



**DECONSTRUCTING**

*The Secret History of Nuclear War Films*

**DR. STRANGELOVE**

**SEAN M. MALONEY**

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Potomac Books

AN IMPRINT OF THE UNIVERSITY OF NEBRASKA PRESS

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Library of Congress Cataloging-in-Publication Data

Names: Maloney, Sean M., 1967– author.

Title: Deconstructing Dr. Strangelove: the secret history of nuclear war films / Sean M. Maloney.

Description: Lincoln: Potomac Books, an imprint of the University of Nebraska Press, [2020] | Includes bibliographical references and index.

Identifiers: LCCN 2019037861

ISBN 9781640121928 (hardback)

ISBN 9781640123496 (epub)

ISBN 9781640123502 (mobi)

ISBN 9781640123519 (pdf)

Subjects: LCSH: Nuclear warfare in motion pictures. | Cold War in motion pictures. | War films—History and criticism.

Classification: LCC PN1995.9.W3 M35 2020 | DDC

791.4/658—dc23

LC record available at <https://lcn.loc.gov/2019037861>

Set in Arno Pro by Laura Buis.

For Dad,  
who showed me the way.

“A wild goose never raised a tame gosling.”—Irish proverb



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## ACKNOWLEDGMENTS

This is always a fun section in any book. Recounting the large number of people who assisted or observed with either curiosity or bemusement also brings to mind all of the adventures undertaken in the pursuit of this project. And there were many during the research and writing phases of *Deconstructing Dr. Strangelove*. This book involved a combination of archival research and field research, the fieldwork usually undertaken while traveling by motorcycle. My wife, Larissa, accompanied me on several of those trips, to Ashland, Nebraska; Rome, New York; Battle Creek, Michigan; and innumerable remote locations of abandoned nuclear weapons infrastructure. Always ready for an adventure under all types of climatic conditions, there she was, smiling and curious as to where we were off to next and where it fit into the puzzle. I would also like to recognize my good friends Matt Larson, Rob Silliman, Dave McDermott, Glen Barney, and their families for all of the support and assistance they provided not only during the course of this project but also back to the 1980s when we started exploring abandoned missile sites together while we were still in high school.

The original structure of the book evolved after conversations with Stephen Wrinn, who said, approximately, “Why do just *Strangelove*? Why not do the other movies too?” You can blame Steve for this crucial expansion, as the original concept would have, in retrospect, been far too narrow and less interesting. Similarly I have to profusely thank Tom Swanson for his willingness to see the project in its breadth, depth, and scope and not cut it to pieces to satisfy some fear-filled, self-limiting commercial and/or ideological procrustean bed. The publishing industry desperately needs more Tom Swansons. Fritz Heinzen, my indefatigable agent, fixer, facilitator, and close

friend, was essential in getting the manuscript to print. I would particularly like to thank Mike Whitby at the Directorate of History for giving the manuscript a thorough and critical eye. The staff of the University of Nebraska Press/Potomac Books was superlative as usual.

The next group I would like to direct my thanks to contains all of the former Strategic Air Command (SAC) personnel who shared anecdotes and insights and who strongly encouraged me to balance the slanted perspective on nuclear weapons with the facts and the context of the activities they were engaged in during the Cold War. Among them I would like to thank Earl “Mac” McGill for, in addition to other things relating to B-52 operations, teaching me offset bombing. Jim Boensch instructed me on the proper care, feeding, and launch of a Minuteman II. Bill Ossenfort and Ray Hildebrant enhanced my knowledge of B-52 and KC-135 alert operations; Arnie Johnson dramatically improved my understanding of Operation Chrome Dome. This book would be deficient if Larry Eastland, John Reynolds, and Darrell Schmidt did not assist me with understanding B-58 operations. Jim Gilman explained how to repair B-47s under alert conditions. Philip Moore explained the dark arts of the long lost Blue Scout system. Finally, Maj. Gen. Bill Doyle ensured the accuracy of my understanding of the role of the airborne emergency action officer on Looking Glass aircraft. I would particularly like to thank all of the retired SAC personnel who contribute to Fans of the Strategic Air Command Facebook page and to the admins Timothy Mills, David Fransen, Jeff Jackson, Tim Mello, and Tom Renk.

The staffs of the archives I buried myself in and the museums I had access to and the FOIA entities at certain government agencies are due the bulk of my thanks. Let’s start with the archives. Thanks particularly to the staff of the Air Force Historical Research Agency, especially Cathy Cox, Marcie Green, and Geoff Henson. In addition to Agency staff, other U.S. Air Force FOIA personnel crucial to this book are Theresa Corbin, Renee Kaffenbarger, Tech. Sgt. Meegan C. Haynes, Janet F. Beasley, Candice Velazquez, Crystal Delk, and Staff Sgt. LaTeasha Mayo. In this regard I would also like to thank Maj. Gen. Richard M. Clark, 8th Air Force commander, for personally signing off on the declassification of SAC records that significantly predate his and my existence on this Earth.

This book benefited from substantial field research. I can't thank the friendly, knowledgeable, and dedicated staff of the Strategic Air Command Museum enough, especially Brian York, the curator, and particularly Joe Vrana, Mark "Hambone" Hamilton, Dan Kirwan, Allen Jones, and Christina Jones from the restoration staff. The support I received from them was superlative, and the museum is truly a monument to SAC and its personnel.

The existence of the Minuteman Missile National Historic Site in South Dakota was crucial to this book, so I would like to particularly thank Superintendent Eric Leonard and all of his staff for their time and hospitality. Eric's tutorial on the politics of the MMNHS itself deserves to be converted into a dissertation, and the U.S. Parks Service should use the Leonard-led MMNHS as a model for other Cold War heritage sites.

Equally I'd like to thank Dan Kueker at the South Dakota Air and Space Museum at Ellsworth AFB for his assistance, particularly with the Minuteman II Missile Procedures Trainer, our discussion on Victor Alert, and his insights into preserving Cold War history. Another crucial entity in my journeys was the National Museum of Nuclear Science and History in Albuquerque. I want to thank the curator, David Hoover, for taking the time to walk me through his unique and fascinating collection of nuclear weapons and delivery systems.

I would like to thank the staff of the Department of Energy Nevada National Security Site for the mind-blowing tour of their vast enterprise. Thanks also to the North American Aerospace Defense Command (NORAD) for an equally eye-opening tour of the Cheyenne Mountain Facility.

The Library of Congress Manuscript Division is populated with knowledgeable, calm, cool, and collected professionals, who in their quiet and unruffled way instantly corrected errors on my part when I requested the wrong group of boxes. The staff of the small but powerful Syracuse University Special Collections archives, particularly Jacklyn Hoyt and Nichole Westerdahl, is equally efficient. Responding to someone who dropped into the University of Iowa on a Harley breathlessly requesting access to the Collins Radio Company papers was handled with alacrity by the archive staff there.

I am not sure exactly who to thank at the CIA for their impressively rapid responses to my FOIA requests. The front man for the Information and Privacy Coordinator appears to be “Michael Lavergne,” obviously a pseudonym, yet I got everything I asked for in a timely fashion. Another intelligence organization could learn from them and stop pretending that material produced half a century ago actually has national security implications this far into the twenty-first century. A special word of thanks also to Michael Holm, whose detailed compilations of the Soviet Cold War air order of battle were invaluable.

There are just too many people to thank at all of the museums I visited. To the knowledgeable docents, the enthusiastic tour guides, and everybody else I encountered who are determined to preserve the history of the Cold War: thanks for your hospitality and assistance. These include the Air Mobility Command Museum, Dover, Delaware; Battleship Cove at Fall River, Massachusetts; the Greenbrier bunker in West Virginia; the Grissom Air Museum in Peru, Indiana; the Loring Military Heritage Center in Limestone, Maine; the March Field Air Museum, Riverside, California; the NASA Wallops Island Flight Facility Visitor Center, Virginia; the National Atomic Testing Museum, Las Vegas; the National Museum of the U.S. Air Force, Dayton, Ohio; Patriot’s Point Museum in Charleston, South Carolina; the Pima Air and Space Museum, Arizona; the Ronald Reagan Minuteman Missile Site, Cooperstown, North Dakota; the Ronald Reagan Presidential Library and Center for Public Affairs, Simi Valley, California; the St. Mary’s Submarine Museum, South Carolina; the Titan Missile Museum, Sahuarita, Arizona; the Valiant Air Command, Titusville, Florida; and, last but not least, Wings Over the Rockies Air and Space Museum at Denver, Colorado. Plus a special thanks to Harrison Ford.

Thanks also to Mike Tsukamoto at the Air Force Association for his astonishingly rapid response on photographs and to Diane Rowan for facilitating that connection. Thanks also to Martin Healy and Peter London at HarperCollins and Cris Piquinela at Curtis Licensing for assisting me with permissions. And finally, thanks to Cassandra Barbour at Entertainment Clearances Inc. for providing me with guidelines for use of material owned by Sony Pictures.

DECONSTRUCTING *DR. STRANGELOVE*



## Introduction

When I was growing up in the 1970s, my parents and I discussed dental hygiene over the supper table one night. This led to my mom revealing that I did not have cavities because, when I was conceived and born, our water was fluoridated. I had no idea this was a bad thing until my dad joked that it was a Commie plot. This was, incidentally, the morning after we watched the Soviet Union's nuclear-powered Kosmos 954 satellite break up in the sky on reentry over northern Canada. My dad described the hysteria surrounding fluoridation in the 1950s and told me it was a plot device in a movie that involved nuclear warfare.

In those days video cassette recorders (predecessor to DVD players, that is, a device that used video tape as opposed to digital media) were not household staples. If you wanted to see an older movie, you had to wait until it was on television, and even then it was cut to pieces with ridiculous commercials, like the ones advertising Mr. Clean right in the middle of the castle fire in *Where Eagles Dare*.

We were lucky, however, because we had the Plaza Theatre in Calgary. The Plaza was a run-down 1940s movie house lovingly operated by film students from the University of Calgary. Every Friday and Saturday night they played an actual celluloid film. Kubrick. Lean. Hitchcock. *The Rocky Horror Picture Show*. Patrons were encouraged to dress up for the occasion (not just for *Rocky Horror*, incidentally), so, for example, when *Lawrence of Arabia* played, moviegoers wore Arab headdresses and salaamed each other. This became a problem

when *Jesus Christ Superstar* played on Easter, as the crosses sometimes wouldn't fit through the door.

I got to see *Dr. Strangelove* on the big screen in all of its glory, as Kubrick intended it. Suffice it to say, I was hooked on nukes. Twenty-five years later, after watching *Fail-Safe*, *On the Beach*, *The Bedford Incident*, *By Dawn's Early Light*, and practically every postapocalyptic film to boot, I published my PhD dissertation, "Learning to Love the Bomb: Canada's Cold War Strategy and Nuclear Weapons, 1951–1970."

The 1964 comedy film *Dr. Strangelove; or: How I Learned to Stop Worrying and Love the Bomb* has achieved cult and now iconic status in popular culture. It is also the flagship of a entire genre of Cold War nuclear crisis films, many of which are employed in academic venues to depict the prime absurdity of the Cold War: nuclear deterrence and its possible failure. The films of the Cold War nuclear crisis genre are regularly used by educators to illustrate nuclear warfare theories of the time. The reality is, however, that the further we get away from those dangerous years, the more art takes over from life, history, and reality. The Cold War deterrent system employed millions of people and was responsible for the incredible technological world that we now enjoy. It was responsible for putting a man on the moon and returning him safely to Earth. It was responsible for the internet, the microwave, the personal computer. The Cold War defined two generations. Is it appropriate that the most visible representative of it in popular culture mocks the sincere efforts taken to protect our way of life? Or that other films treat it with the deadly seriousness of a heart attack?

Of course it is. That's the greatness of freedom of speech and expression, paradoxically guaranteed in part by the nuclear deterrent system itself. There were layers of abstraction and absurdity in places like the RAND Corporation and in other "think tanks." However, those who also served should get their due. And *Dr. Strangelove* does not give it to them. *Dr. Strangelove*, *Fail-Safe*, *The Bedford Incident*, and others are about the internal and external failures of the deterrent system. That system did not fail in real life. Why is that? How is that? Can we use *Dr. Strangelove* and related films as vehicles to help us understand the answers to those questions? Having seen

the movie, even understanding that it was fiction, I always wanted to know what was really going on in that secretive world. That was impossible in the 1970s. Thirty years after the end of the Cold War, we have much better insight.

Cold War nuclear crisis films like *Dr. Strangelove*, *Fail-Safe*, and *The Day After* are, in many ways, very different from your average Saturday afternoon disaster flick. The idea that life on Earth can be eradicated by mechanical and chemical devices of our own manufacture is terrifying. During the course of the nuclear age, indeed from the start of it, voices on the spectrum from the merely skeptical to the vocally hysterical have been raised decrying this state of affairs. At its heart, the argument appears to be one of humanity versus inhumanity, life versus mass death. Good versus evil.

Then there was the political angle to go along with the emotional. During the twentieth century both the skeptical and the hysterical voices were generally subsumed by the ideological context of the Cold War. The co-optation of the antinuclear movement by our opponents in the Soviet Union and their allies led to simplistic guilt by association in some quarters in the West, who decided that if you were antinuclear, you served Moscow's interests, either overtly or covertly. Similarly the Soviets' deliberate instigation and activation of antinuclear themes in the media, academia, and politics made it increasingly difficult to maintain skepticism without being associated with Soviet objectives.

The collapse of the liberal consensus in the United States and its subsequent youth revolution in the 1960s merged anti-Vietnam War politics with anti-American military politics. If you were against Vietnam, you were against The Bomb, and vice versa. The United States was the Evil Empire of the 1960s. Anything associated with that empire was therefore bad. And that included nuclear weapons.

It was simply impossible to examine nuclear issues during the second half of the Cold War without being drawn into one camp or the other, especially in the polarized political landscape of the United States, where academic study of the issues was seriously divided. Every element was seen through ideological lenses. Historian Gar Alperovitz, for example, argued that the U.S. decision to use atomic

weapons against Japan was really intended to intimidate the Soviet Union. If this is true, then the United States, not the Soviet Union, is responsible for initiating the Cold War. Not so, said another historian, John Lewis Gaddis: the Soviets were conducting espionage and stealing nuclear secrets during the war; therefore they were an enemy before Truman's decision to bomb Hiroshima and Nagasaki in 1945. And so on and so forth. Yea, unto the twenty-first century.

The literature on U.S. foreign policy in the 1980s and 1990s seemed fixated on using the Vietnam lens to view all topics. Bruce Cumings wrote two books in an attempt to prove that Korea was Vietnam before Vietnam was Vietnam. Others insisted that it wasn't a question of "CIA bad, KGB good." It was just "CIA bad, CIA worse." Other than John Barron and his best seller *KGB: The Secret Work of Soviet Secret Agents*, few talked about the KGB or the GRU, the Soviets' foreign intelligence services. That mentality was essentially transferred to examinations of nuclear weapons. The only material in the public domain focused on the American nuclear program, which produced an exceptionalist distortion: if one knew about American nuclear accidents, for example, and nothing about Soviet nuclear accidents, it appeared the United States was engaged in reckless endangerment of the planet. Silence from the other side of the Iron Curtain as this was useful to the Soviets in the pursuit of their objectives.

This state of affairs started to change in the 1990s with a temporary opening in various Soviet and ex-Warsaw Pact archives. That window of opportunity was exploited as much as possible until the Putin regime closed it around 2000. Declassification efforts in the United States have seriously questioned the prevailing academic notions of the Cold War so prevalent in the 1980s. The Rosenbergs *were* guilty, and there *were* numerous other "atomic spies." The design for The Bomb *was* stolen. The Communist International really *was* a global Communist conspiracy. The Weather Underground really *were* Communists trying to overthrow the United States. Stalin, the writer Martin Amis finally admitted, *was* a really, really bad guy.

In the twenty-first century it is evident that much of the scholarship dealing with the Cold War and nuclear issues from the 1980s and even into the 1990s is obsolete. This is no calumny on those

who were intensely interested in studying such affairs at the time. They simply didn't have access to the information that we do now. In many cases these scholars were operating in the Cold War ideological context, which may have placed limits on the types of questions they were asking and thus the information they were looking for.

Interested parties continue to write about Cold War nuclear issues today; this is a good thing. However, in many cases the discussion is dominated by an air of sensationalism coupled with document hunting in order to reinforce existing prejudices. Some of those prejudices are holdovers from the 1960s, 1970s, and 1980s.

Take the case of John F. Kennedy requesting a study and then a plan to destroy the Soviet Union's strategic nuclear capability in 1961. In the Cold War ideological context, the information would have been framed and labeled as a "first-strike plan," that is, a morally wrong and perfidious plan. To those conversant with the Cold War ideological debate over first strike and second strike, this is a staggering revelation. The Soviet propaganda machine frequently accused the United States of planning a first strike, which the Soviets used to justify certain of their own aggressive behaviors. To those not familiar with that debate, the new documentation released from the archive just becomes a conversation between Kennedy and his staff and advisors about possible extreme options during the 1961 Berlin crisis. Since it didn't happen, what's the big deal?

This brings us to the great Cold War nuclear crisis films. They were a staple of the Cold War popular cultural milieu from the 1950s to the 1980s. Their primary purpose was to entertain an audience and make money. Their secondary function was to be skeptical about what seemed at the time to be an insane state of affairs. The methodology used was sensationalistic: to shock, to excite, and to provoke. And what was more shocking, exciting and provocative during the Cold War than the possibility of an end to life on Earth? And an end to *your* life too?

Today there is increased interest in nuclear weapons, particularly accidents. In the past decade more information on American and British nuclear accidents during the Cold War has become available. This has triggered document hunting by media personalities,

their researchers, and bloggers. Some are interested in the technical aspects, for instance, how a Mark 39 nuclear bomb's safety systems worked. The Japanese refer to such people as *otaku*. The British use the term "anorak." In North America they are "geeks." Though the technical data they uncover are fantastic, many writers uncritically repeat information verbatim, without regard to policy context or personality, thus reinforcing obsolete, inaccurate, or even ideological points on topics that scholars have labored to clarify. Some writers retain an ideological agenda from the Cold War and endeavor to prove they were right back then. Some employ history and historical documents selectively to bolster an argument related to a current disarmament or environmental agenda.

The freedom to pursue these interests in the context of a free society is one reason the Cold War was fought. That said, sensationalism vis-à-vis nuclear accidents, rogue generals, and "how close we came" does not help us answer the most important question of all: Why didn't a nuclear war happen?

With supposedly rogue generals and imperfect safety systems, what exactly prevented the mass detonation of nuclear weapons between 1946 and 1991? Leaning on luck, as some do, is an intellectually lazy way out. But some combination of factors contributed to the nonuse of nuclear weapons. Sensationalism may distract and obscure an examination of these reasons.

What if nuclear deterrence policies actually deterred, and could be proven to have deterred? Then those who argued thirty and forty years ago (or today) that it really didn't or couldn't or shouldn't would be honor-bound to engage in vigorous ideological debate. But that goal is not the same as the search for historical reality. Which leads us to several important questions: What were the components of the deterrent system, and how did they actually work? And what was the role of professionalism in getting them to work?

This is where the *otaku*, the anoraks, and the geeks can significantly contribute to the larger debate. Unlike other types of history, technical data are absolutely critical to understanding nuclear history. Because the arcane language employed by the nuclear high priests was used to keep out the unworthy and the unbelievers, cracking

that code, understanding that language has utility in understanding why nuclear war didn't happen.

The nuclear crisis films were arguably part of why a war didn't happen. They showed viewers what could happen and what the results might look like. For example, despite attempts by some historians to downplay the effects of the film *On the Beach* and suggest the antinuclear movement had more influence, it is clear that the film played a positive role in stimulating discussion, debate, and even activism. And it is evident from newly released material that Ronald Reagan was tremendously and personally affected by the 1983 TV movie *The Day After* and that this influenced policy in a positive fashion.

However, the films mislead us when they examine how the nuclear deterrent mechanism worked. They exaggerate in some cases (*Dr. Strangelove*, *On the Beach*), and they sensationalize in others (*Fail-Safe*). They rely on excessive emotionalism (*Threads*, *The Day After*). The villains are invariably rogue American military personnel employing secret and thus antidemocratic technology. Never identified as culpable are the global political situations or the interested parties that maintain an oppressive occupational military system far in excess of defensive requirements, which forced the creation of the nuclear mechanism in the first place.

There were reasons for U.S. nuclearization, and given what we now know (or have reconfirmed) about the Communist system under Stalin, Khrushchev, and Mao, they were legitimate reasons. America's crimes, if one wishes to call them that, were miniscule compared to what went on Mao's China. Variants of the Soviet AK-47 assault rifle distributed by the Soviet Union and China have killed far more human beings on this planet than American nuclear weapons ever did.

The Cold War nuclear crisis films are thus a two-edged sword. They raised awareness of some of the larger issues surrounding the nuclear age, but they also distorted the reality of how the mechanisms actually worked and even called into question whether they could work. The films argue that the human factor will eventually cause failure; they don't show that mechanisms were put in place to prevent failure, thus presenting an unbalanced view.

*Deconstructing* Dr. Strangelove examines how well the Cold War crisis films stack up against historical reality, or at least as much of that reality as we can reconstruct with confidence. First, I examine the source material on which the films are based. Who wrote these books, and why? What changes were made when were they transformed into film? What were the repercussions of this process on the message? Second, I address the fact that the mental stability of senior military personnel is seriously questioned in almost all of the films and is indeed central to the drama generated by the film scenarios. It was inevitable that comparisons would be made to real people and that the fictional portrayals would influence how we think of key military leaders from the period. To what extent are those perceptions distorted? Perhaps there was more going on behind the scenes than was commonly understood. Third, the “war room,” an arena where nuclear crises are played out, is a central element in all of the films. I describe what they looked like in the 1950s and 1960s. And as we will see there were in fact many war rooms. Fourth, the Strategic Air Command bomber force, like the war room, is central to almost all of the nuclear crisis films. I explain how it really worked. Could it have been released without presidential authorization? How was it supposed to be used? I have included four vignettes to illustrate how the bombers portrayed in the films would have been employed at the time using real weapons and actual targets. Fifth, I tackle the little-known and misunderstood subject of the ballistic missile force and the apparently malevolent computers they were hooked up to. The intercontinental ballistic missiles (ICBMs) were vulnerable to hijacking and launch by either humans or other computers, or both. Sixth, I discuss the nuclear submarine movies, which depicted cramped claustrophobic cylinders loaded with world-ending weapons controlled by stressed-out crews. Why did those submariners never lose their cool and launch, especially while being hunted by nuclear-armed adversaries?

*Deconstructing* Dr. Strangelove will take us on a journey into the past and show us what the tools of deterrence were, how they actually worked, and why. In doing so this work will provide crucial context to that highly specialized genre, the nuclear war film.

## ONE

### Book! Movie!

#### The Literary Genesis of the Cold War Nuclear Crisis Film

There is a unique genre that deals specifically with Cold War–era nuclear crises. This genre started with a “boom!” in the mid-1950s, peaked by 1965, then echoed in the early 1980s before fading away with the end of the Cold War in 1991. During the course of its run the genre contained best-selling books, some of them selling millions of copies, and numerous critically acclaimed films that are still viewed today and are even used as teaching tools or as texts reflecting the Cold War. The novels influenced the movies, and both continue to have a substantial impact on contemporary social discourse and popular culture.

But what exactly was a “nuclear crisis”? The unique historical structure of the Cold War included three constituent elements. The first was a precariously balanced world order divided between Communist totalitarian states, led by the Soviet Union and China, and the free market democracies, led by the United States. The second was the fact that these systems competed with each other for influence in the uncommitted parts of the world. This competition took myriad forms, including propaganda, covert and clandestine activities, diplomacy, development aid, space and sea exploration, and the global presence of armed forces operating in close proximity to each other in contested areas. The third element was the presence and deployment of extremely destructive weapons that relied on a scarce, unique, and secretive form of detonation. A crisis existed when all of these elements collided at discrete points in time and the possibility of nuclear weapons use became elevated as a result.

In the eighteenth and nineteenth centuries European nations competed for space in the multilateral global order, and when that competition got too intense, local or regional conflicts took place. These were usually settled using diplomacy. If diplomacy failed, nations would go to war with each other, and when one side was spent or decided that it was no longer capable of carrying on, diplomacy kicked in again and peace was declared. I know of only one film about a nineteenth-century global crisis: *55 Days at Peking* (1963), which depicts an American-led multinational mission to rescue diplomatic workers besieged by Chinese revolutionaries.

Why are there no other films dealing with nineteenth-century crises? Simply put, because such crises moved slowly and were not very dramatic. There was no sense of urgency in the nineteenth century on par with that of the late twentieth. If one were produced, such a film would consist of the participants moving back and forth between sumptuous hotels in plush carriages with lots of smoke-filled backroom deals being made over port and prostitutes. There would be footage of a lot of paper inked up with quill pens, balled up, and the text rewritten on a daily basis, to be balled up again until everybody agreed to the wording and implications. This could take days or months. It could take weeks to communicate with far-flung forces in, say, Africa or India. Movies are made about the fictional Richard Sharpe and the 94th Rifles in Spain, not about Metternich. We have to admit that, except for the average soldier in the field, the stakes were comparatively low in the nineteenth century.

Now consider a series of extremely large explosions that spread death-dealing material around the planet. Consider it happening in hours. Minutes even. Now that is dramatic. Sensational. Visceral. Urgent. Superpowers rubbing up against each other in the far-flung reaches of the Cold War are not Sharpe and the 94th Rifles sortieing out from Portugal to contribute to Napoleon's "Spanish ulcer." If he had had them, Old Boney would have used nuclear weapons to cauterize the wound. When twentieth-century superpowers collided, at whatever level, the possibility of *escalation* existed. This word was virtually unknown outside of the boardrooms of the Otis Elevator

Company prior to the 1950s. Escalation became *the* underpinning concept of the Cold War system, driving all of those fears home with an atomic-powered nail gun. We have a crisis if these forces come into contact because it could lead to nuclear weapons use and thus the End of Civilization As We Know It.

But do all of the texts we are about to discuss fit into this schema? Is it simply the possibility of an escalatory process and the presence of nuclear weapons that define the genre? Certainly there were science fiction novels, including H. G. Wells's *The World Set Free* (1914), that suggested there would be nuclear weapons in the future, and that they would be destructive. Literature dealing with "superweapons" was published throughout the twentieth century, as described in some detail by both P. D. Smith in *Doomsday Men: The Real Dr. Strangelove and the Dream of the Superweapon* (2007) and David Seed in *Under the Shadow: The Atomic Bomb and Cold War Narratives* (2013).<sup>1</sup> Yet most of this writing predates the Cold War and none was turned into a film or other cultural property that had lasting impact. They were speculative in nature, in some cases decades ahead of actual events, but were not really a reflection of their time.

Indeed practically the day after Hiroshima a flood of literature burst into the magazine stands and bookstores of the West. This literature took many forms: science fiction; scientific and technical nonfiction; strategic, ethical, and philosophical analyses; and more. Almost none of it was commercial enough to be converted to film. And why should it have been? To some people the bombs used against Japan were just bigger bombs. There was nothing special about "special weapons" yet.<sup>2</sup> There was no production line. By 1947 there was only a handful of custom-built atomic weapons, and the parameters of the Cold War would not be firmly established in the public mind until later in the 1940s.

It was only during the Korean War and the concurrent detonation of the first experimental, megaton-yield, thermonuclear weapon that the public connected an overseas crisis and the possibility of extreme levels of destruction, extending to the elimination of civilization. Apocalyptic and postapocalyptic fiction in existence at

the time looked to biological or germ warfare as a world-ender: an example is George R. Stewart's *Earth Abides* (1949).

With the detonation of the Ivy Mike, Joe-4, and Castle Bravo thermonuclear devices between 1952 and 1954, a whole new level of destruction was introduced into the discourse. Ivy Mike erased an entire Pacific island, leaving a water-filled crater nearly a mile across. Footage from the Castle Bravo test showed palm trees burning from the initial pulse of heat from the detonation before they were blown to pieces and scattered by the shock wave. It did not take a great deal of imagination for the audience watching newsreels before the cartoons on a Saturday afternoon in their small-town theater to mentally replace those palm trees with human beings.

Nevil Shute Norway's *On the Beach* (1957) is considered by many to be the seminal mainstream novel dealing with the aftereffects of nuclear war. Written by a veteran best-selling author for wide distribution, *On the Beach* hit the stores and newsstands in the summer of 1957, selling over one hundred thousand copies in six weeks. It was also serialized in forty newspapers, guaranteeing widespread distribution. Eventually four million copies were in print, including mass-market paperback editions. The emotional aspects of Shute's characterizations in the novel drove home the point of nuclear weapons effects far more effectively than numbers and theories bandied about by the scientists on the talk shows and in newsmagazines. Some credit the book with invigorating the ban-the-bomb movement in the late 1950s. And as *The Day After* film personally affected President Reagan, so did *On the Beach* affect President Kennedy.<sup>3</sup>

Using nuclear weapons in a world where both sides possessed them could lead to a runaway situation in which larger and larger weapons were used. That, in the jargon of the day, was "escalation."<sup>4</sup> Escalation was bad. Escalation was frightening. But escalation contained an inherent element of suspense. Escalation could, therefore, be made exciting. And profitable. Escalation had a plot line similar to a romance novel or movie: Would he or wouldn't he fully commit? It was only a matter of time before writers started to look at escalation and its effects for dramatic purposes. And that drama translated into film rather directly and easily.

## Peter George's Fear Factor

But what if there were no superheroic brave men around to save us? What if there were only flawed generals, politicians, diplomats, and bureaucrats? And what if complex circumstances related to policy, strategy, and technology already put in motion years previously produced an inexorable momentum that generated a crisis situation that led to thermonuclear destruction? Peter George dreaded that possibility. Ultimately that fear psychologically debilitated and eventually killed him. But not until he had produced two short but powerful works that extended that fear to an audience already primed for more by *On the Beach*.

Significantly, George caught the attention of the Best and the Brightest in the American think-tanks: Thomas Schelling at Harvard sent thirty-one copies of *Two Hours to Doom* (published as *Red Alert* in the United States), the basis for *Dr. Strangelove*, to his colleagues after he read it during a long airplane flight.<sup>5</sup> George also attracted the attention of a certain hot young filmmaker looking for something dramatic to focus on for his next Big Project.

Welshman Peter Bryan George served in the Royal Air Force during and after World War II. Attaining the rank of squadron leader in the 1950s, George was a best-selling novelist writing mysteries and spy thrillers under the pen names Byan Peters and Peter Bryant.<sup>6</sup> It is unclear what, exactly, he did in the RAF in the 1950s. Several websites state, without any hard data, that he worked in the intelligence community. Indeed a careful reading of *Red Alert* would suggest that he did. As with Rascovich and Trew, whom we will soon examine, it is highly probable that George accessed his social network in the RAF to collect information for use in the book. If George was an RAF intelligence officer at this time, it is also highly likely that he would have been privy to sensitive collection activities of the day. These included Project Robin, which involved extremely risky RAF radar mapping penetration and signal intelligence flights undertaken in RB-45C and Canberra jet bombers deep inside the Soviet Union in 1952–55. Such operations involved spoofing and outrunning the Soviet air defense system.<sup>7</sup> If George knew about these operations,

he would have found them dangerous and provocative, likely contributing to his high anxiety.

George told Schelling how he decided to write *Red Alert*: “He was sitting with two others at a table in the officers’ club of an American B-47 base in England in 1957 or 1958 when a bomber took off. . . . The vibration caused a coffee cup near the table edge to crash to the floor. Somebody said: ‘That’s the way World War III will start.’ George responded by phoning his publisher, saying that for an advance he’d take three weeks leave and write the book.”<sup>8</sup>

For the most part those seeking insight into the making of *Dr. Strangelove* glance at *Red Alert* in a cursory manner, note the readily apparent similarities and differences between the book and the film, and then move on to their primary areas of interest. This does not do justice to George and *Red Alert*. *Red Alert* is a highly sophisticated work; it is not merely a basis for *Dr. Strangelove*, and the differences between the two are important ones that highlight what Kubrick later did to distort George’s original messages. Kubrick thought that *Red Alert* was too sophisticated and too technical to bring to the silver screen.

As cultural consumers we are or should be already familiar with the basic plot of *Dr. Strangelove*: a mentally unbalanced U.S. Air Force general deceives his staff and misuses a contingency plan that permits him to unilaterally respond to a Soviet attack. There is, in fact, no Soviet attack. He presents the U.S. leadership with a choice: follow up with the whole force and “win,” or take their chances. He then prevents the recall of the aircraft by defending the base to the death. During the course of the crisis it is learned that the Soviets have a secret “Doomsday Device” that will destroy the world if they are attacked. Despite all efforts at diplomacy and to recall the aircraft, one B-52 succeeds against all odds because the highly trained and professional crew uses their initiative, and the world ends.

*Red Alert* describes a generalized Cold War environment consisting of several discrete aspects that directly influence the decision of a U.S. Air Force general to launch the thirty-two B-52K bombers of the 843rd Bomb Wing that is on airborne alert near the Soviet Union. These are not explored in the film and remain the crucial contrast

between George's book and Kubrick's movie. They are the perception of failure of American Cold War policy generally; the inability of the contemporary nuclear strategy to support that policy effectively; the availability and specific configuration of the technologies surrounding the delivery of nuclear weapons; the ability to launch the forces; and the policy decisions made after the inappropriate decision to launch, which then feeds back into the crisis process, thus exacerbating it. There really was no way this could have translated to film in any coherent manner, yet *Red Alert* was influential in both popular and specialist venues.

The most important character in *Red Alert* is Brigadier General Quinten, the commander of Sonora Air Force Base in Texas, home of the 843rd Bomb Wing. George uses Quinten's conversations with his executive officer, Maj. Paul Howard, as his delivery system on matters of policy and strategy. Quinten represents those who in the 1950s believed that the Truman-era containment and Eisenhower-era massive retaliation policies were failing and dangerously so; in the novel containment consists of: "Economic aid to under-developed countries. Military aid to Europe. [American] Military strength . . . sufficient to deter any large scale aggression." Quinten asserts that the United States has spent billions in aid: "Russian watched us doing it and smiled. In a lot of countries we managed effectively to destroy colonialism. But we didn't supply a political dynamic sufficiently strong to hold off the Communists as well as replace the colonial systems we helped to end. . . . Big business . . . doesn't mean a thing to the peasants of a backward country," whereas superficial Communism does, a thin edge of the wedge which is then exploited by the force of Communist bayonets. The West was tired of war, and the Russians "figured correctly that . . . we wouldn't fight a major war over the Balkans, or the Baltic States, or even China. Those countries went under." As for massive retaliation, "While we were thinking in terms of A-bombs, Russia thought in terms of bayonets."<sup>9</sup>

On the technological front, the Soviets exploited Nazi scientists to work on ballistic missiles as well as exploiting the atomic bomb spy rings to develop the technological capability to "leap frog" over the Americans: "When the first two Russian satellites went into

orbit the writing was on the wall.” As a result, Quinten explains, “the destructive potential of weapons has increased, so the margin of retaliatory time has decreased.” SAC is now vulnerable once the Soviet ICBMs come fully on line: “Three months . . . is the short period still to run before NORAD can effectively track their missiles coming in and give us time to fire off ours and get SAC off the ground.”<sup>10</sup> George has Quinten make the classic case for preventive war, which will likely be fought before 1960, when the window of opportunity closes.

George uses briefings in the novel to explain the Soviet force structure and war planning based on it. Class 1 targets within 1,500 miles of the Soviet Union will be taken out by supersonic fighter-bombers and intermediate-range ballistic missiles. These include the SAC bomber bases in Western Europe, the aircraft carriers of the Sixth Fleet in the Mediterranean, and forces in all European and Middle Eastern NATO countries. London, Paris, and Rome will be destroyed. The Soviets have had the capability of doing this for some time, but as George’s characters explain, “this was meaningless unless Class 2 targets” were destroyed. These were the SAC bases in North America and Okinawa, plus Washington, New York, and Chicago. To carry out attacks against Class 2 targets the Soviets would employ missile-launching submarines, two special regiments of Mya-4 Bison bombers, and thirty-six ICBMs; there are no American ICBMs operational yet. The ICBMs are the critical element as the submarines and bombers cannot reach all SAC bases.<sup>11</sup> That was a relatively accurate reflection of the state of affairs by 1960–61.

The near-operational capacity of the latest Soviet ICBM site has triggered Quinten into action. George notes in *Red Alert* that there was in 1958 a single operational Soviet ICBM site with three more about to come on line, plus the existence of two regiments of Bison bombers. This was in fact accurate information on contemporary Soviet capabilities.<sup>12</sup> The level of detail in *Red Alert* makes it likely that George had access to British intelligence data.

Quinten questions the efficacy of the existing civil-military relationship in the nuclear age, but this is efficacy based more on time or the lack of it during a crisis rather than any other reason. In a

statement that is watered down and parodied by Gen. Jack D. Ripper, his alter ego in *Dr. Strangelove*, Quinten tells Howard, “[Clemenceau] said war was too important a matter to be left to generals. At the moment he said it, he was probably right. But now it’s swung the other way. When a war can be won and lost in an hour after it starts, than war is too important to be left to politicians. The Russians know it. And they also know we don’t work things that way.”<sup>13</sup>

But that is not all. Unlike his alter ego, Quinten’s motives are complex and less rooted in Freudian psychology. There is the past: “We’ve come a long way since Pearl Harbor. That taught us a lesson we’ve never forgotten.”<sup>14</sup> This statement accurately reflects the results of studies made by theorist Albert Wohlstetter on SAC vulnerability that were conducted by the RAND Corporation throughout the 1950s.<sup>15</sup> Quinten believes there is a window of opportunity that will close shortly on the ICBM issue. He is also terminally ill, so there will be no personal or career consequences. But George takes pains to explain that Quinten is also motivated by his observation of the brutal rape culture of Soviet occupation forces in Austria when he was an observer there in 1945, and by the Soviet tanks crushing of Hungarian civilians in 1956. Soviet hydrogen bomb tests and satellite launches are not disconnected from these events. But the *crème de la crème* of atrocities, Quinten explains, is his knowledge that “troops taken prisoner in Korea [were] forced to stand naked on the ice of a frozen river while water was poured over their feet until they were part of the ice. . . . Some of them didn’t give in. They lost their feet. Sometimes they lost their minds, sometimes their lives. My nephew was one of the lucky ones. He just lost his life.”<sup>16</sup>

Brigadier General Quinten is by no means the moral equivalent of General Ripper in *Dr. Strangelove*. And one wonders how much of Quinten’s experiences mirror George’s. Quinten makes a choice, but that choice is driven by a plethora of factors in a complex context, not because Commie fluoridation has made it so he can’t get it up any more with the babes. Of note, George is the only author in this study that does not let the Soviet Union and its leadership off the hook completely. This is a major point of divergence with the Kubrickian worldview in *Dr. Strangelove*, where anybody who is anti-

Communist is a deluded McCarthyite and therefore highly dangerous, especially if he has access to nuclear weapons. One could argue that *Red Alert* could be subtitled “The Tragedy of General Quinten.”

As for the tools of destruction, George was exceptionally concerned that bombers equipped with nuclear weapons would be kept aloft at all hours of the day by aerial refueling to reduce their vulnerability to destruction on the ground by missile. This concept, airborne alert, was experimental, even radical in 1958. It plays a key role in *Red Alert* in that it permits readied aircraft to be employed within minutes of receiving their action messages by Quinten. Two characters in *Red Alert* even reference a 1958 U.S. Air Force press release on the matter and the public furor it caused at the time.<sup>17</sup>

On 7 April 1958 senior United Press journalist Frank Bartholomew posted a dispatch from the SAC underground command post at Offutt Air Force Base. This article was published in practically every American newspaper the next day; in the *New York Times*, reporters elaborated on it with their own information. Extensive foreign coverage followed. In his dispatch Bartholomew claimed that SAC’s B-36, B-47, and B-52 bombers were in “continuous flight” on the perimeter of the Soviet Union and loaded with thermonuclear weapons, that they were kept in place via aerial refueling by KC-97 and KC-135 tankers and could be sent to strike targets in the USSR only on presidential order. The idea of a “fail-safe” point was also mentioned, with Bartholomew walking through a scenario where a plane did not get the message to return. There was also a plethora of quotes from the commander in chief of Strategic Air Command (CINCSAC), Gen. Thomas Power, and details of forward basing in Spain, the Marianas, and Britain. Though we know today that this eventually became SAC standing operating procedure, it was the first time Americans had had access to this level of detail. Within a week the Soviet Union vigorously protested this “provocation” in the United Nations and every other world venue.<sup>18</sup> Thus when Ambassador DeSadeski in *Dr. Strangelove* exclaims in the war room that his source was the *New York Times*, this can be taken as historically accurate.

It is evident that this was carefully planned messaging by Power, but to what extent it had the concurrence of the Eisenhower White

House is unclear. Power published the best-selling *Design for Survival* after he retired in 1964. He noted in the introduction that the first version, written in 1958, was banned by Secretary of Defense Neil McElroy. Power said that he had similar conversations with media and political figures at the time on matters discussed in the manuscript and that he was motivated by the desire to have an educated public involved in democratic processes related to defence.<sup>19</sup>

It is interesting that the members of the Operations Coordinating Board, the Eisenhower administration's high-level psychological operations group, agreed that "sensational newspaper publicity can make the conduct of foreign affairs more difficult. Specific[ally] reports concerning SAC procedures on which the recent Soviet complaints about irresponsible flights with nuclear weapons were undoubtedly based."<sup>20</sup> The Board did not blame Power; they blamed the media. They even considered, again presaging the DeSadeski scene, inviting the USSR's Premier Nikita Khrushchev to SAC headquarters so he could see for himself how the system worked, but "this proposal was not pursued further."<sup>21</sup>

The technological aspects of *Red Alert* explore what George believed to be serious flaws in the command-and-control process for SAC's Airborne Alert Force. It is in this area that George had many pieces of the puzzle but not the whole picture. He depicts in some detail several key processes: the fictional B-52K itself, the bomb arming process, how he believed thermonuclear weapons functioned, and the communications systems in the aircraft. Most important, however, is George's depiction of bomb design because of the role this plays in the climax of the novel. And this is what he got wrong.

The B-52K *Alabama Angel* is on its final run to its target, the ICBM complex. The crew has progressed through a complex weapons-release process that includes the in-flight insertion of the firing mechanism, something that was done on early nuclear weapons but generally not after 1958. George's thermonuclear weapon has a gun assembly primary (similar to the Little Boy bomb) but with plutonium spheres. This primary detonates along with a tritium core, which then detonates deuterium and produces a 15-megaton yield blast, remarkably close to the actual yield of the Castle Bravo shot in 1954.<sup>22</sup> In

1958 George conflated the failed Thin Man atomic bomb design from 1945 with some of the basic essential elements of the alternative conceptual multistage thermonuclear bomb designs of the day.

As the B-52K bomber prepares to drop, it gets hit and crashes before the arming safety process is completed. The bomb breaks up, with the secondary stage falling off and the primary detonating with a 200-kiloton yield. This yield is remarkably close to the George test shot, which was one of the first thermonuclear process experiments in the Greenhouse tests of 1951. In *Red Alert* the primary detonates on impact because it is a gun assembly device. This gives the Soviet leaders the excuse they need to stick it to the Americans, who have agreed to exchange Atlantic City for Kotlass, the city nearest to the ICBM base.

In actuality the safety mechanisms of the day were such that this could not have happened. Similarly the idea that nuclear release authority could be predelegated via something like *Dr. Strangelove's* Plan R to a wing commander that had forces on airborne alert and that no authentication system was necessary beyond the wing commander and his deployed forces does not stand up to historical reality, as we will see later. However, George could not have known that when he wrote *Red Alert*. That particular flaw gets transferred into *Dr. Strangelove* and transmitted to a broader audience.

There are many elements in *Red Alert* that do find their way unscathed into *Dr. Strangelove*. These include the Doomsday Machine, though in the book it is triggered by people, not “automatically by a computer.” There is a CRM-114 communications device on board the mythical B-52K to screen incoming transmissions; it fails in both book and film. The Airborne Alert Force “X Point” (along a line from the Arctic to the Persian Gulf, where the B-52Ks turn around) was in reality called the Positive Control Point.

Other elements are not translated into the film: the concept of proportional exchange, one city for another to prevent greater war, makes it into *Fail-Safe* and, in another form, into *The Bedford Incident*, but not the film *Dr. Strangelove*. There is no Dr. Strangelove character in *Red Alert*. An important theme in *Red Alert* is that there is an inexorable, uncontrollable process in play of which a nuclear crisis

is only one part, and there is no way of stopping this inevitable race to the abyss. That is what George feared the most, not rogue U.S. Air Force generals. The United States was being forced into a corner by circumstances, and the results were not going to be pretty.

George's final work, *Commander-1* (1965), makes *On the Beach* look like an exercise in ecstatic joyfulness. A U.S. Navy research submarine conducting long-term human relationship experiments in the Arctic, a sort of sexual version of the 1960 voyage of the USS *Triton*, survives and redeploys to a special survival base island, but its captain evolves into a fascist dictator and forces the survivors to take special thought control narcotics.<sup>23</sup> Dissenters are executed by machine gun, and a special Strangelove-esque genetic breeding program is implemented. Technically *Commander-1* belongs in the realm of postapocalyptic fiction, though it depicts a detailed third-party initiation scenario by which the war starts.

The depressive tone of *Commander-1* clearly reflected George's deepening personal turmoil over the future of the World As We Know It. He committed suicide in 1966, using the same method that one of the characters in *Commander-1* does when he can't handle the stress of "survival" any longer.<sup>24</sup>

### Competitive Escalation: *Dr. Strangelove* and *Fail-Safe*

It took a bright young director to fully realize Peter George's fear factor on the silver screen. Getting there, however, was far more involved and convoluted than merely producing a screenplay based on *Two Hours to Doom / Red Alert*. There was a whole Kubrickian process that George's book had to pass through before Dr. Strangelove rolled out in his wheelchair and started gesticulating. That process involved the work of others. And even a pair of competitors.

In December 1959 a short story called "Abraham '59: A Nuclear Fantasy" appeared in *Dissent* magazine. "F. B. Aiken" was the pen name for an up-and-coming academic, Harvey Wheeler. Wheeler, who served in the U.S. Army, was left with a "presentiment of nuclear catastrophe" after the atomic bombing of Japan; this propelled him to study political science, which led to numerous books on American politics in the 1950s. "Abraham '59" started out as

“Abraham ’56.” Wheeler asked the question: What if SAC bombed the Soviet Union by accident? How could a full-scale nuclear war be prevented? He had already posed the question to colleagues, who had no solution. “Abraham” was one approach: if SAC hit a city, then the president had to somehow contact the Soviet premier and offer up an American city for destruction in exchange and stop any further escalation. Proportionality was the solution. Wheeler shopped the idea around. At a party attended by psychologist B. F. Skinner, military historian Walter Millis, and political scientist Eugene Burdick, all agreed that the “Abraham” scenario was possible and that it had to be published. There were no takers on the literary scene, but with some persistence the *Dissent* article eventually emerged.<sup>25</sup>

In 2000 Wheeler alleged that George had been a fiction editor at more than one of the U.S. magazines to which he’d sent “Abraham ’58,” implying that George plagiarized him. At this point in history there is no conclusive evidence that this occurred, and there appears to be nobody from that period still alive who can contradict Wheeler’s assertion.<sup>26</sup> The premise of the two works is similar, and the concept of proportionality as a solution exists in both, but George’s depiction has significant technical and strategic dimensions that Wheeler, who did not have anywhere near the same level of access, does not have. And unlike Wheeler, George was driven by a variety of concerns, not a singular one.

When “Abraham ’59” appeared, it was at the end of a long year that saw several seminal works on nuclear affairs. Bernard Brodie from RAND published *Strategy in the Missile Age*. Albert Wohlstetter, also from RAND, published “The Delicate Balance of Terror” in *Foreign Affairs*, whose editors then turned down Thomas Schelling’s “Surprise Attack and Disarmament,” which riffed off of Wohlstetter. “Surprise Attack” found a home in the *Bulletin of the Atomic Scientists*. These were three high-profile pieces, all of them reinforcing the same message in different ways: the United States and its bomber force was vulnerable to ballistic missiles; there was an increased need to respond quickly to threats or attacks; and the country was vulnerable to catastrophic miscalculation because of both.<sup>27</sup>

The national prominence and commercial success of nuclear fear likely led Wheeler to connect with Eugene Burdick, who in 1958 had just published, with William Lederer, the notorious best seller *The Ugly American*, which drove the Eisenhower administration crazy with its depiction of the failing development competition with Communism in the decolonizing Third World. Burdick was a former naval officer, war hero, and development specialist who had degrees in psychology and philosophy.<sup>28</sup> Ed Kuhn, an editor at McGraw-Hill, was on the lookout for controversy and met with Burdick and Wheeler sometime in 1960 or 1961 to craft what would become *Fail-Safe*. According to Wheeler, Kuhn asked, “You fellas ever heard of a British novel with a similar plot?” Both replied in the negative. “No matter . . . I’ve seen it. Not very good. Back to work.”<sup>29</sup> It was only years later, apparently, that Wheeler realized he was referring to George’s *Red Alert*.

But there is more to this story. In December 1961 Burdick sent to Harris-Kubrick Pictures a “partially completed novel and outline of a novel tentatively entitled *Fail-Safe* . . . for [their] consideration in connection with the potential purchase” of film rights. According to the film historian Peter Kramer, “Kubrick was not interested in the offer, but immediately recognized the similarities between *Fail-Safe* and *Red Alert*, and hence the danger that someone else might pick up the film rights for *Fail-Safe* and produce a rival picture. In preparation of a possible plagiarism suit, Kubrick sent Burdick and his co-author Harvey Wheeler, via registered mail, a copy of *Red Alert*, ‘to which we own the exclusive world-wide motion picture and allied rights.’ . . . This established the fact that the two authors had indeed been familiar with *Red Alert*.”<sup>30</sup>

Despite this, the product of Wheeler, Burdick, and Kuhn’s deliberations became the *Saturday Evening Post* excerpt article on 13 October 1962, and then the runaway best-selling novel *Fail-Safe*, published in December 1962. In effect, *Fail-Safe* is an elaborate version of “Abraham ’59” with as much technical detail as the three could glean from various U.S. Air Force magazines and the *New York Times*. Apparently none of the American reviewers noted its similarity to *Red Alert*; this can probably be chalked up to a not-invented-here attitude

prevalent in American culture and epitomized by Kuhn's remarks to the authors.

Concurrent with the *Fail-Safe* process was Kubrick's interest in George's work. Kubrick was an omnivore, gobbling up everything on the subject of nuclear war after reading Schelling's "Delicate Balance of Terror." (Writer Terry Southern once counted sixty-three volumes on Kubrick's bookshelf dealing with nuclear affairs.) When he asked Alastair Buchan, the head of the recently established International Institute for Strategic Studies, for something to read, Buchan recommended *Two Hours to Doom* (*Red Alert* in the United States). An alternative or possibly concurrent version of this anecdote claims that Kubrick read a Schelling article in *The Observer* and another, "Men, Meteors, and War," in the September 1960 issue of the *Bulletin of the Atomic Scientists* that praised *Red Alert* effusively. Both events took place either in 1960 or 1961 and thus prior to Burdick's sending the incomplete "Fail-Safe" material to Kubrick.<sup>31</sup>

Then the soon to be former RANDist Herman Kahn weighed in. Kubrick read Kahn's *On Thermonuclear War*, which appeared in 1960 and achieved notoriety in days, if not hours, after its release. The auteur and the provocateur started to correspond in January 1961, and in time there were face-to-face discussions about *The Unthinkable*. Kahn's influence on the shift from *Red Alert* to *Dr. Strangelove* was profound.

Unlike the other commentators on nuclear war, including Schelling, who published *The Strategy of Conflict* in the same year, Kahn's tone and approach shocked, intrigued, and outraged the reading public all at once. Schelling provided an eyes-glazed-over Organization Man math text, while Kahn produced the academic equivalent of an EC Comics horror story, complete with the academic equivalent of violence, gore, and embedded morality tales. Indeed the quote most often associated with *On Thermonuclear War* was from James Newman's *Scientific American* review describing the 668-page book as "a moral tract on mass murder: how to plan it, how to commit it, how to get away with it, how to justify it."<sup>32</sup>

In many ways *On Thermonuclear War* is almost as much source material for *Dr. Strangelove* as *Red Alert* and thus is worth going into

here. The basic argument is that the United States won't reach the year 2000—or 1965—unless it gets serious about nuclear war. To explain this, Kahn introduced the American people to the holy jargon employed by the priest-like strategists of the secretive RAND: Finite Deterrence, Counterforce as Insurance, Pre-attack Mobilization Base, Credible First Strike Capability. He challenged his readers with the concept of World Wars I through VIII and boldly asked, “Will the survivors envy the dead?”<sup>33</sup>

Kahn slammed Nevil Shute's *On the Beach* as “badly researched” and taken too seriously. Thermonuclear war would be extremely damaging, but there would be survivors. Therefore it was incumbent on leadership to accept the fact that national objectives would still have meaning after a catastrophic attack. Kahn tore apart “finite deterrence” and similar ideas that would later be dubbed mutual assured destruction. *On Thermonuclear War* was an assault on the abject refusal of some commentators and policymakers to seriously examine and prepare for a postattack state.

Sharon Ghamari-Tabrizi asserts that Kahn was employing the “theatre of the absurd” in *On Thermonuclear War* to get his points across, in the same way *Mad Magazine* and EC Comics engaged in social commentary using “sick” humor, a new comedy type that emerged in the United States during the 1950s.<sup>34</sup> For example, a whole section of the book deals with genetic mutations and appears to calculate the relative numbers of genetically disordered children in the United States, Europe, and the USSR before and after a nuclear war, prefiguring *Dr. Strangelove's* commentary on survivors “breeding more prodigiously” after emerging from the mineshafts. Kahn even asked, “Is it just as bad to kill a man 10,000 years from now as to kill one today?” and pointed out, “Only survivors can have children.”<sup>35</sup>

Buried amid the copious amounts of verbal debris is Kahn's argument for a robust deterrent and a creative and effective civil defense program to prevent all of this in the first place. An adjunct to that discussion emerges as the Doomsday Machine and its even more frightening relations, the Doomsday-in-a-Hurry Machine and the Homicidal Pact Machine, and with them the progenitor of the Strangelovian discussion of the “Doomsday gap.”<sup>36</sup> This discussion clearly

influenced the 1966 Dennis Feltham Jones novel *Colossus* and its derivative 1970 film, *Colossus: The Forbin Project*. However, despite Kahn's protests to Kubrick, the idea was originally mooted by physicist Leo Szilard a decade earlier,<sup>37</sup> and both Shute and George employed Szilard's "cobalt bombs" as plot devices in 1957 and 1958.<sup>38</sup>

Also of key importance in any discussion of Kahn, Wheeler, George, and Kubrick is Kahn's discussion of accidental war in *On Thermonuclear War*. Distinguishing between "accidental accidents" and "nonaccidental accidents" (pace Donald Rumsfeld and "known unknowns and "unknown unknowns"), Kahn, in some detail, references the international furor generated in April 1958 by Frank H. Bartholomew's United Press report on a possible scenario for accidental war, the story whose description of bombers in "continuous flight" had directly influenced George and *Red Alert*.<sup>39</sup> We are caught in a literary confluence: Wheeler claims he wrote "Abraham" in 1956, yet airborne alert did not yet exist. When "Abraham" was published in late 1959, airborne alert was a reality, the spat over the Bartholomew piece had played out, and *Red Alert* had been in print for a year. Suffice it to say the discussion of accidental war and SAC in 1958 influenced the work of Wheeler, Burdick, George, and Kahn to varying degrees. To extrapolate further, if Bartholomew's access was thanks to Gen. Thomas Power's attempt to influence the Soviets and the American public, CINCSPACE himself ultimately and inadvertently played a role in the creation of *Dr. Strangelove* and *Fail-Safe*.

In any event, Kahn met with Kubrick while he and George were working on the screenplay originally titled "The Delicate Balance of Terror." This meeting resulted in the shift from the serious tone in *Red Alert* to the theater of the absurd, or, as Ghamari-Tabrizi calls it, the grotesque, that is more evident in the later version of the screenplay called "Dr. Strangelove." Kahn and Kubrick agreed that the only way to approach the subject was through comedy.<sup>40</sup> Around this time Kubrick also held a brainstorming session that included George and RANDists William Kaufman, Morton Halperin, and Thomas Schelling. Schelling later recalled, "We had a hell of a time getting that damn war started. . . . We finally decided that it couldn't hap-

pen unless there was somebody crazy in the Air Force. That's when Kubrick and Peter George decided they would have to do it as what they called a 'nightmare comedy.'<sup>41</sup>

But that was not all. During preproduction Peter Sellers, who was going to play Maj. "King" Kong in addition to other roles, was concerned that he couldn't effectively manage a Texas accent and American colloquialisms. Kubrick reached out to Terry Southern, who flew to England and quickly read *Red Alert*. Southern, who among other things was an authentic combat veteran, altered some of the dialogue. This forced a partial screenplay rewrite by George, Kubrick, and Southern.<sup>42</sup> The result was the "Dr. Strangelove" screenplay and book, which differed from *Red Alert*, the "Delicate Balance of Terror" working script, and even in some minor respects the final film, *Dr. Strangelove*.

The "Dr. Strangelove" book jettisons all of George's discussion of preventive war and instead depicts alien archaeologists researching their metabook, *The Dead Worlds of Antiquity*, and finding documents hidden in the Great Northern Desert of planet Earth. The terminology differs slightly: "X point" is the term used instead of George's "fail-safe points," George's ULTECH is "Plan R," and George's CWIE is the CRM-114 discriminator. George's *Alabama Angel* becomes *The Leper Colony*, obviously spoofing the award-winning 1949 film *Twelve O'Clock High*, in which bomb group leader Gregory Peck orders his worst crews and worst leaders to fly together in a B-17 renamed *Leper Colony* in order to shape them up. The idea that something similar could happen in a squadron equipped with thermonuclear weapons is hilarious and probably was instigated by Kubrick.

The plot of the "Dr. Strangelove" book is essentially the same as the movie's; both feature Maj. "King" Kong, Gen. Buck Turgidson, Gen. Jack D. Ripper, and crew yippee-ki-yaying to Armageddon. Ripper commits suicide in his Burpelson AFB Führerbunker after his "children" surrender. Strangelove doesn't gesticulate yet. Kahn is all over the book and thus the movie. (Ghamari-Tabrizi has found seven direct Kahn quotes in the book.)<sup>43</sup>

Director Sidney Lumet, on the other hand, was attracted to *Fail-Safe*, believing a "kind of anti-war piece had a tremendous value [and

he] felt it really could make money because it was an enormous best-seller,” not to mention the fact that he could make it on the cheap.<sup>44</sup> This put Lumet on a collision course with Kubrick, which resulted in a legal dispute during the productions of both films in 1963: did Wheeler and Burdick plagiarize George, or did George and Kubrick plagiarize Wheeler and Burdick? Did Kubrick read *Fail-Safe* when came out in 1962 while he was working up *Dr. Strangelove*?

*Fail-Safe* the book, when boiled down to its essence, is a series of essays interspersed with character studies that examine the issues of accidental war and the fallibility of men and machines while one such crisis is in play. “Abraham ’59” is tacked on to the end.

Set in 1967, the novel, in ways similar to *Red Alert*, flips between the SAC war room, the Pentagon war room, the White House bomb shelter, and later the cockpit of a Vindicator bomber. The authors, Burdick and Wheeler, use the SAC war room as a theater to establish how “the system” works. The players are General Bogan (CINCSAC), his duty officer, a scientist, and a congressman. There is a Big Board, with identical counterparts in Colorado Springs and the Pentagon displaying the current threat condition and unit locations (in some ways technically correct for the 1970s). There is a discussion about Soviet missile submarines and how vulnerable the United States is to them because of the three-mile limit, the distance from a nation’s coast where its territory ends and international waters begin, but Bogan explains that a “pattern of sonar buoys has been laid across the Pacific” and they can pick up sound and process it at the Kaneohe Bay facility in Hawaii. This is a reference to the real and highly classified underwater sound surveillance system employed by the United States and Canada at the time.<sup>45</sup>

When a UFO appears in the system, the reader is permitted to see how the system responds. Burdick and Wheeler take us through colored alert conditions and explain that there are six bomber groups on patrol kept aloft by aerial refueling. Once the alert system goes into effect, these aircraft move toward their “fail-safe points.” When they arrive they require a presidential order to proceed. The president is “accompanied by a Warrant Officer who has the codes,” a reference to the real “football” briefcase.

The congressman asks, “What if somebody up there or down here cracks?” and after an elaborate discussion is told there is a “psychological screening program” in place for everybody from general to private. Burdick and Wheeler have Colonel Cascio explain that “there are a number of people who believe that the Air Force has a high incidence of madmen among its crews. . . . A few years back there was a lot of upset about whether or not an individual madman, ranging from a general down to the pilot of a plane, could start a war. With this procedure we may still have the madmen around but there is nothing they can do to start a war.”<sup>46</sup>

As the planes head for their fail-safe points, fighters reach higher states of readiness, ICBMs make preparations for launch, and bomber squadrons arm and fuel up. Bogan tells the congressman, “All out safety is an expensive thing.” The Royal Canadian Air Force intercepts the UFO, an off-course airliner. Bogan explains, “What we would do is make sure that the single plane does not have a runaway pilot who wanted to commit Hari-Kiri against New York or Montreal”—somewhat ironic in the post-9/11 world.

Meanwhile, as everything returns to normal, “a small condenser blew” in the presidential command net room that houses the “fail-safe activating mechanism.” The six Vindicator bombers holding at their fail-safe point (the book’s description suggests that these are based on B-58 Hustler bombers) suddenly get a message on their fail-safe box, which is described as a “six-wheel-code machine.” The crew check their single-sideband radios and get a “loud, pulsed drone,” which suggests they are being jammed by Soviet electronic warfare systems. A check of the alternate security channel presents the same fail-safe code: CAP 811. Two of the crew verify their orders: the group will drop twelve 20-megaton bombs from 60,000 feet in a pattern over Moscow, detonating them at 5,000 feet.<sup>47</sup>

Meanwhile, on the Washington cocktail circuit, RAND-like defense scientist Walter Grotoschele faces off with antagonists who want to debate thermonuclear war. This debate serves to explain to the reader the contending theories and policies that the United States was struggling with at the time. Grotoschele, a blend of Henry Kissinger and Herman Kahn, argues, “Every war, including thermonuclear war,

must have a victor and a vanquished.” While the liberal newspaperman Foster baits him with “Get with it. . . . Probability and the cobalt bomb made you old fashioned ten years ago,” Grotoschele responds, Kahn-like, “It is a question of who’s culture survives.”

Betty, the wife of SAC general Black, intervenes. “It’s a Greek tragedy,” she declares and promises to euthanize her children with morphine “when” it happens. Grotoschele fights back: “I’m trying to *save* your two boys, not narcotize their deaths.” General Black sides with his wife and, *On the Beach*-like, suggests everybody get out their morphine.<sup>48</sup> Grotoschele, who gives lectures in how many decades after a nuclear war it will take to achieve medieval standards of living, believes in counterforce and civil defense; Foster is into countervalue, or “finite deterrence”; and the Blacks are into despair. In an interesting historical parallel, there were apparently an abnormal number of suicides among the wives of officers attending the National War College in the late 1950s that one faculty member attributed to the depressing nature of course discussions related to the probability of nuclear war.<sup>49</sup>

*Fail-Safe* delves into technical details obviously extrapolated from open sources. As the crisis builds there is discussion of the Gold telephone system that linked a “handful of policymakers with the White House.” (In reality the Gold system was the Joint Chiefs of Staff Alerting Network, the final conference call before War Emergency was declared.) There is an elaborate discussion of Lowry AFB in Colorado and its eighteen underground silos housing Titan missiles (accurate), how they are fueled up to launch (partially accurate), the psychology of their crews (strange and inaccurate), and that the missiles also have fail-safe points that require an order to continue or they are destroyed in flight (inaccurate). Burdick and Wheeler make sure we know all about the “miniature emergency Omaha” aircraft (code-named Looking Glass in real life) and the four KC-135 command-and-control planes scattered throughout the country to support the president and SAC, even though they play no role in events.<sup>50</sup>

As the clock ticks down and time runs out, the president gets a lot of advice. Some of it is contradictory and not useful: Grotoschele

gets into the possibility that the Soviets might use the excuse of the accident to launch a strike while the rest of SAC is stood down. He advocates, Ripper-like, following up Group 6 with everything they have and using the accident as an opportunity. He thinks the Soviets will calculate their chances and surrender. Nobody buys into this argument. Eventually the decision is made to use the “hot line,” which involves interpreters and translation (as opposed to the real Teletype system). Khrushchev is by some miracle still in charge at the other end after the Cuban debacle. And he’s reasonable. The decision is made to assist the Soviets in breaching the electronic defense systems of the planes and destroying them, just like in *Red Alert*.

The Soviet premier and the U.S. president agree that if Moscow is attacked, the United States will bomb New York as a proportional compensatory measure. The American ambassador in Moscow and the Soviet ambassador at the UN in New York join the conference call so that their deaths will signal that both cities are destroyed. Vindicator 5 and Vindicator 6 are about to make it through the Soviet air defenses when the Soviets blunder and throw everything at Vindicator 6, the unarmed electronic warfare aircraft. Unlike the *Alabama Angel* in *Red Alert*, Vindicator 5 gets through. The phone screeches as the American ambassador melts. General Black, orbiting New York in his Vindicator, drops thermonuclear weapons on the city and commits suicide. The Soviet UN ambassador’s phone screeches. The world is saved.

That is, until Kubrick and George sue Burdick and Wheeler. Then *Dr. Strangelove* emerges first onto the silver screen and the world ends to Strangelove exclaiming he can walk, the music of Vera Lynn, and the visuals of thermonuclear tests at Eniwetok and Bikini. Six months later, in 1964, *Fail-Safe* was released to positive reviews but low box-office returns. Black comedy, it seems, was like using sugar to help the medicine go down. *Fail-Safe* was just too calculated, too serious, too *mechanical*. *Strangelove* was humanistic by comparison. *Strangelove*’s Ripper hit every male theatergoer where it might legitimately hurt, while *Fail-Safe*’s Grotoschele and his nuclear death fetishist female companion were probably just a little too weird to handle.