not only was there a fear for the loss of livable space, which as previously discussed was a common theme in genre fiction from the 1940s, but post-Castle Bravo fiction also included stories where all cultural remnants are lost or made illegal after atomic destruction. This societal destruction was usually characterized as the result of a nuclear accident, an unnecessary war, or human error. The two ways of emphasizing the cost of atomic radiation revealed the evolving understanding of the stakes on which atomic technology was threatening. No longer were there only vague dramas about a desolate planet; these were accompanied by narratives of post-apocalyptic Luddite communities, active destruction of all knowledge, and post-apocalyptic wastelands.

In *The Magician's Nephew*, written by C.S. Lewis in 1955, a section of this

children's book, part of *The Lion, the Witch, and the Wardrobe* series, essentially contained a veiled metaphor for the nuclear arms race and mutually assured destruction. In chapters four and five the children entered a world completely devoid of life. They then met "the Queen" who explained that the destruction was all caused by a conflict between herself and her sister, and that she ultimately resorted to the "secret of the deplorable world" to end the war.¹⁴⁴ This secret magic spell destroyed every person in the world except the person who spoke it, the Queen. These chapters were obviously an attempt on C.S. Lewis' part to inform his young audience of the dangers of nuclear war. The stand in for the atomic bomb, the secret magic, was employed as a last resort and resulted in the death of every living being, leaving the castle desolate. The weapon Lewis used was cloaked in a realm of fantasy, but this served as a thin screen for his social commentary. The environment in this section of *Magician's Nephew* was so lonely and bleak that it was meant to reinforce the cost of atomic technology's use. This also shifted the atomic narrative from optimism to pessimism concerning the continued existence of humans. One can observe that the author used his platform to comment on recent events and communicate the destructive potential of nuclear technology to his young audience, within the constructs of a fantastical setting.¹⁴⁵

Where C.S. Lewis' comments on the consequences of the atomic bomb were more veiled by levels of genre standards and audience expectation (the work was one of fantasy, geared toward children), other works took a more direct approach for criticism.

For example, the 1957 book and its 1959 film adaptation *On the Beach* explored the

144 C. S. Lewis, *The Magician's Nephew*, (New York: HarperCollins, 1955), 69.

145 C. S. Lewis, *The Magician's Nephew*, (New York: HarperCollins, 1955).

issues faced by residents of a post-apocalyptic world that was merely biding its time until the radiation destroyed all life. *On the Beach* was set in Australia, the last habitable land on earth, because of a nuclear war in the northern hemisphere and wind patterns spreading radioactive fallout throughout the world. This work addressed issues of nihilism often associated with nuclear technology. Often characters spoke directly about the unfair nature of atomic technology harming not only the belligerents of a conflict but people who were not even involved in the conflict.¹⁴⁶ Ultimately the film and novel ended with various characters deciding whether or not to take their own lives with cyanide capsules or allow the radiation to overtake them. *On the Beach* was a much more personal story about the human consequences of atomic technology, where the audience had to face the slow and inevitable deaths of every single character in the work, and also realize that this was the end of human existence on earth. *On the Beach* presented a narrative of utter nuclear destruction on a different level than previous explored. Instead of being a tale of the survivors fighting back against atomic destruction, it was a tale of the doomed accepting their fate. *On the Beach*'s utter nihilism reinforced the message that atomic technology's potential for global destruction was not an issue that should only be considered in terms of statistics but instead should be analyzed through examination of the real human cost.¹⁴⁷

The human cost of the atomic bomb can also be seen in Mordecai Roshwald's 1959 novel *Level 7*. Roshwald took the personal story of victims of radioactive fallout one step further by examining the emotional guilt experienced by a character whose job was to

146 Nevil Shute, *On the Beach*, (New York: W. Morrow, 1957), 79.

147 Nevil Shute, *On the Beach*, (New York: W. Morrow, 1957).

initiate World War III. Living in a deep underground base the lead character, a soldier named X-127 received orders to drop the hydrogen bomb and initiate a three hour long war that destroyed most life on the earth's crust. The novel then explored the lives of X-127 and his fellow survivors as they attempted to carry on with human existence underground. The conditions result in the inhabitants of level 7 losing interest in things like child-rearing and romantic love, because those pursuits felt pointless after the world was destroyed. Roshwald's post-apocalyptic world indicated that the loss of the character's home and hope for the future had robbed them of their humanity. The mechanical way the characters treated life, and even X-127's lack of a real name, revealed a deeper message that atomic technology would result in the dehumanization of whoever it did not kill. X-127 described their predicament as quite dire, lamenting that "the only alternatives will be to die of starvation underground or be killed by radiation on top," reinforcing the hopelessness of the work.¹⁴⁸ This message was then magnified by the work's twist ending in which it revealed that the orders to initiate World War III were the product of an electrical mistake, which also allowed radiation to seep into the bunker, slowly killing all who were once safe. *Level 7* represented a work that explored the utter decimation of the human race, but also bridged the gap into works that emphasized the importance of radiation's impact on culture in addition to physical damage.¹⁴⁹

The potential for complete destruction was an issue explored in the years before Castle Bravo, but in the year following, it took a new form. These works no longer referenced a single localized event but shifted the focus back towards total atomic

148 Mordecai Roshwald, and David Seed, *Level 7*, (Madison: University of Wisconsin Press, 1959), 109.

149 Mordecai Roshwald, and David Seed, *Level 7*, (Madison: University of Wisconsin Press, 1959).

destruction. However, unlike the *Atomic Doom* card series or *Rocket Ship X-M*, the complete destruction was in much greater detail and the emotional cost was also explored. *Level 7*, *On the Beach*, and *The Magician's Nephew* all refused to merely insert a real world atomic event as the cause of all the destruction, because for the narrative, that was too small. Instead they explored the potential of complete nuclear warfare with the added information of the slow destruction brought on by radiation. This created a completely new nihilistic perspective in fiction, revealing a better representation of the real costs of atomic technology.

Cultural

After the Castle Bravo disaster the thematic trope of the destruction of the world from radioactive fallout sometimes took a more metaphorical bent. This is the way Leigh Brackett in *The Long Tomorrow* created a setting in which a global nuclear war resulted in an outlawing of all technology, and Mennonite and Amish communities gained power. After a global nuclear war the Constitution was amended to prevent the creation of any more technological advancement and keep people from congregating in cities. Characters were stoned as traitors for the accusation of tampering with forbidden technology. *The Long Tomorrow* created a world in which the survivors of an atomic war rejected contemporary standards of the value of scientific progress and created a new American culture of luddites. In this way Brackett challenged other reactions to atomic testing that asserted that it needed to stop, but instead showed how harmful this extreme response would be for society. At the climax of the novel, the main characters Len and Esau Colter rejected their Mennonite community of Piper's Run. They had discovered a working

radio and heard tales of the wonders of pre-war technology, so they left in favor of exploring the city of Bartertown, which still had technology. They also discussed how humankind's naturally inquisitive nature could not be halted:

Someday atomic power will come back no matter what anybody does to stop it.¹⁵⁰

The Long Tomorrow preached an attitude of moderation when it came to the atomic bomb, by illustrating its terrors, but also asserting that the dangers should not prompt hysteria and prevented all scientific discoveries.

A Canticle for Leibowitz, by Walter M. Miller Jr., asserted a similar attitude of moderation to *The Long Tomorrow*, by providing an even more extreme example of cultural decline as a result of the bomb: the complete rejection of all writing and knowledge. In *A Canticle for Leibowitz*, after a global nuclear war, people blamed curiosity and knowledge for the devastation and engaged in what's deemed "the Simplification" in which all people of learning, and eventually all who could read, were put to death. This long saga explored the challenge faced by a certain sect of the Catholic Church, the Leibowitzan order, in its attempts to preserve knowledge, "Memorabilia". The plot of this story was quite complex, spanning over millennia of history, yet the "Simpleton" movement is a special interest to this research. The Simpletons, those who enacted and supported the simplification movement, went to violent lengths to try to prevent the atomic bomb. However, one of the main characters, Brother Francis Gerard, was a Leibowitzan devoted to preserving knowledge and in his personal diary upon his

150 Leigh Brackett, *The Long Tomorrow*, 1st ed., (Garden City, N.Y.: Doubleday, 1955), 157.

death he wrote:

Even now, inside the Abbey itself the radiation count has gone beyond what a man can survive. But before I die I shall deliver this book to Brother Joshua, in the hope that the story of mankind here on Earth will not be forgotten.¹⁵¹

Even though the reaction to the global nuclear war drove North America into a new dark age, these bastions of knowledge preserved the knowledge of humankind. Just as in *The Long Tomorrow*, *A Canticle for Leibowitz* emphasized that the dangers of the societal reaction to atomic technology can be as dangerous as the bomb itself.

The response to atomic testing was so severe immediately after the Castle Bravo test that it in some ways could be compared to a Luddite, and also were the inspiration for works like *Canticle for Leibowitz* and *The Long Tomorrow*. These works challenged their readers to not allow hysteria about atomic technology to rob them of something essential to the human experience, the thirst for knowledge. In this way mismanagement of atomic technology not only resulted in physical destruction but also threatened the world's cultural heritage and scientific accomplishments. The various works that included the theme of a decimated planet took differing forms in what was actually at stake with this radioactive destruction. Some focused on the lives of individual characters facing the end; others looked to the loss humanity or knowledge as the major cost of nuclear destruction. Ultimately all of these works drew on the issue of atomic research as a starting point from which they could explore what was truly at stake if a global nuclear

¹⁵¹ Walter M. Miller, *A Canticle for Leibowitz: A Novel*, 1st ed., (Philadelphia: J. B. Lippincott Co., 1959), 69.

war did take place.

Ineffective Use of the Atomic Bomb

Another major thematic element that consistently arose when atomic technology was incorporated into genre fiction was the ineffectiveness of atomic technology to solve the conflict at the center of the work. Where in the earlier time period the atomic bomb was often looked to as a means of improving society and preserving safety, atomic technology now made the situation worse. Often the characters in the later works had to work against the clock to prevent the use of the atomic bomb and invent an innovative solution to whatever they faced. This trope ultimately sent the message that atomic technology was no longer seen as the panacea of the modern era. It also reinforced the message that individuals needed to invent safer, cleaner, and more humanitarian technologies to better the world, not the atomic bomb.

The 1958 film *The Blob*, included the ineffective atomic bomb trope. While the group of young people attempted to think of ways to combat the growing “blob,” one suggested that they should call the army and use the atomic bomb. However he was quickly rebuked by another character with the statement “No! A bomb would spread it all over the county.” In this way the atomic bomb was not only shown as being ineffective against the otherworldly substance but would actually make the problem exponentially worse. The atomic bomb was no longer used as a means of resolving the plot in genre fiction. The characters in the film did involve the military but instead of blowing the blob up they shipped it to the arctic where it froze.¹⁵²

152 *The Blob*, Film, Directed by Irvin S. Yeaworth (New York: Criterion Collection, 1957).

In *Kronos*, a 1957 alien invasion film, an alien force inhabited the body of a nuclear scientist to ensure the scientist procured the alien ship's atomic energy. After the American government encountered the ship and discovered it absorbed energy, they foolishly detonated an atomic bomb on their ship. However, this only benefited the malicious alien ship which happily absorbed the bomb as energy. As with *The Blob*, the use of the atomic bomb only made the situation direr, and in this case it was not only in theory. Eventually the protagonist covered the ship with radioactive material which tricked the ship into devouring itself. Yet, it still took innovation to defeat the alien ship, and the atomic bomb harmed the situation. This is not to assert that *Kronos* was a nuanced or complex film, only that it adopted a slightly more elevated plot device than seen in previous years, where the atomic bomb often served as an easy solution.

One of the more famous B-movies of the 1950s post-Castle Bravo period was the 1956 film *Forbidden Planet*. A group of astronauts landed on a far off planet to discover it was inhabited by a scientist, his daughter, and their robot Robby. The crew discovered that the scientist had stumbled across a previous civilization's technology, the most powerful being the nuclear powered "brain booster." Unfortunately, after the crew members began to go missing they discovered that during the scientist's experiments with the brain booster it provided his id with a physical presence. This manifestation of id rampaged invisibly throughout the planet, enacting the scientist's secret desires, primarily to keep his daughter from leaving the planet. When the crew tried to stop the specter they attempted to use radioactive technology, but this proved ineffective because the id was pure radiation itself. The rampage only ended with the scientist's death, allowing his

daughter to flee with her new love-interest, a member of the crew. In the context of the film the crew was not able to actually attack the atomic creation itself, but had to stop its creator to prevent further destruction. This narrative asserted that the cause of nuclear destruction could not be combated with more nuclear technology but instead by stopping those who created and misused the technology.¹⁵³

Criticism of Continued Atomic Testing

Many works of genre fiction also presented narratives that directly challenged any type of atomic testing. In these narratives the scientists make a point to mention that they were not researching atomic bombs, but instead using radiation to improve a different sector of life. Yet the plots ultimately revealed that any experimentation with atomic technology would result in negative and unforeseen outcomes. For example *Fiend without a Face* revolved around a scientist who attempted to give a physical presence to thought.¹⁵⁴ He accomplished this by siphoning energy from a military establishment that was using a nuclear reactor to power experimental radar. These thoughts soon attacked the local population, and with a spike at the nuclear plant, even became visual. They were only stopped when a soldier shut down the nuclear reactor, and the monsters completely disappeared. As previously stated, the grasshoppers in the *Beginning of the End* were the result of radioactive experimentation on plant life.¹⁵⁵ Also the scientist in *Forbidden Planet* had experimented with the radioactive alien technology in an attempt to enhance

153 *Forbidden Planet*, Film, Directed by Fred M. Wilcox (Burbank, Calif.: Warner Home Video, 1999).

154 *Fiend Without a Face*, Film, directed by Henry Mancini (Irvington, NY: Criterion Collection, 1958).

155 *Beginning of the End*, Film, directed by Bert I. Gordon (Chatsworth, CA: Image Entertainment, 2003).

his intelligence, and actually unleashed his anthropomorphized id on the planet.¹⁵⁶ All of these works reinforce the negative perception of atomic testing, in any form. These works are yet another example of the negative view the public had of scientific experimentation. The Castle Bravo disaster had been too shocking, and this shifted the way speculative fiction treated the subject so that any radioactive testing would result in destruction.

Conclusion

The media storm of the Castle Bravo disaster did not end atomic testing by the United States, and this fact again shifted the expression of atomic technology in fiction. Nuclear testing would continue, but the public developed a distrust of the technology, which was not going to go away. For this reason genre fiction also separated itself from specific atomic tests, because the number and variety of atomic testing only grew. Genre fiction became a place to voice fears about the extended impact of atomic technology on the environment, the individual, and society. Authors and creators continued to challenge nuclear testing, transforming the use of a reference to current events into a thematic trope that became the expected way the atomic bomb would be treated in fiction for the rest of the twentieth century. Genre fiction creators of this period reflected the new realities of American life in which societal uproar did not halt atomic testing, and the public now had a greater understanding of the consequences of these tests. The saturation of atomic media into science fiction and fantasy created its own set of expectations for the genres. Fiction from this period on would continually harken back to the themes of mutation, ecological damage, and the dehumanization of atomic technology. The fictional trends

156 *Forbidden Planet*, Film, Directed by Fred M. Wilcox (Burbank, Calif.: Warner Home Video, 1999).

after the Castle Bravo disaster became a part of the genre fiction landscape for the rest of the century, once it was alienated from the specific tests of their origins. The fact that Castle Bravo is forgotten by the genre fiction made the attitudes toward the atomic bomb seem timeless, but this does not take away from the impact Castle Bravo had in the development of the atomic bomb's depiction.

Conclusion

The depiction of the atomic bomb and its related technologies in the United States were in a state of flux in the postwar period, largely due to censorship. The American government closely monitored news reporting on the bomb and its testing, creating often inaccurate understandings of the technology. Genre fiction from the period encapsulated these images in its treatment of the atomic bomb as a plot device. In a way, these three elements were intertwined to create an evolving understanding of the bomb in America, and its role in the world. By tracing the evolution of the depiction of atomic technology, this study has revealed that interpretive works like fiction were highly dependent on public opinion and public opinion was shaped by the available information.

Deconstructing these various levels of mediation helped to point to an evolving understanding of American technological advancements. By breaking the postwar period into three distinct chronological periods the purpose of tracing the shifts in depiction was fulfilled.

As Chapter One revealed, censorship was the most evident in both the new media and the genre fiction immediately after the end of World War II. The censorship of information about the atomic bombs used in Hiroshima and Nagasaki prevented the American public from knowing the extent of damage caused by radiation. This uncertainty filtered into the genre fiction of the period as evidenced by the optimism and fear communicated in the genre fiction of the period. The ignorance of the public about the atomic bomb led to the creation of films and novels that exemplified the atomic age's standards of hope and paranoia. The immediate postwar period was characterized by

inconsistency in the understanding of the technology, resulting in media that would simultaneously praise atomic technology as the way of the future and at the same time characterize the atomic bomb as the most destructive force ever invented by humankind. However, this research's goal to place these films within their historical context by illustrating the amount of information actually available to the public, as a result of censorship. In doing so, early works of genre fiction are no longer hopelessly optimistic, but instead the product of forceful censorship of the real horrors of the atomic bomb. By realizing that the American public was made ignorant of the extent of damage caused by atomic technology, we can better understand why films and novels could treat the subject with both hope and wariness. These attitudes did not come from a callous disregard of the suffering these weapons enacted, but instead a naivety that was fostered by the American government.

Castle Bravo proved to be the end to a great amount of the censorship surrounding atomic technology, and thus also ended this ignorant attitude about the bomb. Chapter Two's exploration of the reporting of the disaster and fiction that referenced the event revealed how impactful this situation was. When the reports of the Hiroshima and Nagasaki bombings are compared to those of Castle Bravo, one can see an extreme shift in both the treatment of the technology as well as the victims. Hiroshima and Nagasaki radiation deaths were blamed upon poor health care from the Japanese health system, while nearly ten years later the American government sent numerous doctors, as well as Japanese physicians, to treat the victims of Castle Bravo. The fact that the destruction of Hiroshima and Nagasaki was planned and in the context of war, while Castle Bravo was a

scientific accident, must have contributed to these differences in response from the American government. Yet, these different responses could also be attributed to the fact that the United States was in no position to attempt to censor the Japanese government since an international court existed and Japan was on its way to being a major partner with the United States in 1954. The new information forever changed how atomic technology would be treated by all American media. Fiction responded to the new information by creating a new sub-genre of "Creature Features" which would become a touchstone of postwar media references. Many of these creature features directly referenced Castle Bravo itself as the cause of the monster or mutation. For a brief period of time, Castle Bravo and testing like it was the antagonistic force in genre fiction, prompting the creation of numerous fanciful destructive forces. These works provided the most directly critical commentary on atomic testing, by referencing specific tests and calling for the end of this practice, either through dialogue or metaphor. Yet these criticisms ultimately fell on deaf ears and atomic testing only continued in both the United States and the Soviet Union. Yet, the damage had already been done to nuclear technology's reputation in America, and this forever changed the treatment of the atomic bomb in fiction.

Chapter Three's exploration into the larger thematic trends produced as the result of continued testing revealed that the early elements introduced after Castle Bravo were only magnified and cemented into later genre fiction. Once these works stopped directly referencing specific nuclear tests, the atomic menace became a more broad concern. Where works that referenced Castle Bravo directly often explored the damage done to a

single town or community, these works explored global ecological destruction, the dehumanizing impact of the bomb, and the possibility that the bomb could cause a backlash against all technology. These works tackled larger themes and the world-wide implications of atomic technology. Atomic depictions were no longer blissfully ignorant, or focused on a single accident, but instead fiction adapted to the new nuclear age by exploring the massive repercussions of the technology upon the globe and society. In this way, alienating the atomic narrative from its Castle Bravo roots, allowed authors and creators to explore themes that were far more universal, than criticism of current nuclear policy. These authors used the atomic narrative to explore issues such as youth culture, the stewardship of nature, the dehumanization of war, and many other larger thematic premises. Divorcing the incorporation of atomic technology into genre fiction from the Castle Bravo event maintained a similar pessimistic tone, but allowed for the exploration of more expansive subject matter.

Ultimately, all of these contributing elements heavily influenced later genre fiction in the twentieth century. The Castle Bravo disaster was such a shock to the American public that the naivety of the early postwar period would never return, and instead cemented the fear-filled status seen in later years. By anthropomorphizing the hydrogen bomb, and making it a menace in its own right, genre fiction actively challenged policy makers and continually called into question the validity of scientific discovery when it came at the risk of human lives. It would take the Cuban Missile Crisis of 1962 to draw other types of literature and film into direct criticism of the atomic bomb. Genre fiction served as a safe place to illustrate concerns about the hydrogen bomb,

continued testing, and radiation almost immediately after the Castle Bravo disaster in 1954. This might be due to science fiction and fantasy's previous (if uninformed) exploration into these topics. Also genre fiction's status as a "low" art also may have allowed these criticisms to proceed unchallenged. However, science fiction and fantasy served to encapsulate some of the earliest challenges to American nuclear testing, and shaped how other styles of media would follow. These works of science fiction and fantasy may have been at times silly, or uninformed, or cheaply produced, but their challenges to the continued testing of atomic bombs and other technologies was very real, and should be remembered as such.

Appendix A

Postwar Fictional Representations of the Atomic Bomb

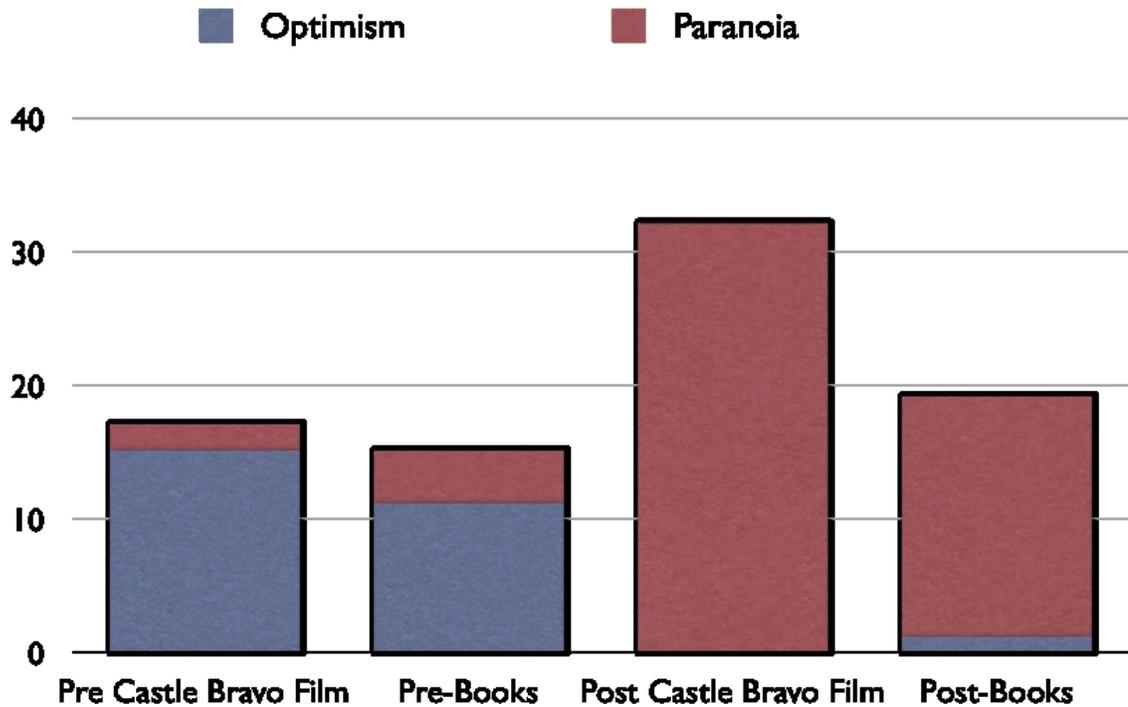


Chart 1. This chart tracks the prevalence of the attitudes in the depiction of the the atomic bomb from 1945 through 1959. Optimistic portrayals of the atomic bomb included its use as the basis of positive future technologies, being associated with national safety. Paranoid attitudes represented in fiction from this period included characters challenging the use of the atomic bomb, or plots in which radioactive technology harmed individuals and the environment. By identifying general attitudes communicated in genre fiction one can easily observe a severe shift from the works that were created before 1954 and those that were created after.

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