THE UNIVERSITY OF CHICAGO

Nuclear Autumn, Nuclear Winter: Media Representations of Disaster in the Fall of 1983

By

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March 2023

A paper submitted in partial fulfillment of the requirements for the Master of Arts degree in the Master of Arts Program in the Social Sciences,

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Introduction

The autumn of 1983 saw two media events that brought the specter of nuclear war into the public spotlight. On October 30th, the popular Sunday newspaper supplement Parade ran a story written by prominent scientist Carl Sagan exploring the details of a new theory that would rewrite the scientific understanding of the consequences of nuclear war. In his 'nuclear winter' hypothesis, Sagan described a planet laid waste by plunging temperatures and darkened skies. Crops would fail and freeze, with the fate of the human species hung precariously in the balance. Launching a media campaign to promote awareness of this potential apocalypse, Sagan and his team would take to newspapers, academic journals and eventually even the halls of Congress to advocate for a reduction in weapons stockpiles. Eschewing the normal channels of scientific review, Sagan and his team would prioritize hype and media publicity in order to reach as many Americans as possible. As they were doing so, the American public was confronted with another visceral image of nuclear violence, this time in the form of a television movie. The Day After was a television event like no other. Depicting the horrors of nuclear war in realistic strokes, the film began to spark controversy well before it aired on November 20th. Anti-nuclear advocates attempted to seize on the opportunity to recruit and spark debate, while conservatives decried the film as sensationalist propaganda (Knoblauch 2017). Via pamphlets and programs at school, children were warned not to watch the film alone—if at all. The National Education Association even issued its first ever "parent advisory," urging parents not to let their children watch unattended (Shales 1983b). The end result demonstrated the publicity power of controversy: 100 million people tuned in to watch the film, earning it a record of being "the highest-rated madefor-television movie ever shown" (Rubin and Cummings 1989, 43). The Day After and nuclear

winter brought the threat of nuclear apocalypse into American homes, but did they have the power to enact lasting cultural impact?

One might expect that with so much discussion of nuclear disaster, the threat of nuclear war would feel closer at hand than ever. Surprisingly, survey data from the 1980s shows that, by the time *The Day After* and nuclear winter appeared on the public stage, feelings and predictions of the imminence of nuclear war were actually on a decline, having peaked in 1982. This raises an interesting question: what is the relationship between media hype and public affect in the face of an apocalyptic threat? Despite the enormous amount of attention paid to both nuclear winter and *The Day After* in the last months of 1983, the topic of nuclear war appears to have seemed no more imminent than it did before the public was introduced to these two new models of thinking about nuclear apocalypse. Does this indicate a failure to convince the public of a real and pressing threat? Perhaps it indicates a saturation point, at which the public no longer had the capacity to contend with the looming threat of nuclear war. In this paper, I hope to examine this relationship between carefully managed media campaigns and the public that was receiving them, towards answers to these questions and others. How, for instance, was the average American to cope with vivid new images of nuclear disaster: what political actions were available for them to exercise?

In this essay, I set out to trace the contours of a changing nuclear anxiety in the early 1980s, as Americans were subjected to increasingly detailed and disturbing visions of what a nuclear apocalypse might portend. Throughout this investigation, I will attempt to monitor the expectations around and reactions to each of these two models, and the fall of 1983 more generally. In the first, and largest section of this paper, I will analyze the media campaigns which surrounded the announcement of the scientific theory of nuclear winter and the release of the

film *The Day After*, as I attempt to ascertain what was expected of the American public upon receiving these two novel models of nuclear destruction. First, I will examine the media campaign launched by Carl Sagan to sell the American public on the recently discovered theory of nuclear winter. Here, I will focus on ways that Sagan's depiction of risk interacted with (even capitalized on) existing fears of nuclear apocalypse. Subsequently, I will turn to the film *The Day After*, where I will examine the public anticipation of and ultimate reception to the film, looking specifically at discussions of hopelessness and despair. In the last section of this essay, I will examine public opinion polls coinciding with this period, in an effort to examine how the public actually responded to these new models of nuclear fear. I will dive further into survey data in the hopes of building a more comprehensive and representative picture of what Americans were thinking about as they internalized these models of disaster.

I ultimately aim to show that, despite two meticulously orchestrated media campaigns which actively portrayed and circulated images of despair, the American response to these new models of apocalypse was always highly mediated and contextualized by other political and social factors such as unemployment and the state of the national economy. This analysis sheds light on the perception of agency in a liberal democracy, especially as it relates to the intersection of science and media. Forty years later, our lives are marked by a different mode of despair—of climate change and sea level rise. My hope is to construct a portable analysis that carefully charts the contours of agency in media representation of apocalypse so that we may see echoes of our current age in the doomsday proclamations of the 1980s.

Before, during and after the announcements of these two new models, pundits on the political left and right expressed fears that these models for disaster would push the American populace towards a sense of despair. Before analyzing where these concerns came from, I will offer a working definition of nuclear despair. I will borrow here from a 1986 study, conducted by Greg Diamond and Jared Bachman, which analyzed survey data collected from seniors in American high schools between 1975 and 1984. In their study, Diamond and Bachman surmised that what was traditionally conceived of as "nuclear anxiety" could in fact be broken down into two separate categories, with two different survey response patterns. They labeled these individualized vectors as "nuclear concern," and "nuclear despair" (Diamond and Bachman 1986). Nuclear concern was primarily defined by a high "frequency of worry about the risk of nuclear war," based on survey responses (Diamond and Bachman 1986, 218). By contrast, Diamond and Bachman defined "a person high in nuclear despair [as] one who thinks that nuclear or biological annihilation is likely and that the human race is not likely to come through these tough times" (Diamond and Bachman 1986, 218). In analyzing the survey data, Diamond and Bachman found that nuclear concern and nuclear despair were themselves uncorrelated sets of responses, with each mapping to a distinct pattern of correlation with other concerns. For example, while nuclear concern correlated positively "with interest in government and social issues and with an inclination to participate in the political process," nuclear despair correlated negatively with these behaviors (Diamond and Bachman 1986, 218). Despairing seniors were in fact "more likely to feel worthless, alienated from their communities, and dissatisfied with life" (Diamond and Bachman 1986, 219).

For the purposes of this investigation, I will adopt and amend the definition of nuclear despair put forth by Diamond and Bachman. First and foremost, nuclear despair is the belief that nuclear war is likely to occur, and likely to devastate large numbers of humans. In this way, it could perhaps be thought of as a strongly held fear of a nuclear apocalypse, in which large numbers of humans are killed and social connections are severed. Importantly, it is also a response to this belief, and one which points to political apathy and anti-social behaviors in the face of the nuclear threat. It is a sense of hopelessness, and one that detracts from productive action due to a belief that there is nothing that one can do. In Diamond and Bachman's words, "Despair... was correlated with little interest in government and social problems, distrust and disapproval of many political institutions, a relatively antinational stance, and an aversion to involvement in the mainstream political process" (Diamond and Bachman 1986, 222). Clearly then, despair is not a desired outcome for any political movement, either on the right or the left. Neither *The Day After* nor nuclear winter purported to purposefully elicit a despairing response from their publics, but throughout the first part of this analysis, I aim to explore whether or not they ultimately did, and if so by what means. In the second section of the essay, I will turn to a plethora of survey data to seek quantitative answers to questions of media influence in the context of despair and political agency. I find that evidence that despair in the public population does not necessarily correlate to expectations derived from media coverage, and that apocalyptic fears were highly contextualized by other, more immediate, and tangible concerns.

Nuclear Winter

The concept of nuclear winter was born twice in October 1983. It first appeared on the doorsteps of the millions of Americans who received *Parade Magazine* as an insert in *USA Today* and various local newspapers (Knoblauch 2017, 41). *Parade*'s Halloween edition featured a cover depicting a world shrouded in darkness: illustrations from an article penned by Carl Sagan, which would introduce the American public to nuclear winter. A day later, on October 31, a group of scientists convened in Washington DC for the Conference on the Long-Term Worldwide Biological Consequences of Nuclear War, to witness Sagan present nuclear winter on

the scientific stage. Through these dual origins, nuclear winter emerged on both the public and academic spheres, bringing with it the specter of apocalypse, and the threat of despair. In this section, I will examine the role of hope (or hopelessness) in each of Sagan's introductions to nuclear winter. In both contexts, hope was something to be guarded, a necessity to be cultivated in order to avert disaster. And yet, each definition of nuclear winter gave ample reason to lose hope, to throw up one's arms, and to turn to despair. How did Sagan, along with the other members of his team, attempt to manage reactions to his catastrophic theory?

Carl Sagan (1934-1996) attended the University of Chicago, earning an MS in 1956 and a PhD in astronomy and astrophysics in 1960, working with astronomer Gerard Kuiper. After completing his PhD, Sagan followed a conventional Cold War-era astrophysics career path, landing a position at the Armour Research Foundation at the Illinois Institute of Technology in Chicago, where he worked modelling "the expansion of an exploding gas/dust cloud rarifying into the space around the Moon" (quoted in Knoblauch 2017, 37). Throughout the 1960s, he grew disillusioned with government-funded projects, and eventually began to reject military contracts. By the mid-1960s, Sagan had become active in protesting the war in Vietnam. In 1968, he joined the faculty of Cornell University as a professor of planetary studies. In 1977, he earned a Pulitzer Prize for his book *The Dragons of Eden*, and began to appear on Johnny Carson's late night program *Tonight Show*, propelling him into the public sphere, a position he would maintain with the notoriety of his book *Cosmos* and the 1982 PBS series of the same name (Knoblauch 2017).

The seeds of the idea that would lead to the concept of nuclear winter began to germinate in 1971, through Sagan's involvement in the *Mariner* spacecraft's explorations in Martian orbit. Sagan's official role in the project was to explain the results of the exploration to journalists, but he was also involved in the project's scientific research including the measurement of temperatures on the planet (Knoblauch 2017). When the mariner probe arrived in position around Mars, the entire planet was covered in a global dust storm (Ehrlich and Sagan 1984). The equipment on the satellite, an infrared interferometric spectrometer, allowed it to measure temperatures throughout the planet's atmosphere all the way down to the surface. Temperatures in the atmosphere, which was choked with dust particles, were higher than usual, but on the surface, they were much lower. Sagan deduced that the dust particles were blocking the sun's light from reaching the surface of the planet, causing it to cool (Knoblauch 2017; Ehrlich and Sagan 1984). This prompted Sagan to wonder if the same thing might be possible on Earth. He began working with James B. Pollack and O. Brian Toon to "understand what happens to the climate of the earth when a large volcano goes off and distributes stratospheric aerosols worldwide" (Ehrlich and Sagan 1984, 5). In 1980, when L.W. Alvarez et al. proposed that the dinosaurs may have been killed by a massive asteroid colliding with the Earth and spilling huge amounts of dust into the planet's atmosphere, Sagan and his team calculated that such an event might have prompted just the type of large-scale cooling and darkening event they had seen on Mars. They began working in 1981 to determine whether nuclear explosions could cause the same result (Ehrlich and Sagan 1984).

In 1982, Paul Crutzen and John Birks published a study entitled "The Atmosphere After a Nuclear War: Twilight at Noon," which examined the role of fire and smoke in the aftermath of a nuclear exchange. Crutzen and Birks surmised that in the event of a nuclear war, there would be a massive conflagration of "cities, forests, agricultural fields, and oil and gas fields" (Crutzen and Birks [1982] 2016, 115). As a result of these fires, massive amounts of smoke would pour into the atmosphere, leading to an influx of nitrogen oxides and reactive hydrocarbons, as well as

a significant darkening of the sky. "At noon," Crutzen and Birks find, "solar radiation at the ground would be reduced by at least a factor of two and possibly a factor of greater than one hundred" (Crutzen and Birks [1982] 2016, 115). The smoke from these fires would likely last for weeks, potentially causing great disruption to the growth of remaining agricultural crops, at least in the Northern Hemisphere. Rain might be of no relief, as the nitrogen oxides deposited into the air could cause highly acidic precipitation, with a pH of less than 4. Ground ozone layers in the wake of the fires could see increases to as much as 160 ppb, enough to subject agricultural crops to additional photochemical pollution (Crutzen and Birks [1982] 2016). The combination of these factors would make it "highly unlikely that agricultural crop yield would be sufficient to feed more than a small part of the remaining population, so many survivors of the nuclear war would probably die of starvation during the first post-war years" (Crutzen and Birks [1982] 2016). Among the harrowing results of this analysis, Sagan and his team saw echoes of the Martian atmosphere observed by Mariner 9. In Crutzen and Birks' smoke, Sagan had found "an additional important source of fine particles that might attenuate sunlight" (Ehrlich and Sagan 1984, 6). Crutzen and Birks' study was foundational to the models that Sagan and his team were developing.

By 1983, Sagan' team, which came to be known as TTAPS (based on the initials of members Richard P. Turco, Owen. B. Toon, Thomas P. Ackerman, James B. Pollack, and Sagan), were ready to announce their own findings. Their predictions were far more catastrophic than even Crutzen and Birks' analysis. Because of the critical importance of the results, Sagan decided to eschew the traditional publication route for scientific findings. Instead, he organized a massive campaign to disseminate information about nuclear winter to the masses. The process began with an informal review meeting in Cambridge in April of 1983, after which Sagan

submitted the TTAPS article to *Science*, to be released in December of that year. In the meantime, Sagan organized a conference to be held at the end of October 1983, around the same time that *Parade* magazine would publish a summary of the TTAPS findings. Sagan enlisted the help of a public relations firm, Porter Novelli, to ensure the effective dissemination of the findings. The firm would help with promoting the October 31 conference, recruiting artists to create visual interpretations of nuclear winter, and creating what would become known as the Moscow Link, a satellite linkup with Soviet scientists, who would participate in the conference Sagan was aiming big with this announcement: the conference itself was well publicized, and the *Parade* piece would be even bigger, reaching all of the publication's 80 million readers (Knoblauch 2017).

Sagan's *Parade* article took up a three page spread, including renderings of the earth as the phenomenon as "the clouds spread", "the chill descends" and finally "the earth is enveloped" by a nuclear winter (Sagan 1983b). The article begins with a review of what was already known about the effects of nuclear war. It was already known, Sagan reported, that a global thermonuclear conflict could directly destroy the lives of more than 2 billion people around the world. Cities would be wiped out and the entire northern hemisphere might be reduced to " a state of prolonged agony and barbarism" (Sagan 1983b). "This would represent by far the greatest disaster in the history of the human species," Sagan summarized (Sagan 1983b). While depressing, this might not have represented anything new to an informed reader in the autumn of 1983. "Unfortunately," according the results Sagan was about to describe, "the real situation would be much worse" (Sagan 1983b).

Before beginning an explanation of this "real situation," Sagan paused to address the reader: "Some of what I am about to describe is horrifying," he wrote, "I know, because it

horrifies me" (Sagan 1983b). Sagan seems here to be warning the reader that their existing fear of nuclear war is only to be amplified by learning about nuclear winter. But it is critical, he argues, that the reader press on:

There is a tendency—psychiatrists call it "denial"—to put it out of our minds, not to think about it. But if we are to deal intelligently, wisely, with the nuclear arms race, then we must steel ourselves to contemplate the horrors of nuclear war (Sagan 1983b).

In this passage, Sagan appears intimately aware of the threat of denial—the urge to turn away from the problem. In the face of this impulse to recoil, Sagan pressed the reader not to shy away from the information contained in this article; denial in the face of such a problem could have disastrous effects. With this grim introduction, Sagan began his explanation of just what is meant by the term "nuclear winter," and why it poses such an existential threat. In Sagan's summary of the results, there seemed little place to find hope. In just the baseline case, a 5000-megaton war, TTAPS predicted (much like Crutzen and Birks), that dust and smoke would block out the skies, reducing sunlight to "a few percent of normal" (Sagan 1983b). In addition to this darkness, surface temperatures would drop to -25°C, effectively killing all crops and farm animals. And amidst the cold and the dark, radiation would continue to pose a major threat. "We found," Sagan reported, "for the baseline case that roughly 30 percent of the land at northern midlatitudes could receive a radioactive dose greater than 250 rads, and that about 50 percent of northern midlatitudes could receive a dose greater than 100 rads" (Sagan 1983b). Putting it in layman's terms: "A 100-rad dose is the equivalent of about 1000 medical X-rays. A 400-rad dose will, more likely than not, kill you" (Sagan 1983b). Sagan made a point to clarify that neither a home shelter nor a flight to New Zealand could provide an escape from the cold, the dark, and the radiation. This effectively negates any option for personal preparedness or action in the face of nuclear winter. Once a nuclear exchange began, the fate of the planet, and of the reader, would

be sealed. The question then was whether there is anything that an individual could do to avert the grim, frigid fate of nuclear winter. Included as an inset to the article was a box entitled "SOMETHING YOU CAN DO" (Sagan 1983b). What is it that a reader might do to protect themselves and their loved ones? Per Carl Sagan, hope lay in letter writing. Sagan suggested that the reader write two letters, one to United States President Ronald Reagan, and another to Soviet President Yuri Andropov. *Parade* promised to handle the delivery.

There is a striking dissonance here between the scale of the problem and the scale of the offered solution. On the one hand, Sagan was asking the reader to confront the possibility, in great detail, of the worst catastrophe the Earth has ever known. And on the other hand, he was instructing them that the way out from the specter of nuclear winter was to put pen to paper and write a letter to each of the two men who appeared to *actually* have control over whether or not a thermonuclear war was staged. The reader was reminded, then, of where power truly lay—and it was not in their hands. But Sagan's hopes were pinned on a popular response. As William Knoblauch notes, this is why Sagan opted to first release scientific findings not in a peer-reviewed journal, but in the second most widely read weekly periodical of the time, making a controversial choice to attempt to reach the largest public possible (2017). But how was that audience to receive such grim news? Was there no more direct action to be taken than to write to Ronald Reagan—a man who publicly stated that he believed that "winning" a nuclear war was feasible? (Sagan and Turco 1990, 5)?

Sagan seems to have been attempting a careful management of the reader's hope in humanity's future. Nuclear winter portended a great threat of global disaster, yet Sagan's rhetoric embodies a hope that the gravity of this danger could actually be the key to averting nuclear catastrophe. But this could only be achieved if the population of the United States (and that of the Soviet Union) understood the facts about nuclear winter and turned that knowledge into political action. If Sagan could get the American people, and its government, to realize the scope of the threat that nuclear weapons posed, perhaps things could change for the better. But in order to get people to understand the threat posed by nuclear winter, Sagan had to expose them to the distressing and disturbing results of his team's study. And in doing so, he pulled no punches, vividly describing the horrors that would befall mankind in the event of nuclear war. Because Sagan emphasized that nuclear winter would result from even modest nuclear exchanges, nuclear winter seemed an almost unavoidable future, given how likely nuclear war seemed in 1983. It is easy to imagine how Sagan's audience could respond with despair, or even denial, in lieu of political mobilization—especially since Sagan's announcement provided only limited outlets for political action (in the form of letter writing). So how did Sagan's audience respond to his descriptions of nuclear winter? To seek the answer this question, I will turn to an instance in which Sagan's audience could talk back to him: The Halloween Conference on the Long-Term Worldwide Biological Consequences of Nuclear Winter.

On Halloween of 1983, five hundred participants gathered at the Sheraton Washington Hotel in Washington D.C. to attend the Conference on the Long-Term Worldwide Biological Consequences of Nuclear War (Ehrlich and Sagan 1984). The conference was Sagan's brainchild, a chance to disseminate the findings of the TTAPS team to the scientists, foreign officials, "as well as public officials, educators, environmentalists, and religious, civic, business, philanthropic, and foreign policy, military and arms control leaders from throughout the United States" all in attendance (Ehrlich and Sagan 1984, xviii; Knoblauch 2017). The American public watched through the eyes of the one hundred media representatives covering the conference. To provide an interdisciplinary complement to the physics of his own presentation, Sagan recruited Paul Ehrlich, Stanford professor of biology and author of *The Population Bomb*, to speak at the conference¹. Sagan presented on the TTAPS study, "Nuclear Winter: Global Consequences of Multiple Nuclear Explosions" and Ehrlich delivered a complementary paper, "Long-Term Biological Consequences of Nuclear War," co-authored by Ehrlich and 19 other scientists following the Cambridge review meeting held in April. In addition to these two papers, a main attraction of the conference was the so-called Moscow Link, a satellite connection established especially for the conference that would bring together, for the first time, a group of scientists in the Moscow with a group of scientists compared findings, asked questions, and commented on the existential nature of the problem at hand (Ehrlich and Sagan 1984). The conference and the Moscow Link provided a chance to collaborate and discuss the findings on nuclear winter. Where the *Parade* piece had been an announcement, the Washington, D.C. conference was a conversation.

How then, through its dialogue, did the conference engender a different kind of definition of nuclear winter, and with it a different sense of hope (or hopelessness)? Whereas the intended audience of the *Parjade* article was the American public at large, this conference was aimed at a smaller and more powerful group of scientists and policymakers—individuals who potentially carried a greater ability to affect change in response to what they learned at the conference. Both Ehrlich's and Sagan's talks were recorded and published in the book *The Cold and the Dark: The World after Nuclear War* (1984). Alongside these transcriptions are the records of the question-and-answer sessions which followed, the panel discussions on the presented materials, and the

¹ *The Population Bomb*, written by Ehrlich and his wife Anne Ehrlich, sensationally predicts worldwide famine as a result of explosions in human population, another example of a scientific apocalyptic writing that sought widespread popular engagement.

transcripts of the Moscow Link discussion. If all of this material comprises a sort of conversation about nuclear winter at the academic level, how does the emotional vocabulary of hope, or that of hopelessness, find its way into this scientific discussion?

From the first moments of Sagan's presentation, fear took center stage. "It is Halloween preceding 1984, and I deeply wish that what I am about to tell you were only a ghost story, something invented to frighten children for a day. But unfortunately, it is not just a story" (Ehrlich and Sagan 1984, 3). As in the *Parade* magazine article, Sagan's presentation began with a description of what was already known about the catastrophic potential of a nuclear war.

Recent estimates of the immediate deaths from blast, prompt radiation, and fires in a major exchange in which cities were targeted range from several hundred million to—most recently, in a World Health Organization study in which targets were assumed not to be restricted entirely to NATO and Warsaw Pact countries— 1.1 billion people. Serious injuries requiring immediate medical attention (which would be largely unavailable) would be suffered by a comparably large number of people, perhaps an additional 1.1 billion. Thus it is possible that something approaching half the human population on the planet would be killed or seriously injured by the direct effects of a nuclear war. (Ehrlich and Sagan 1984, 8)

If this picture was not enough to cause despair, Sagan continued on: "a range of additional effects—some unexpected, some inadequately treated in earlier studies, some uncovered by us only recently—makes the picture much more somber still" (Ehrlich and Sagan 1984, 8). Sagan went on to list the effects that would only begin to emerge after the ostensible end of a nuclear war—"obscuring smoke in the troposphere, obscuring dust in the stratosphere, the fallout of radioactive debris, and the partial destruction of the ozone layer" (Ehrlich and Sagan 1984, 11). All of this, Sagan explained, would lead to what the TTAPS team was calling "nuclear winter." At the conference, Sagan was able to explain nuclear winter in far greater depth than he had in the *Parade* magazine article; the reproduction of Sagan's talk in *The Cold and the Dark* is full of figures, tables and charts explaining the different cases the TTAPS team considered, predictions

for global temperature shifts, and various atmospheric effects of nuclear explosions. The end message was the same however: the fate of the human species was at risk unless action was taken immediate to save it. But what did that action entail—and who was to take it?

While the *Parade* article was sent to the homes of millions of average Americans, Sagan's talk had an audience of professors, politicians, and organizers. And, where the Parade article had been a one-way communication, Sagan's Halloween talk was followed by a questionand-answer session, where participants were able to directly engage Sagan on the topic of nuclear winter. One particularly interesting interaction occurred between Sagan and Mr. J Salatun, a former Air Vice-Marshall in the Indonesian Air Force and a member of Parliament in Jakarta. Mr. Salatun asked Sagan a series of questions, the second of which inquired about the possibility that the nuclear winter findings would actually prompt destruction rather than avert it. In response, Sagan asked Mr. Salatun if he thought Indonesia, armed with the knowledge of the threat of nuclear winter, would be more likely to enter into a nuclear conflict. Mr. Salatun's curious response to this question encapsulates a feeling of apathy and helplessness in the face of such an existential threat: "Well, all we can do is pray to God that it will not happen. But meanwhile we should prepare for the worst." In his response, Sagan demonstrated that he does not see nuclear winter as a fate to resign oneself to: "In my opinion," he countered, "you can do a lot more than just pray" (Ehrlich and Sagan 1984, 36). Sagan clearly believed that there was tangible work that could be done (and was desperately needed), and that one need not throw up their hands and resign oneself to the fate of nuclear winter. Indeed, Sagan's entire media campaign was obviously an attempt at doing something to avert the crisis. But what was the listener to do with the information Sagan presented? Mr. Salatun's question exemplified the response of a bewildered audience member, who, upon hearing the dismal details of the threat

posed by nuclear winter, decided that the best course of action was to prepare for the worst-case scenario, rather than take up arms against nuclear proliferation. In the case of Mr. Salatun, his response was to fall back on his faith, in a sense resigning himself to the agency of a higher power. He seemed to believe that there was nothing outside of prayer that he could do to avert nuclear catastrophe. And despite Sagan's insistence that more could be done, he offered here no concrete actions for Mr. Salatun—or anyone else—to take. We are left then with the question of what was the audience to do to avert the catastrophe portended by nuclear winter? Was it within the reader's power to affect meaningful change?

Sagan's entire media campaign was centered around active prevention of a nuclear winter scenario. To accomplish this, he and his team (including the other members of TTAPS and Paul Ehrlich) employed a pessimistic rhetoric to describe nuclear winter. Much of this rhetoric relied upon the idea that nuclear winter was an event from which there is no salvation. It is important to note that in the sense that Sagan employed it, there was a second clause to this idea: there was no salvation from nuclear winter *once the nuclear weapons have been launched*. Therefore, from Sagan's perspective, one needed to do everything in one's power to ensure that the nuclear weapons were never launched. But to the listener, whether they be a lay person reading *Parade* magazine or a member of the Indonesian Parliament attending a conference in Washington D.C., there was a danger in interpreting nuclear winter as an eventuality that could not be avoided, because it seemed so little could be done to stop the superpowers' proliferating nuclear arsenals. For the average listener, who possessed considerably less power than Mr. Salatun to affect international politics, Sagan's reports on nuclear winter may have read less like a call to arms and more like a death announcement for the human species.

Nearly a year after the initial announcement of nuclear winter, on September 30, 1984, Carl Sagan published another article in Parade, entitled "We Can Prevent Nuclear Winter." This piece contained many of the same facts as the earlier piece, but through a reference to the film Dr. Strangelove, it also illuminated Sagan's larger strategy. After comparing nuclear weapons and nuclear winter to a Doomsday Machine, Sagan wrote: "Stanley Kubrick's motion picture masterpiece Dr. Strangelove clearly brought out one important aspect of Doomsday Machines: Their existence must be known by all the contending parties. A secret Doomsday Machine will do nothing to discourage the other side" (Sagan 1984). If nuclear winter had the potential to serve as a deterrent against nuclear war in its capacity as a doomsday machine, the only way for it to be effective was the widespread communication of that threat. Sagan's advocating for awareness of the threat posed by nuclear winter was, by this logic, informing the U.S. and the U.S.S.R. of the Doomsday Machine that they each possessed. Of course, Sagan wanted much more than to simply reveal the existence of the Doomsday Machine, he wanted to dismantle it. But this indicates that Sagan's target audience actually consisted of the policymakers who held the power to reduce American weapons stockpiles and negotiate with the Soviets to do the same. This is further illustrated by Sagan's contributions to foreign policy journals, such as an article in Foreign Affairs, in which Sagan outlines thoroughly the "possible strategic and policy implications" of the TTAPS findings—in a format directed at those with the power to take political action (Sagan 1983a, 259). In that article, Sagan speaks specifically to the decisionmaking implications of the TTAPS findings, hoping that knowledge of nuclear winter would inform critical decisions such as a "first strike:"

[S]ince many distinguished scientists, both American and Soviet, have participated vigorously in recent studies of the climatic consequences of nuclear war, since there appears to be no significant disagreement in the conclusions, and since policymakers will doubtless be apprised of these new results, it would appear that a decision to launch a major first strike is now much less rational, and therefore, perhaps, much less probable. The better political leaders understand the nuclear winter, the more secure are such conclusions. (Sagan 1983a, 277)

Even in this happy configuration, where the nuclear winter hypothesis itself reduces the likelihood of nuclear war, an informed public has no role to play. It appears that the American public was informed of nuclear winter simply to put pressure on policy makers to act. Sagan's writing alternated between addressing the public, his academic peers, and policymakers, in a concerted effort to reach as many readers as possible. But, despite the breadth of Sagan's intended audience, his suggestions to avert crisis were actionable only by a limited group of his readers, namely the policymakers. Indeed, in the article entitled "We Can Prevent Nuclear Winter," no recommendations were made to the general reader for how they might themselves aid in this prevention; all of the recommendations in the article aimed at the policy level, to be enacted by the government or military. The reader then became a passive audience to a conversation happening between Sagan, and other scientists, and those in power able to make the changes necessary to avert catastrophe. Here, we see how nuclear winter highlights a problem of political agency, where the general public is addressed but unable to enact meaningful change. Nonetheless, the nuclear winter idea seems to have entrenched itself in the popular imagination, becoming a cultural as well as scientific artifact.

In his book *A Vast Machine*, Paul Edwards notes that the cultural impact of nuclear winter may in fact have superseded the danger of the event itself. Other teams that tested the TTAPS claims did not always find the same apocalyptic result.

Starley Thompson and Stephen Schneider, countering Sagan in *Foreign Affairs*, argued that, though extremely serious, such effects would be more like 'nuclear fall' than nuclear winter, and would vary considerably by latitude and longitude as the pall of smoke circulated around the glove. Thus, although they might indeed cause major agricultural failures, especially if the exchange occurred in

springtime, they would probably not extinguish all human life, as Sagan had suggested. (Edwards 2013, 384)

As Edwards notes, by the time this reappraisal of the TTAPS study was published, in 1986, nuclear winter had already "gained a permanent place in the popular political imagination" (Edwards 2013, 384). As such, the metaphor's cultural importance was not shaken by contrary data. The model of nuclear winter had grown beyond the scientific analysis that bore it. For the idea of nuclear winter to have taken hold in such a way demonstrates that it struck a chord with the public imagination. Sagan and his team focused on the worst-case scenario, and in doing so, tapped into a sense of fear that was already latent within the population. Nuclear winter was successful as a model for thinking about nuclear apocalypse because people were already so deeply afraid of the effects of nuclear war. Part of the theory's success lie in the forms of rhetoric engaged by Sagan to promote the nuclear winter idea. From artistic renderings of an enshrouded planet to doomsday machine metaphors, Sagan's media campaign to educate about nuclear winter did not shy away from what might be considered sensationalism at moments. As Edwards highlights, this rhetoric was ultimately successful at incorporating nuclear winter into the zeitgeist, despite not offering a solution that the lay person could enact. Sagan's rhetoric was adept at describing and dramatizing the problem but offered little in the form of actionable steps an average reader could take to avert catastrophe. As such, Sagan's campaign to educate about nuclear winter rode a line between cautioning and informing the public on one side, and plunging his readers into despair on the other.

Returning to Diamond and Bachman's definition of nuclear despair, we can see how the strategy Sagan employed fed into a growing sense of despair. Sagan's descriptions of nuclear winter provided support to Diamond and Bachman's second component of nuclear despair, that "the human race is not likely to come through these tough times" (Diamond and Bachman 1986, 218). In fact, Diamond and Bachman directly engaged with the idea of nuclear winter provoking feelings of despair amongst the high school seniors they studied:

Seniors could have become more concerned if successive classes had perceived nuclear war as more likely or as more noxious in its consequences. The advent of new weapons systems such as the MX, Cruise, Pershing and Trident missiles—as well as new Soviet missiles—in the last decade could have led seniors to see nuclear war as more likely. Similarly, reports of the "nuclear winter" effect or simply a greater understanding of the medicinal and other consequences of nuclear war could have led seniors to see nuclear war as increasingly dangerous. (Diamond and Bachman 1986, 221)

While Diamond and Bachman noted that the perception of more likely and more dangerous nuclear war does not in fact seem to correlate with increased nuclear *concern*, they did not comment on the relation of this perception to an increase in despair, only noting of the survey results that "the items in the table, including the despair scale, seem to reflect seniors' estimates of the likelihood and expected magnitude of nuclear war" (Diamond and Bachman 1986, 222). Diamond and Bachman's study suggests that students' perceptions of the likelihood of nuclear war had a direct influence on their feelings of despair. Later in this essay, I will attempt to probe this topic further, through an analysis of national survey data collected in the last decades of the Cold War. First however, I will examine another model for thinking about nuclear disaster, one which brought new definition to the image of life after a nuclear war.

The Day After

The Day After was a media event like no other. Because of its cultural relevance, Andrew Hunt has written about the film, "It is impossible to overstate, or exaggerate, the influence and significance of *The Day After*" (Hunt 2021, 117). *The Day After* appeared amidst a "deep freeze" in the Cold War, characterized by an especially volatile political atmosphere between the two superpowers (Hunt 2021). In March of 1983, President Ronald Reagan delivered his infamous "evil empire" speech, condemning the Soviet Union (Reagan 1983a). Because of the similarities between the events of the film and the previous six month of deteriorating superpower relations, pundits estimated before its release that the film could garner as many as 100 million viewers on its premier night (Knoblauch 2017). The idea for the film originated with Brandon Stoddard, who was looking for a follow up to his hit 1977 miniseries *Roots*. Stoddard got the idea for the film after watching *The China Syndrome*, about a fictional nuclear meltdown occurring at a power plant outside of Los Angeles (Hunt 2021). He originally envisioned the film as a TV movie with "no political discussion or bent or leaning whatsoever," besides one that "simply says that nuclear war is horrible" (Hunt 2021, 112).

Once Stoddard had the idea for the film, he recruited Edward Hume to write the teleplay. Hume analyzed government civil defense literature to extract official language in order to create a realistic representation of nuclear war and its effects. Admittedly sympathetic to disarmament, Hume agreed to do the film in part because he was disquieted by the current state of American defense policy under Reagan (Knoblauch 2017, 62). Finding a director proved more difficult than recruiting a screenwriter. After three failed approaches to different directors, ABC was able to sign on Nicholas Meyer, famous as the director of the hit film *Star Trek II: The Wrath of Khan.* When ABC initially approached Meyer in May of 1982, the director was reticent to commit to the film. "I thought about it for two weeks," Meyer later recounted, "and finally decided it was the right thing to do. My civic duty" (quoted in Hunt 2021, 113). Meyer hoped that the film would provoke discussion; he did not want to "preach to the converted," hoping instead that the film would reach those who had not yet "formed an opinion" (quoted in Knoblauch 2017, 63). This was a tall order, as William Knoblauch notes, because "previous Cold War atomic films had done little to convert citizens into antinuclear advocates" (Knoblauch 2017, 63). With *The Day After*, Meyer hoped to juxtapose the horrors of nuclear war with the normalcy of middle American daily life (Knoblauch 2017). He insisted that there be no musical score in the film, with the exception of the opening credits, to add to the life-like appearance of the program (Hunt 2021). He also suggested that the film be cut down from a two-night miniseries to a two-hour film, under the rationale that no one would want to tune in for a second night of "Armageddon" (quoted in Hunt 2021, 113). His goal, bestowed upon him by the network, was to display what nuclear war would look like from the perspective of the average American, eschewing places they would not see (like the War Room, the White House, or the Kremlin), and focusing instead on the experience of citizens living in middle America at the time of the attack. To this end, the film was shot on location in the Midwest, primarily in the city of Lawrence, Kansas, a city situated geographically in the center of the country, with missile silos peppering the surrounding landscape (Hunt 2021).

In the leadup to the film, both ABC and anti-nuclear groups attempted to seize on the fervor surrounding the release. ABC distributed half a million viewing guides with information about both the film and the arms race. The network also encouraged viewers to watch the films in groups, and in public spaces like churches and schools. Peace activists, hoping to use the film as a recruitment tool, also encouraged people to see the movie with others and coordinated speakers in places like churches and community centers. In St. Louis, the Committee for a Nuclear Weapons Freeze organized a panel discussion held at St. Louis University entitled "The Night After *The Day After*," which filled the auditorium (Hunt 2021). Roger Molander's Ground Zero group distributed 200,000 viewing guides, and the Campaign Against Nuclear War

organized two days of seminars on disarmament to coincide with the airing of the film (Knoblauch 2017). In addition to all of these events, multiple groups set up toll free phone hotlines that viewers could call to join their organizations. ABC created their own hotline to counsel distressed viewers. The White House set up their own hotline as well (Knoblauch 2017).

Worried about the potential public opinion disaster posed by the film, the White House attempted to coordinate a preemptive response to The Day After. According to internal White House memoranda, a detailed and coordinated public affairs plan was put into place, with the goal of having viewers come away from the movie with a renewed sense of support for Reagan's deterrence policies (Knoblauch 2017). A memo from Robert Sims (the special assistant to the president and the senior director of public affairs on the National Security Council) to National Security Advisor Robert C. McFarlane and David Gergen dated November 9, 1983 details the multi-faceted plan to contain the potential damage caused by the film. The NSC was tasked with the creation of "talking points" that would be delivered to Reagan appointees and conservative columnists alike. Additionally, the NSC was to prepare a "White House Digest" document, aimed at the press, which would describe the president's policies on arm control, as well as a question-and-answer guide detailing to Base Commanders and Public Affairs Officers around the world how they should respond to questions raised by the film. Finally, a hot-line was set up to provide access to mid-level Department of Defense officials for local radio and television talk shows. In short, the Reagan administration wanted to ensure that the government would respond as a united front when confronted by difficult questions about the president's policies (Knoblauch 2017).

Clearly, then, even before it had even aired, hopes, fears and tensions were running high surrounding the potential effects the film. On the left, activists hoped that the film would fill their ranks and prompt protests against Reagan's policies, including the so called "Star Wars" defense system, the Strategic Defense Initiative (SDI), which would take the Cold War into space, launching weaponry, lasers, and particle beams into the Earth's orbit in an attempt to intercept any incoming Russian ICBMs before they could release their payload. The right (including the Reagan Administration) for its part, seems to have worried about a potential galvanization of the left in response to *The Day After*, and a backlash against the president's policies (such as SDI). In response, they launched their own "public relations counterattack" against the film (Perl 1983). Josh Baran, a national media coordinator for anti-nuclear advocacy described the political tension surrounding the film to *The New York Times*, predicting that, "the radical right will claim the film was made by traitors trying to undermine our nations securities" as part of what he described as "a conservative counteroffensive ... being mounted to discredit the film and write it off as a media conspiracy theory against Ronald Reagan's strong defense postures" (Shales 1983a). As these two sides jostled for control over the movie's reception by the American people, the idea of despair caused by the movie became a popular motif in comments made by both the right and the left. Despairing Americans would have been a detriment to the goals of either side of the political spectrum. Worrying the left was the possibility that Americans in despair would be less likely to organize and join the political struggle against nuclear weapons and nuclear proliferation. From the right's perspective, despairing Americans did not constitute a proud and strong political base, opening themselves and the country up to infiltration by the Soviets. This fear would later be modeled by the ABC miniseries Amerika, which Brandon Stoddard produced based on the suggestion of former Nixon speechwriter Ben Stein in an effort to appear politically balanced. Amerika depicts the country taken over by the U.S.S.R., after the complacent American masses do nothing to stop a Soviet coup (Hunt 2021). While the

miniseries was poorly received and scathingly reviewed, it illustrates the danger that the right perceived in a despairing base, figuring that the fate of the country was at stake .

In all of this we see a fear of the potential for a populace who think "that nuclear or biological annihilation is likely, and that the human race is not likely to come through these tough times" (Diamond and Bachman 1986, 218; Hunt 2021). Reflecting the fear of the political parties of the day, Diamond and Bachman found that "despair correlates negatively with interest in government and willingness to participate in the political process" (Diamond and Bachman 1986, 218). Diamond and Bachman's study demonstrated that nuclear despair was already being experienced by American young adults before either nuclear winter or *The Day After* had emerged as models for understanding nuclear apocalypse. From this perspective, it is not surprising to see that the word "despair" became, for the left, a material fear to be cautiously and intently avoided, and for the right, a symbolic political tool used to discredit *The Day After*. For both political parties, the affect of despair became a useful political lever, one used to ensure a certain kind of response to Reagan's policies, whether that be active resistance or vocal support.

One particularly hot topic before *The Day After* premiered was whether or not children should be allowed to watch the film and, if so, under what circumstances. A broad range of organizations issued various forms of recommendations geared towards parents wondering if they should let their young children watch the program. These recommendations varied in wording, but generally agreed that young children should not be allowed to view the film, and that older children should only be allowed to watch under parental supervision (Shales 1983b). However, this consensus was not without its dissenters. Tom Shales, a reporter for the Washington Post who covered *The Day After*, commented wryly, "If the little darlings can play global thermonuclear war at their local video arcade, they ought to be able to see what the real thing might look like" (Shales 1983b). To Shales' point, by 1983, the Cold War had become an engrained part of society and was clearly not outside of the reach of children in their daily habits. So why restrict them from watching this particular piece of media? In a more serious tone, Shales elaborated:

There are nightmares and there are nightmares. A kid dreaming of a hatchet murderer in the closet after watching 'Halloween' or some other horror movie on TV is one thing; a kid having a nightmare about the people of Earth blowing up the planet on which he lives is another. Children today have more access to world realities, through television, than children of any other time. Perhaps they should be permitted to see what adults are capable of perpetrating in the absolute worstpossible-case scenario. (Shales 1983b)

As Shales demonstrated, the threat of nuclear war is already a pervasive part of the culture that children experience every day. Nuclear war in 1983 was a real threat, but one occurring at such a scale as to render it simultaneously both ubiquitous and innocuous, as reflected by Shales' thermonuclear war video games. *The Day After* offered a chance to break through this screen and discuss nuclear war in a realistic, if gruesome, manner.

Shales was not alone in his belief that children should be able to interact with the themes explored in *The Day After*. In *Newsweek*, a professor from University of Wisconsin was quoted as saying that nuclear war "is something that could well happen in [children's] lifetimes. They should be aware of it and be able to ask questions about it" (Williams et al. 1983). Even experts who thought that children should not be allowed to watch the show agreed that children in 1983 were already aware (and afraid) of nuclear war. "Children are already scared," according to a professor of psychiatry at Harvard quoted in the same *Newsweek* article, "It is up to adults to take responsibility" (Williams et al. 1983). In fact, it seems that fear was just as pervasive in adults as it was in children. Brandon Stoddard describes the prevalent feeling of the time in an interview for the documentary *Television Event*: "The fear paralyzed people. They'd taken the fear and

shoved it back on a shelf in the back of their minds, because they simply didn't want to worry about it" (Daniels 2020). So, for adults, just as much as children, *The Day After* was an opportunity to closely examine their fears, and potentially process them through shared experience. But the movie also ran the risk of flooding an already terrified population—and becoming yet another item shoved to the back of one's mind in denial of the existential threat posed by nuclear weapons.

So, for those who did decide to tune in on November 20, 1983, what was the experience of watching The Day After? The film can be neatly divided into three sections: before, during, and after the bombs drop. During the first hour or so, we are introduced to our large cast of characters as they go about their lives in the Lawrence, Kansas area. Among these are Dr. Russel Oakes (Jason Robards) and his wife Helen (Georgann Johnson) and their daughter Marilyn (Kyle Aletter), Nurse Nancy Bauer (JoBeth Willians), Dr. Sam Hachiya (Calvin Jung), and the Dahlberg Family, consisting of Jim (John Cullum), Eve (Bibi Besch), Denise (Lori Lethin), Danny (Doug Scott), and Joleen (Ellen Anthony). As we follow these characters as they go to work, attend school, and go about their personal lives, we see and hear clips of news reels reporting on rising tensions between the United States and the Soviet Union. Geopolitically, things seem to be getting progressively worse until eventually, war breaks out. From the silos dotting the landscape, Minuteman missiles emerge, rise to the sky, and disappear en route to their target locations. We are reminded that "theirs," like ours, take about 30 minutes to reach their destination. As alarms begin to ring, people start to panic, attempting to find shelter before the Soviet missiles land. An air burst sends out an electromagnetic pulse that cuts power. Then, in a harrowing three-minute sequence, the bombs fall. People and animals are vaporized and incinerated on screen. As buildings collapse, people who have not been immediately killed rush

to find shelter from the coming radioactive onslaught. Eventually, the camera cuts to scenes of rubble, burned bodies and descending fallout. Over the next hour, the remaining protagonists attempt to navigate a post-nuclear landscape. Even the Dahlbergs, who were able to take cover in a home shelter, are forced to confront the apocalyptic landscape after Denise runs out into the fallout in the hopes of finding her fiancé. Our characters get progressively worse off, as the symptoms of radiation sickness take hold. The medical professionals, getting sicker all the time themselves, struggle to treat the onslaught of patients seeking medical attention, including most of the surviving characters. In the final scene, we see Dr. Oakes return to the mound of debris that was once his home. He is near death but summons the last of his energy to yell at a survivor who has set up camp on what was his property. The trespasser offers Dr. Oakes an onion, and the two embrace as Dr. Oakes falls to the ground. As the film ends, a message appeared onscreen. "The catastrophic events you have just witnessed are, in all likelihood, less severe than the destruction that would actually occur in the event of a full nuclear strike against the United States. It is hoped that the images of this film will inspire the nations of this earth, their peoples and leaders to find the means to avert the fateful day" (Meyer 1983).

On the night of November 20, 1983, this message was followed by Ted Koppel's image appearing onscreen. Introducing a special episode of *Viewpoint*, Koppel reassured the viewer:

"There is, and you probably need it about now, there is some good news. If you can, take a quick look out the window. It's all still there. Your neighborhood is still there. So is Kansas City, and Lawrence, and Chicago. And Moscow, and San Diego and Vladivostok. What we have all just seen, and this was my third viewing of the movie, what we have seen is sort of a nuclear version of Charles' Dickens *Christmas Carol*. Remember Scrooge's nightmare journey into the future with the spirit of Christmas yet to come? When they finally return to the relative comfort of Scrooge's bedroom, the old man asks the spirit the question that many of us may be asking ourselves right now. Whether, in other words, the vision that we have just seen is the future as it will be, or only as it may be. Is there still time? ("The Day After" 1983)

Koppel went on to introduce the panel of speakers who would be discussing this film that has become "much more than a movie, it became a national event" ("The Day After" 1983). Joining Koppel on the panel were William F. Buckley Jr., Elie Wiesel, Henry Kissinger, Robert S. McNamara, Brent Snowcroft and Carl Sagan. Before the panel discussion began, Koppel spoke briefly via closed circuit television with Secretary of State George Shultz. Shultz reiterated the White House's policy of deterrence and invoked the president's recent speech in Japan as evidence that the administration believed nuclear weapons should never and must never be used. At one point during their interview, Koppel asked Shultz about "those mothers and fathers out there who I suspect want a great many answers themselves and would like to be able to give answers to their own children. Is there anything that American citizens can do?" ("The Day After" 1983). Shultz responded by suggesting that the American people could show support for President Reagan's policies—a political answer with little utility to the hypothetical parents invoked in Koppel's original question. Koppel tried again to ask if, outside of supporting the Reagan administration's policies, there is anything that American citizens can do. This time, Shultz avoided the question entirely, only pointing out that they are not only Reagan's policies; that the proposals had widespread support outside of the White House.

Koppel's question to Shultz directly raised the issue of political agency in the face of nuclear war. Koppel's question implies a particular definition of political agency. We might find a suitable correlate in contemporary discussions of climate change, where positive agency is construed as "the capacity to positively influence the collective future through transformative change" (O'Brien 2015, 1170). Though political agency may be writ more broadly as simply "the capacity to impact upon the state-centred political system," (Marchetti 2013) in this context, the media of apocalypse renders the question of agency one of "saving the world," of averting

the catastrophes here modeled. What could an individual viewer do in the face of the nuclear threat after watching the film? Koppel's question suggested a sense of uncertainty about the effectiveness of individual political agency in the face of global crisis. Shultz's answer, or lack thereof, served to reinforce the notion that political agency typically lies not with the individual, but with "political parties, unions, bureaucracies, states, … international actors, as well as individual leaders who are entrusted with the power to act on behalf of others" (O'Brien 2015, 1170)—in other words, people like Shultz and Reagan, rather than the average American viewer, or even Ted Koppel. The individual, at least in a representative democracy, is asked to entrust their political agency to elected and appointed state officials. For all the emphasis put on the film by anti-nuclear organizations, there was little within the film itself that suggests an avenue for individual resistance. As the episode of *Viewpoint* continued, the question of political agency, and even the efficacy of resistance, would remain an important part of the conversation.

After concluding his brief interview with Secretary Shultz, Koppel turned to the rest of the panel for discussion and question-and-answer from the audience. Koppel's first question to Carl Sagan touched directly on both the topics of nuclear despair, and on the pragmatism of the film as a political tool. "Do you see any merit in this movie," Koppel asked, "or is the movie simply an exercise in emotionalism which may cause despair rather than do anything useful?" ("The Day After" 1983). Sagan's response did little to motivate hope. Instead, he took it as an opportunity to elaborate on his own apocalyptic predictions: his recently published theory of nuclear winter. Sagan explained that, per his new model (which we have investigated above), the real consequences of nuclear war would actually be far more disastrous than those depicted in the film. Koppel's response to Sagan's answer noted the depressing nature of his comment: "If our viewers were not depressed enough after seeing the movie, I suspect you've brought them to an even greater nadir" ("The Day After" 1983). While Koppel noted the emotional charge of Sagan's comment, Henry Kissinger responded to the political consequences: "Are we to make policy by scaring ourselves to death?" ("The Day After" 1983). This comment exposes the embattlement between right and left over the topic of despair. Sagan seemed to be attempting to elicit political action by making the situation look as dismal as possible, and Kissinger seized the opportunity to accuse both Sagan's theory and the film itself of taking a "simple minded" approach to a complicated issue ("The Day After" 1983).

Throughout the discussion, the theme of nuclear despair was perhaps most evident in the responses of Elie Wiesel. Born in 1928, Wiesel survived the Auschwitz and Buchenwald concentration camps, and became a celebrated writer for his works chronicling the Holocaust (Berger 2016). Koppel noted that Wiesel was invited to the panel to provide a "humanistic touch to what otherwise threatens to become either a very technical or a very theoretical kind of discussion" ("The Day After" 1983). Koppel's first question to him pointed again to the topic of political agency in the face of the nuclear threat: "Is there anything that the individual man can do anymore? Is there even a point in discussing that or is it out of his and her hands?" ("The Day After" 1983). Like Shultz, Wiesel did not directly answer Koppel's question. Instead, he spoke of the contours of his own fear of a threat that he did not fully understand:

We readers, writers, people, we don't know what it all means. When I hear about [a] thousand bombs, megatons, I don't have that kind of imagination. To me it's an abstraction. But to me, all this means is that the human species may come to an end. That millions of children may die. ("The Day After" 1983)

Wiesel's comment spoke to the alienation felt by those outside of scientific and political circles, those who did not understand the intricacies of TTAPS' computer models, but who were able to grasp the immensity of the threat posed by nuclear weapons. Throughout the panel discussion, Wiesel voiced his pessimism at the state of affairs as he saw it. His comments frequently reflected a sense that there was no conceivable way out of the predicament of the arms race. At one point in the conversation, Wiesel registered his own shock that the panelists seemed to be so ready to discuss the tactics and strategy of fighting a nuclear war:

- Wiesel: I must tell you I am a little bit taken aback. We are already fighting the nuclear war—around this table. We already [are] speaking about first strike, about warning, about bombing. How can we even talk about it?...
- Koppel: How can we—Forgive me, but how can we not talk about it?
- Wiesel: Well, that is really the problem. If we talk, it's bound to happen. If we don't, it's bound to happen again. ("The Day After" 1983)

Wiesel presented a paradox: both discussing and avoiding the topic of nuclear war seemed to bring it closer to fruition. This paradox reinforces an idea that the political agency of citizens seems to have been rendered impotent in the face of the nuclear threat. On a very public stage, a figure like Wiesel expressed a real sense of hopelessness, nearly a resignation to the eventuality of nuclear war. From this vantage point, what was there to do to avert catastrophe? We might rephrase Koppel's earlier question as one pertaining to the nature of representative democracy in the face of global disaster: was there anything left for an individual to do who had relinquished control to elected officials and their staff?

During the question-and-answer portion of the discussion, the topic of resistance and activism was raised. One audience member brought up the Nuclear Freeze movement as a rallying point against the machinations of the Reagan administration. During their question, this audience member was interrupted by another, who asked, "Wouldn't everything we saw tonight [in *The Day After*] be possible if there was a freeze?" ("The Day After" 1983). Sagan responded to this question by saying that the freeze would be an excellent *first step*. The Freeze movement was, at this point, a popular political movement, which sought the adoption of mutual bans

between the United States and the Soviet Union on all "testing, production and deployment" of nuclear weapons between the two countries (Wittner 1984). In the early eighties, the Nuclear Freeze had grown incredibly popular, even mobilizing over 1 million Americans to march on Central Park in June of 1982. By 1983, however, the movement had passed its crescendo and was headed for a decline that would ultimately see its contraction in the later part of the decade (Molander and Molander 1990; Meyer, David S. 1990). The interaction between these two audience members, and indeed Sagan's response, pointed to the problem with the idea of a "nuclear freeze," especially given the discovery of nuclear winter. Even if no new nuclear weapons were developed, all of the events in *The Day After* were still possible, and indeed could be even worse, as the TTAPS report surmised. The freeze would be insufficient to stop a nuclear war at the scale depicted in the film, calling into question the utility of a sense of political agency that had seen the largest protest in American history. If even the mobilization of over one million people was not enough to stop a nuclear winter or a *Day After*, what options were left for citizens to exercise their political agency, if any remained at all?

Over and over again in this panel discussion, Koppel, panel members, and audience members all alluded to an unanswered question: what was the average citizens' political agency in the face of the nuclear threat? Debora Spini has argued that this historical period was characterized by an increasing distance between citizens and state operations. For Spini, this is especially true in the case of "global' risks…as in the case of nuclear weapons and climate change" (Spini 2013, 22). If in liberal democracy, as Martha Nussbaum has written, the ability to "participate effectively in the political choices that govern one's life" is a "minimum core social entitlement," then we might see these affective traces of despair surrounding nuclear media as a sign of the breakdown of this liberal principle in the condition of the neoliberal late 20th century (Nussbaum 2007, 77, 75). Despair is symptomatic of a changing relationship between state and citizen in the context of potential nuclear apocalypse. This evidences why mediating nuclear apocalypse, as nuclear winter and *The Day After* do, took so much managing of despair by journalists, authors, and statesmen.

So, one of the major themes of nuclear despair in the mid 1980s appeared to be a rooted in a lost faith in the ability of the individual to meaningfully affect change through the normal political process in the face of the nuclear problem. *The Day After* and nuclear winter raised the stakes of this engagement by suggesting that the threat of nuclear war actually posed a far greater threat than previously imagined. As Sagan stressed in his introduction to "The Nuclear Winter" article, the loss of life and impact of the environment that would occur in the event of a nuclear winter were far worse than what had been predicted before TTAPS climatic modelling. And while *The Day After* does not explicitly mention nuclear winter, a fact later noted by its director, it does make real through cinematic depiction the idea that actual nuclear war would be a disaster beyond the scope of what had previously been imagined (Daniels 2020). One *Newsweek* article from the November 1983 issue tied these two models together, casting *The Day After* as the delivery method for the nuclear winter message:

Early this month, at a conference in Washington, D.C., scientists met to consider the consequences of nuclear catastrophe. Participants moved from discussions of firestorms and acid rain to nuclear winter followed by, quite conceivably, the extermination of Homo sapiens. And now all of it is about to literally come home, to tens of millions in living color, courtesy of the all-pervasive reach of network prime time. (Walters et al. 1983)

Despite not actually depicting a nuclear winter, *The Day After*'s portrayal of nuclear disaster was so harrowing as to get the idea across that nuclear war would be much worse than the "winnable" scenario championed by the Reagan administration. Here, the two models coalesce into one new

framework for thinking about possible nuclear futures. In fact, because of *The Day After*, multiple newspapers ran stories comparing the effects seen in the film to the effects predicted by Sagan, Ehrlich and the TTAPS team (Associated Press 1983b; 1983a; Raeburn 1983). Each of these articles (variations of the same) reflected that "[*The Day After*] was a grim portrayal, but it wasn't grim enough" (Raeburn 1983). These articles point out that even though *The Day After* was a harrowing and deeply depressing viewing experience, it did not capture the real horrors of surviving nuclear war. Despite these shortcomings, *The Day After* was able to launch a national conversation around the real effects of nuclear war that allowed space for models like nuclear winter to join into the dialogue, even more than they had been possible on their own.

The Day After brought the topic of nuclear war into the living rooms of millions of American homes. With it, it carried the power to transform a traditionally private home space into a political one. As a November 1983 *Newsweek* article predicted,

By the time the unhappiest ending in the annals of broadcast entertainment unwinds next Sunday night, the very idea of what television can do may never be the same. This most cautious of mediums—that cozily safe piece of living room furniture—will reach out and detonate a thermonuclear apocalypse in our communal psyche (Walters et al. 1983)

Antinuclear groups such as the Nuclear Freeze movement were excited by this opportunity to have the nuclear debate penetrate the American household, hoping that with sparked conversation would come political galvanization. That same *Newsweek* article linked the Left's organizing around the film with recent political losses suffered by the antinuclear movement: "For antinuclear advocates... "The Day After" comes as a badly needed lift. The recent defeat of a nuclear freeze resolution in the U.S. Senate has left the movement without a rallying point" (Walters et al. 1983). *The Day After* had the potential to rouse the American public into political action, reaching them in their safest of places, and carrying the message that there was no place
they could hide from nuclear war, least of all their living rooms. But the film itself was not solely inspiring in its message, and its overarching motif of despair carried the potential to turn the film into a double-edged sword.

For many reviewers of the film, the overwhelming takeaway from the movie was one of despair and hopelessness. Even before the film aired, it was noted that this overarching mood carried the potential for unwanted results. As Tom Shales noted for the *Washington Post* in an article that was published two days before the film aired, "the post-program 'Viewpoint' is probably a wise move... because the program doesn't engender much more than fear and dread. There may be a therapeutic value in that, but there is a danger in it as well" (Shales 1983b). Similarly, John Corry wrote for *The New York Times*,

The special quality of 'The Day After' is its despair. No crops will grow in irradiated Kansas; the farmland is covered in contaminated ash. Infants will be born deformed. Medicine has no cures. The world has been arrested, and continuity is gone. Thus the despair, made more intense by the awareness that we live a time, the first time, when it all conceivably could happen. Physicians for Social Responsibility, one of a number of groups that has recommended 'The Day After,' says that many viewers will react with 'feelings of depression and helplessness.' (Corry 1983)

Corry suspected that the harrowing emotions provoked by the film had political repercussions, if not motivations:

'The Day After' engenders a feeling of hopelessness, and to be without hope is to be passive. It is to believe that nothing will avail. Psychologically, this is to want to disarm, to throw down weapons rather than take them up. Near the close of 'The Day After' there is a printed message, white on a black background, which says: 'It is to be hoped that the images of this film will inspire the nations of this earth, their people and leaders, to find means to avert the fateful day.' The word 'means' is a code. The movie has conditioned us to accept disarmament, or, at least, to call for a nuclear freeze. (Corry 1983) While Corry suspected that the despair in the movie would in itself be a motivating factor for political change, other nuclear groups were not so certain that the outcome of viewing *The Day After* would be in their favor. In the pages of *Newsweek*, the despair felt coming out of the film was met with an anxiety from antinuclear advocates. "The profreeze forces envision a potential danger. The movie, they fear, may leave viewers so numbed by a sense of hopelessness and helplessness that they will merely sink into a deeper apathy" (Walters et al. 1983). Josh Baran, the antinuclear media coordinator, was particularly concerned about the political ramifications of a stupefied audience. "If 'The Day After' does nothing other than depress 60 million people, it will become just a preview of the coming attractions. Hopefully, it will be a kick in the pants that will motivate people to action"(Walters et al. 1983).

The fear of a population overcome by feelings of hopelessness and helplessness as a result of watching *The Day After* anticipate Diamond and Bachman's diagnosis of nuclear despair in high school students. As Diamond and Bachman describe it, nuclear despair correlated with feelings of political alienation, and not wanting to take part in the political process. If Baran's fear came true, and the film did little more than greatly depress the population, far more than 60 million people would have come away from the film exhibiting signs of nuclear despair. In an effort to evade the possibility of hopeless and helpless masses, antinuclear groups bought ad spots, organized gatherings, passed out fliers and set up phone hotlines for viewers to call into in the hopes of turning their concern into political action.

The biggest effort is the 800-NUCLEAR ad, sponsored by a coalition of groups. The 30-second spot, to be aired the following week, shows an American and Russion general blowing up a balloon in the shape of the world until it finally explodes. 'Take the pressure off before its too late; call 800-NUCLEAR,' begs the narrator. In return for his call, the viewer receives a free nuclear-war prevention kit full of tips about writing to congressmen and joining local freeze organizations. (Walters et al. 1983) But was all of this enough to convert viewer's concern into political galvanization? Here we see the enormous effort taken by political actors to remediate the potential effects of nuclear winter and *The Day After* into useful political action. But these solutions did not necessarily rectify the failure of the liberal democratic system to provide useful avenues for citizens to enact their political agency in the face of the nuclear threat. As with Sagan's "SOMETHING YOU CAN DO" directions, the instructions provided by the 800-NUCLEAR advertisement paled in comparison to the scope of the problem. Without political options of the same scale as the problem, the threat of despair loomed over these conversations, coming up frequently in the media as a potential outcome for a public shocked by the newly depicted horrors of global nuclear disaster. This fear of hopelessness pervaded coverage in the leadup to the film and continued to color discussions happening around the country after it aired.

Two days after *The Day After* aired on ABC during Sunday night primetime, the *New York Times* published an article entitled "Students Voice Fear and Hopelessness in Talks the Day After *The Day After*". The article sampled discussions being had by schoolchildren in New Rochelle, New York; Evanston, Illinois; Denver, Colorado; and Santa Cruz, California. Many of the children interviewed expressed that they were less scared than they were depressed by the program that they had watched. "I thought the show wasn't as scary as thinking about it all afterwards, and wondering if we're all going to die", voiced one 16-year-old from New Rochelle (Collins 1983). An 11-year-old in Evanston said that "the movie wasn't as scary as [he] thought it would be... in horror movies, people just get killed and that's it. But in this movie they had to go through all the aftereffects. I think I'd want to die instantly" (Collins 1983). But many of these students reported that they had been thinking about nuclear war well before the film aired, although the movie did have a catalyzing effect on some: "Nuclear war was always in the back of my mind, but that show really woke me up", said a 15-year-old from New Rochelle who also said that she would "rather die than survive a nuclear war" (Collins 1983). Interestingly, one group of students in Denver found that the film portrayed the aftermath of nuclear war as too survivable. According to their teacher, "They've been reading about the phenomenon of 'nuclear winter' and they felt the film was inaccurate in showing that the bombs would be so survivable" (Collins 1983). A recurring theme in the conversations with children was the deeply depressing nature of the film. Yet, for many, the film's themes depicted nothing new. "I think they went into it with a tremendous fear of nuclear war and they came out of it with that same feeling," said a teacher from Denver. In that way, the film itself may have been less of an earth-shattering revelation of danger, and more of a reinforcement of what these students already knew. Even so, certain aspects of the evening stood out as particularly depressing. One student mentioned that he was "more upset at 'Viewpoint' than at the movie," noting that the adult experts seemed unable to agree with each other—a fact that did not boast well for reconciling with the Soviet Union. This student was also upset that children were not included in the discussion: "The people doing the arguing were all old, and they've had a chance to live their life" (Collins 1983).

Indeed, school-aged children in 1983 seemed to be concerned that they would not have the chance to reach adulthood that their parents' generation had enjoyed—a fear that seems to have predated either *The Day After* or nuclear winter. In a *Newsweek* article released before *The Day After* aired, the headmaster of Denver's Colorado Academy, the same school profiled in the *New York Times* article, reported that his students were already afraid of their lives ending as a result of nuclear war. He compared the fear in the 1980s to that of the fifties, saying that in the past, "we thought we could handle it by building bomb shelters.... We weren't left feeling powerless. Now we know there's no way to protect ourselves" (Williams et al. 1983). In the same article, *Newsweek* reported on a theology teacher in Houston who said that "95 percent of the freshmen attending a history-of-war presentation said they doubted they'd live to be 40" (Williams et al. 1983). Similarly, an Iowa City eighth grader who polled 370 of her classmates found that "75 percent of them think about nuclear war often or always, 66 percent are scared because of it and 57 percent feel helpless to do anything about it" (Williams et al. 1983). One respondent to that poll said "we're up the creek without a paddle and I'll be blown away before I'm 30 years old" (Williams et al. 1983). Clearly, in 1983 children were already thinking about the relationship between their futures and nuclear weapons and worrying that the two might combine in catastrophic ways. Neither nuclear winter nor The Day After seem to have been the first time that these children thought about their death at the hands of a nuclear bomb, although at least in the case of *The Day After*, it appears to have provided a new impetus to worry actively, at least in the short term. But what were the longer-term effects of these models on nuclear anxiety in the public, and how were adults affected? Did their reaction mirror their children's, or were they more surprised at the prospect of a different kind of nuclear apocalypse? In hopes of answering these questions, I will now turn to survey data collected at the end of the Cold War.

Public Opinion

Throughout the Cold War, public opinion surveys were collected that measured Americans thoughts, opinions and anxieties about the possibility, or probability of nuclear war. By analyzing these surveys, I hope to build a more comprehensive picture of the reception of the two models that I have focused on above: nuclear winter and *The Day After*. In an effort to measure public opinion, I have queried the Roper iPoll database of the Roper Center at Cornell University for polls surveyed from 1980 to 1995. This includes the period immediately before the fall of 1983, and a longer period afterward, in an effort to measure the extended impact of that autumn on the American psyche. Up to this point, I have tracked a media history centered on the threat of nuclear disaster, chronicling both the real and predicted fear and distress caused by images of apocalypse. Throughout this history, I have identified the specter of despair which haunted media campaigns designed to elicit political action. By analyzing public opinion polls, my goal is to understand how these emotions (fear, distress, despair) mapped onto the general American popular consciousness at the end of the Cold War. Was the popular concern about nuclear war affected by news stories of nuclear winter? Did The Day After affect how people related to the threat of nuclear war? My goal is to probe in what ways these media events made (or did not make) a difference in how the larger American public thought about nuclear war. I am interested, in analyzing these polls, not only in the responses, but also in the manner of the questions being asked. I hope not only to build a comprehensive picture of how Americans related to nuclear war throughout the 1980s, but also to establish an idea of what was expected of them by looking intentionally at the wording and frequency of questions asked as a part of national surveys.

My analysis will focus on three sets of queries on the iPoll database. Through the first set of queries, for questions and responses containing both the words "nuclear war" and "likely" or "nuclear war" and "inevitable," I hope to elucidate how Americans perceived nuclear war as a likely or unlikely part of their own futures, relating this to our initial definition of nuclear despair as a belief "that nuclear or biological annihilation is likely and that the human race is not likely to come through these tough times" (Diamond and Bachman 1986, 218). I will pair this with an analysis of questions asking whether Americans would rather survive or die in the event of a nuclear war. Second, I will turn to an analysis of polling questions and answers containing the terms "nuclear war" and "worry," towards an understanding of how often nuclear war was actually on the minds of everyday Americans, and perhaps more importantly, when it was expected that Americans would be worrying about the possibility of nuclear war. Finally, I will attempt to contextualize nuclear fear amongst other anxieties surrounding the future of the country, through an analysis of questions which asked Americans to choose the number one issue facing the United States and comparing the number of responses that relate to nuclear war to the number related to the economy.

All of the polls cited in this paper feature as part of the longstanding methods section of the iRoper database of Cornell University's Roper Center for Public Opinion Research, meaning that they have been conducted using methods that "have been subjected to many decades of detailed investigation" (Roper Center for Public Opinion Reseach n.d.). All of the polls summarized here have been conducted either via phone or face-to-face, between the years 1980 and 1995. Samples consisted of randomly selected portions of either the general US adult population, or of "any subpopulation that constitutes a large segment of the national adult population" (Roper Center for Public Opinion Research n.d.). Each of the polls was conducted by an "academic, commercial [or] media survey [organization] such as ABC News, the Gallup Organization, Pew Research Centers, Kaiser Family Foundation, and many more" (Roper Center for Public Opinion Research n.d.). For the purposes of this study, I have taken each survey to be a representative sample of a portion of the adult American population, to enable, for instance, comparison between surveys of registered voters to surveys of all American adults.

For the first portion of my analysis, I analyzed 44 questions posed to Americans by pollsters between the years 1980 and 1991. Figure 1 displays the distribution of surveys by year, compared with the percentage of respondents who answered that they thought nuclear war was

likely to occur in the future. Most of the questions that I analyzed asked respondents to estimate how likely they thought nuclear war was to occur in a given time frame. For these questions, I counted participants who thought nuclear war was at least "somewhat" or "fairly likely" depending on the question. For example, in a survey conducted between October 29 and November 5, 1989 by the Roper Organization, survey takers asked participants "how likely do you think it is that the United States and Russia will become involved in a nuclear war some time in the next five to ten years--very likely, fairly likely, fairly unlikely, or very unlikely?" (The Roper Organization, 1983c). For this question, I counted the 26% of respondents who said nuclear war was "fairly likely" along with the 17% of participants who responded that they thought nuclear war was "very likely", for a total of 43%. My aim in studying this data is to analyze how respondents perceived the threat of nuclear war as a part of their futures, so for this reason I have decided to compare responses across time frames. For instance, another survey taken in November of 1983 asked a similar question with a more open-ended time frame: "What do you think the chances are that there will be a nuclear war between the U.S. and the Soviet Union in the next few years?" (ABC News/Washington Post, 1983c). While these questions refer to ostensibly different time frames, I have grouped and analyzed them together, in the hopes of understanding how many participants considered nuclear war to be a likely part of their futures. Similarly, I have included responses to questions of inevitability in my analysis, such as one question surveyed in January of 1985, which asked participants, "do you think nuclear war is inevitable, or do you think that nuclear war may never occur? (If inevitable) How long do you think it will be before a nuclear war happens-in how many years?" (Los Angeles Times, 1985f).

For this question, I have counted all participants who thought nuclear war was inevitable, regardless of how many years away they thought nuclear war might be. Again, I have done this because my interest lies in analyzing these survey questions is to understand whether and how Americans considered nuclear war to be a part of their futures. In Figure 1, I have averaged the

responses by year, and also tallied the number of questions asking about the likelihood or inevitability of nuclear war. If multiple questions were asked as a part of the same survey, they have been treated independently.



Figure 1

Looking at the data, there appears to be an overall trend downwards in the belief that nuclear war was an eventuality. The peak of respondents answering that they considered nuclear war to be a part of their future actually occurred in 1982, *before* either *The Day After* or nuclear winter appear on the cultural horizon. In 1982, an average of 40.25% of respondents answered that they thought nuclear war was inevitable or would occur in the near future. The next year, in 1983, the year of nuclear winter and *The Day After*, slightly fewer (38.86%) responded as such. As time passed, it appears that respondents became subsequently less certain of nuclear war's imminence. By 1991, that number was all the way down to 22.5%. Cold War tensions were particularly high in the early 1980s, a period which Andrew Hunt has referred to as a "deep freeze" in the Cold War (Hunt 2021, 108). These tensions appear to be reflected in the survey data, with relatively high numbers of Americans believing that nuclear war would occur. As tensions eased between the two superpowers, so it seems did American belief (or fear) that a nuclear war would emerge.

The lowest point in the polling data occurred in 1986, where only 12.5% of respondents answered that they saw nuclear war on the horizon. That year, only one study appeared in the results of an iRoper search for "nuclear war" and "likely." It contained two relevant questions: "Do you believe a nuclear war with the Soviets is likely or unlikely in the next 15 years?" and "Do you believe a nuclear war with the Chinese is likely or unlikely in the next 15 years?" (Media General/Associated Press, 1986a; Media General/Associated Press 1986b). As mentioned earlier, I have treated these two questions independently, averaging their answers to compute the value for that year. These values appear to be an anomaly in the survey, possibly due to the sparsity of the data available. Otherwise, it is possible that Cold War relations appeared especially involatile in February of 1986. It is worth noting that this survey was taken before the Chernobyl disaster that would occur in April of that year.



Figure 2

When plotting the results of 1983 by month (Figure 2), the influence of *The Day After* and nuclear winter begin to become clearer, at least when looking at the number of questions asked. Seven relevant questions appear in the iRoper database for the year 1983—four of those were asked in or after November. This indicates that there was an increased interest in how the American populace was thinking about nuclear war. And yet, as the survey results indicate, there does not seem to have been a change in how likely Americans considered nuclear war to be. Despite the increase in discussion of nuclear issues that surrounded the publication of the nuclear winter concept and the airing of *The Day After*, it does not appear that Americans considered nuclear war to be any more or less likely during and after the fall of 1983. Indeed, looking at the data plotted by year in Figure 1, there is no correlation between the number of questions asked about the likelihood of nuclear war and affirmative responses to that question (r = 0.341). Despite what appears to be an increased interest from the survey takers in both 1983 and 1985, the responses continued to trend towards less likely in those years. That being said, in 1983, an average of 38.36% of respondents said that they considered nuclear war to be at least

"somewhat" likely in the near future. That corresponds to nearly 2 in 5 Americans exhibiting one of the hallmarks of Diamond and Bachman's definition of nuclear despair: the belief that nuclear war was likely to occur.

The other hallmark of Diamond and Bachman's definition of nuclear despair was the perception of the outcome of nuclear war on human life. Specifically, Diamond and Bachman's definition of despair pertains to the belief that humanity would be unlikely to "make it through these tough times" (Diamond and Bachman 1986, 218). While fewer surveys measured this aspect of nuclear despair, one interesting question stands out. In both March of 1982 and November of 1985, pollsters asked American participants a version of the following question: "would you want to survive an all-out nuclear war, or not?" (Los Angeles Times, 1985h). In 1982, 53% of the 1,503 participants responded that they would rather die than survive an all-out nuclear war. Only 37% said that they would want to survive, with the rest abstaining from answering or saying they were not sure (Los Angeles Times, 1982d). By 1985, the number of participants saying that they did not want to survive had risen over ten percent, up to 63% of the 2,041 participants. This time, only 31% said that they would want to survive (Los Angeles Times, 1985h). These numbers indicate that Americans in the early 1980s were given increasing reason to imagine that the outcome of nuclear war would be grisly and horrific—something not worth living to experience. The models of nuclear winter and *The Day After* could certainly have provided ample reason to believe this. Participants cannot be blamed for thinking that an instant death would be preferable to an agonizing survival in the cold, dark aftermath of nuclear war. Interestingly, while these numbers show a marked increase over the three-year interval between them, even in 1982 most respondents said that they would prefer to die than to survive a nuclear war. While The Day After and nuclear winter provided vivid new images of the violence of

nuclear war, this data suggests that they were received by a population who were already quite aware of nuclear war's horrors—and who had already decided that they would rather not live to see its aftermath. Rather than providing a radical new view of the destructive capabilities of nuclear war as those like Sagan had hoped to do, it seems then that for a majority of the population, these models were more like a confirmation of what they already knew: nuclear war would be awful and gruesome—it would be better to die then to live to see its consequences.

So, if Americans were already largely convicted of the horrors of nuclear war, just how large was the topic looming in the average person's life? To probe this question further, I will turn to polls that asked participants how much they worried about nuclear war. Specifically, I will look at one question that was asked multiple times as a part of surveys conducted between 1983 and 1985. Figure 3 shows the responses to a question asked 6 times by Yankelovich, Skelly & White as part of a "Times Soundings" survey:

(People have different concerns about what's going on in the world these days, but you can't worry about everything all the time. Will you tell me for each of the following whether right now this is something that worries you personally a lot, a little, or not at all?) ...the possibility of nuclear war. (Time Magazine, 1983c)

In these surveys, participants were prompted about a series of issues, and asked for each how much they were worried about that issue. Between June of 1983 and the end of 1985, this question was asked 7 times with the same wording to registered Americans, allowing for longitudinal comparison between the surveys across that time period, including the autumn of 1983. Figure 3 displays in blue the number of participants who responded that they worried "a lot" about the possibility of nuclear war. The number of participants who said that they worried "a little" is displayed in orange, so that the total number of participants who responded that they due to the end date of the survey.





In June of 1983, before *The Day After* had aired or nuclear winter had been announced, a majority of respondents (51%) already said that they worried "a lot" about the threat of nuclear war. By September, Cold War tensions were at a particular high after a Soviet jet fired on and shot down a Korean Air Lines flight that had strayed into Soviet airspace on September 1, 1983 (Hunt 2021). By the time the survey was conducted again, between September 20th and 22nd, 59% of respondents said that they worried a lot. At this point, 86% of respondents said that they worried at least somewhat about the possibility of nuclear war. This may have been a saturation point, as by the time *The Day After* and nuclear winter had come out, participants responded nearly identically, with 60% saying that they worried a lot, and 25% saying they worried "a little." As time went on, and the survey was asked again, responses would only decrease slightly. The last time that the survey was asked, in November of 1985, still nearly 8 in 10 respondents described themselves as at least somewhat worried about nuclear war. It does not appear, from the longitudinal analysis of this survey, that the events of the fall of 1983 had a major impact on

how much people worried about nuclear war—perhaps because they were *already* so worried about it.

By the fall of 1983, it appears that the American people were already saturated by thoughts of nuclear war. One method of dealing with the pervasive anxiety seem to have been to ignore it. Occasionally, polling questions would ask participants directly if they were attempting to intentionally not think about the prospect of nuclear war. In one survey, conducted in the Autumn of 1981, participants were asked to select which category best defined them: "I frequently think and worry about the chances of a nuclear war," "While I am concerned about the chances of nuclear war, I try to put it out of my mind," or "I don't think a nuclear war is too likely so I don't worry about it' (Newsweek, 1981a). In this poll, only 18% of respondents answered that they thought and worried about nuclear war frequently. Far more respondents (47%) answered that they were concerned but try to put it out of their minds. The wording of this question, with the option to select that one was actively trying not to think about nuclear war, illuminates something of the popular response to widespread nuclear anxiety. In total, 65% of the participants in this survey listed that they were concerned about the possibility of nuclear war, but the vast majority of these were attempting to put it out of their minds, presumably because there was little to nothing that they felt they could do about it. When a similar question was asked in March of 1982, the number of respondents who said they were "concerned, but try to put nuclear war out of mind" rose to 49%, and the number who frequently worried also rose slightly to 19% (Newsweek, 1982a). In that same survey, participants were asked "If we should get into a limited nuclear war in which the Soviet Union attacked some of our military bases and installations with nuclear weapons, what do you think would be your chances of living through it?" (Newsweek 1982b). Only 9% of respondents thought they had a "good" chance of survival.

38% responded that they thought their chances were just 50-50, and 51% answered that they thought their chances were poor. Clearly then, participants did not take the topic of nuclear war lightly—most believed that in the event of a nuclear war they were likely to die. How then are we to explain participants willingness and choice to simply try not to think about it?

One potential solution to this quandary lies in the question *if Americans were attempting* to avoid the topic of nuclear war, what was on their minds? In an attempt to answer this question, and to contextualize nuclear fear among other contemporaneous anxieties, I have analyzed 69 surveys that asked participants what they thought the primary concern facing the country from the years 1982 to 1994. These surveys were selected because they asked participants to choose between nuclear anxiety and other anxieties about the future of the country—primarily jobs and the economy. Figure 4 plots all responses that related to nuclear war (such as "Arms control," "Breakdown in disarmament negotiations," etc) compared with responses that related to jobs and the economy (including "High cost of living/inflation," "recession/depression," etc.). As the graph makes illustrates, Americans in every year ranked economic issues as having higher priority for the country than the prospect (or means of avoidance) of nuclear war. Only in the year 1985, where concern about the economy was relatively low, did the topics pertaining to nuclear war come close to matching the cumulative responses related to the economy and jobs. And in 1983, despite the increased media attention garnered by The Day After and nuclear winter, concern about the economy still greatly outpaced that of nuclear war. In a survey taken on December 8 of that year only 18% of respondents listed concerns about nuclear war as the top priority for the country; a greater number than the year's average of 9%, but still much lower than the 52% who listed economic concerns. It seems that

while nuclear war was a major concern if it was brought up or if one was forced to think about it, it ranked behind other concerns which may have seemed more immediate—if more quotidian.



Figure 4

Perhaps the topic of nuclear war was simply too much for the American populace to think about constantly—or perhaps there was simply too little for them to do about it. Neither model, nuclear winter nor *The Day After*, appeared to offer Americans a satisfactory outlet by which to exercise a sense political agency. Arriving on the coattails of the largest political demonstration in the nation's history, nuclear winter and *The Day After* painted new, vivid, and disastrous pictures of the nuclear threat, but did not offer a novel form of resistance. In turn, despite the massive impact that the two models may have had on their personal psyches, many Americans seem to have done all that they could to put nuclear war out of their minds—focusing instead on easier to handle issues like the economy or unemployment. For those who had direct avenues by which to exercise political power, the story is quite different. Despite launching a public campaign against the film, *The Day After* had a massive effect on Ronald Reagan. Reagan wrote in his diaries after viewing the movie at Camp David that the film was "very powerfully done" and left him "greatly depressed" (Reagan 1983b). More than leaving the president emotionally

affected, it seeded a political conversion that would manifest years later when Reagan was negotiating with Mikhail Gorbachev on the elimination of intermediate range nuclear weapons in Europe. Reagan would then take time out of his day to telegram Nicholas Meyer, the film's director, to say "Don't think your movie didn't have any part of this, because it did" (quoted in Hunt 2021, 119). Nuclear winter would have a similar chance to directly speak to those holding direct political power when, on March 14, 1985, a joint hearing was held before members of the United States Congress Subcommittee on Natural Resources, Agriculture Research and Environment of the Committee on Science and Technology and the Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs ("Nuclear Winter" 1985). Both nuclear winter and *The Day After* were successful at getting an updated image of the dangers of nuclear war before American politicians, and, at least in the case of Ronald Reagan, radically affecting their political positions. But despite early fears of a nation rendered incapacitated by despair, by the Autumn of 1983, it seems Americans had already been saturated with fear of nuclear war; there was little that they could do with their ever-present anxiety, so byand-large it appears that they chose to put it out of their minds and focus on more conventional and immediate problems like the state of the economy.

Conclusion

In 1989, David M. Rubin and Constance Cummings conducted a study of the television news coverage surrounding both nuclear winter and *The Day After*. Their results provide a useful comparison point to our own analysis, and insight into another way that these models were broadcast to and received by the American public. Rubin and Cummings remarked, as I have also argued, that nuclear winter and *The Day After* each embodied a hope for political action, having been created with a desire to "galvanize public interest" (Rubin and Cummings 1989, 40).

Edward Hume, screenwriter of the ABC-TV movie "The Day After"... hoped the film would "wrench" public dialogue "back to the surface" on the "value of defending this country with a nuclear arsenal. Similarly, Carl Sagan hoped to provoke widespread public response to his theory of nuclear winter... revealing it in the popular Sunday magazine supplement *Parade*. (Rubin and Cummings 1989, 40)

Rubin and Cummings note that supporting this sense of hope was the fact that the publicity surrounding these new models, paired with the current state of American nuclear policy, created a remarkable new opportunity for public debate on the topic of nuclear war, one that they felt was perhaps unparalleled since the bombing of Hiroshima. Alas, Rubin and Cummings found that, at least in regards to the television news media, this opportunity was squandered: "the result... was bitterly disappointing to those who...see the news media as potential agents for stimulating change in the nuclear regime" (Rubin and Cummings 1989, 45). Interestingly, Rubin and Cummings found that, rather than being overlooked or dismissed, news media seemed to readily accept the dismal findings of nuclear winter and the depressing message of *The Day* After. "Network journalists seem to have wholly accepted the view that life will not survive a nuclear exchange; therefore, additional evidence of that fact is uncritically embraced by television news organizations and largely ignored" (Rubin and Cummings 1989, 47). Rather than provoking and probing debate on the topic of nuclear war, the television news media seemed to have accepted a remarkably depressing position of acceptance of humanity's potential destruction at the hands of nuclear weapons. As Rubin and Cummings note, this position coincides with a lack of actionable responses to the nuclear problem: "the constant iteration of the horror of nuclear war and the production of nuclear weapons is not likely to interest or

mobilize the public in the absence of clear, practical, uncomplicated actions that could be pursued to reduce the threat" (Rubin and Cummings 1989, 40–41). As I have argued in this essay, in the fall of 1983, the American public was confronted with vivid new images of nuclear apocalypse in the form of Sagan's nuclear winter theory and ABC's television film *The Day After*. Despite the intentions behind these models, they ultimately failed to provoke meaningful political action, instead becoming yet another piece of depressing news about the nuclear threat. Rubin and Cummings leverage Robert Lifton's term "psychic numbing," where I might argue we see the imprint of nuclear despair, in a population overwhelmed with images of nuclear disaster but with little recourse to alter the situation.

Rubin and Cummings end their own article with a postulation that, whatever might be the surface reason, the topical treatment of nuclear weapons in the media served to enable and abet the American nuclear complex's ability to operate with remarkably little input from the public. "Television's reaction to the events of 1983 illustrates its role as a silent, willing partner of government in keeping nuclear issues below the threshold of national consciousness" (Rubin and Cummings 1989, 56). In this formulation, it is even less accidental that the American public chose to put nuclear war out of their minds and focus on other issues like the state of the economy. Joseph Masco has similarly noted the active work that has gone into making the U.S. nuclear complex seem if not invisible, uninteresting: "the U.S. nuclear complex can only appear to be banal because an enormous national-cultural project has worked to make it so, transforming human senses while deflecting attention away from the multitudinous effects of a nuclear economy on everyday lives" (Masco [2006] 2020, 17). Here Masco underscores that to "put nuclear war out of one's mind"—as so many Americans did in the mid 1980s—was not a politically neutral action to take. Far from it, Masco contends that this formulation has enabled

the massive and hidden U.S. nuclear apparatus that we know today: "The consequence of this historical structure is that the U.S. nuclear complex is primarily visible today only in moments of crisis, when the stakes of nuclear policy are framed by heightened anxiety, and thus, subject, not to reassessment and investigation, but to increased fortification" (Masco [2006] 2020, 5). Nuclear winter and *The Day After* each attempted to break with this pattern, seeking to provoke widespread conversation and studied criticism of American nuclear policy. If they ultimately failed to do so, it was exactly the U.S. nuclear complex that stood to gain from their failure.

In this essay, I have described two models of nuclear apocalypse that arose in the fall of 1983: Carl Sagan's nuclear winter hypothesis and ABC's television movie *The Day After*. I have argued that each of these models carefully managed emotion in an attempt to cultivate hope and political action and avert despair, an effort at which I have aimed to show they were not always successful. By analyzing the media responses to each of these models, I have attempted to demonstrate the complex relationship that emerged between individual political agency and an apocalyptic threat driven by state actors. To measure popular response to these models, I turned to survey data from the latter part of the Cold War, where I surmised that conditions of depression and despair predated the autumn of 1983, but were highly contextualized within a framework of other priorities, leading to a scenario in which a large portion of the population simply tried to put the threat of nuclear war out of their minds, focusing instead on other issues that may have felt closer at hand and easier to consider. My goal in the paper has been to closely examined the complex relationship between media and individual action in the face of a global existential threat, paying special attention to the affective movements of despair.

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