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Alexander Simmens

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Technology and Sustainability: The Consequences of Modernization on German  
Environmentalism

by

Alexander Simmens

Paul Buchholz  
Adviser

German Studies

Paul Buchholz  
Adviser

Noëlle McAfee  
Committee Member

Didem Uca  
Committee Member

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Alexander Simmens

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## Abstract

### Technology and Sustainability: The Consequences of Modernization on German Environmentalism

By Alexander Simmens

Nature and the environment have long been a central concern in German culture and society. Since the rise of industrialization in the eighteenth century, Generally speaking, modernization involved the exploitation of nature for human needs, regardless of the costs. Ecocriticism, a new scholarly phenomenon that studies fiction with specific focus on the environment, allows one to interpret environmental connections to literature. Adding to this existing scholarship, this thesis will examine the environmental discourse in Germany, beginning at the start of the Green movement in the 1960s. This thesis studies two thinkers, Hans Jonas and Nicolas Born, from the 1960s and 1970s whose works represent the diverging schools of thought in environmentalism: pragmatism and fatalism. Additionally, I will contextualize two works of fiction, Wolfgang Petersen's film *Smog* and Günter Grass's novel *Headbirths or the Germans are Dying Out*, with the schools of thought presented by Jonas and Born. I specifically aim to understand how Jonas's and Born's schools of thought relate to the public discourse on environmentalism around the beginning of the West German Green movement. Finally, I will relate the two schools of environmental thought with contemporary journalism, measuring any changes to the public discourse since the late twentieth century and the modern media culture surrounding sustainability. Ultimately, this thesis explains why some people are not receptive to changes to behavior for the sake of environmentalism. While a movement advocating for the desertion of technology from society took place in the 1960s and 1970s, I learn that this movement has come to a halt, with many thinkers acknowledging the necessity of living with technology, despite the dangers it poses.

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I dedicate this thesis in loving memory of Bubbie Sheila Aronberg.

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## INTRODUCTION

Nature and the environment have long been a central concern in German culture and society. Since the rise of industrialization and modernization in the eighteenth century, Europeans have considered nature to be something that should “be tamed for the benefit of mankind and put to use,” regardless of the consequences of doing so.<sup>1</sup> Thus, romanticism, an artistic, literary, and culture movement in response to modernity and industrialization, also gained prevalence in European literature around this time. Campaigns in support of environmental protection started taking shape in the nineteenth century as a response to the alteration of the natural environment in the modern age. Perhaps one of the most notable movements was *Naturschutz*, a conservationist effort that garnered significant attention in the late nineteenth and early twentieth centuries.<sup>2</sup> German rulers during the Second Empire often visited the country’s nature parks and created a variety of laws to safeguard the environment.<sup>3</sup> After the turn of the twentieth century, Germany enacted governmental initiatives to protect nature, with the primary goal of protecting specific natural elements, such as certain plant or animal species.<sup>4</sup> Additionally, the *Naturschutz* movement of the time had embraced the idea of a “connection between a sound natural environment and a healthy Volk.”<sup>5</sup> Likewise, supporters

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<sup>1</sup> Karl Ditt, “Nature Conservation in England and Germany 1900-70: Forerunner of Environmental Protection?” trans. Jane Rafferty, *Contemporary European History* 5, no. 1 (Mar. 1996): 1, accessed April 3, 2022.

<sup>2</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” *The Historian* 49, no. 4 (Aug. 1987): 509, accessed April 3, 2022.

<sup>3</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 509.

<sup>4</sup> Karl Ditt, “Nature Conservation in England and Germany 1900-70,” 15.

<sup>5</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 513.



of the movement maintained that modernization has caused tremendous damage to Germany, making any continued progression undesirable.<sup>6</sup>

When Nazi ideology gained prevalence in Germany, they increasingly relied on technology for use in the military, communications, and genocide. Despite their heavy reliance on technology, Nazi rhetoric also incorporated elements of environmentalism as a means of furthering their racist agenda. In the Third Reich, they preserved the notion that modernization caused great harm to the environment.<sup>7</sup> In a similar vein, the Nazis also appealed to nationalism and argued that “a sound natural environment is the bulwark of national character.”<sup>8</sup> This is significant because this conservationist nationalism was already a part of the *Naturschutz* movement of the 19<sup>th</sup> century, namely its focus on “Volk.” Since modernization destroys the natural environment, the Nazis propagated an anti-modern ideology.<sup>9</sup> Furthermore, they used conservationism as a vehicle to achieve their xenophobic goals. The Nazis, like some conservationists of the time, felt that “nature conservation [was] an instrument of racial hygiene.”<sup>10</sup> Conservationists specifically referred to those of eastern European descent when discussing those of diverse races and argued that these individuals caused a ‘dirty’ and ‘polluted’ environment.<sup>11</sup> Still, they targeted any group that did not have the stereotypical blond hair and blue eyes.<sup>12</sup> The environmentalist movement took a turn after the collapse of the Third Reich. Rather than the previously “conservative, top-down effort” to promote

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<sup>6</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 512.

<sup>7</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 513.

<sup>8</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 514.

<sup>9</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 514.

<sup>10</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 517.

<sup>11</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 517.

<sup>12</sup> Raymond H. Dominick III, “The Nazis and the Nature Conservationists,” 517.

sustainability, environmentalism in West Germany became associated with “left-wing grassroots activism” from the sixties onward, with a shift toward protection of nature in its entirety.<sup>13</sup>

Given Germany’s longstanding history with environmentalism, recent scholarship exists that addresses German ecocriticism in the context of fictional texts and films from a broad time period. Ecocriticism is a contemporary development in scholarship that puts nature into the context of the Anthropocene, which is the new epoch defined by permanent human-caused environmental damage. For example, Caroline Schaumann and Heather I. Sullivan, in their co-edited book entitled *German Ecocriticism in the Anthropocene (Literature, Cultures, and the Environment)*, feature a collection of essays that analyze an array of fictional works from the eighteenth to the twenty-first century.<sup>14</sup> In doing so, Schaumann and Sullivan, who define ‘ecocriticism’ as “the study of texts with attention to the physical environment,” offer an account of the environmental issues present in a plethora of German fictional works.<sup>15</sup> They specifically aim to explore beyond traditional readings of nature in literature, while covering particular topics of concern in ecocritical studies.<sup>16</sup> Though Schaumann and Sullivan argue that literary ecocriticism is a relatively new phenomenon, they include essays that cover fiction from as early as the eighteenth century because the discussion of nature has long been prevalent in German literature.<sup>17</sup>

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<sup>13</sup> Deborah R. Coen, “The Greening of German History,” *Isis* 99, No. 1 (March 2008): 146, accessed April 3, 2022.

<sup>14</sup> Caroline Schaumann et al., introduction to *German Ecocriticism in the Anthropocene (Literature, Cultures, and the Environment)*, ed. Caroline Schaumann and Heather I. Sullivan (New York: Palgrave Macmillan, 2017), 21.

<sup>15</sup> Caroline Schaumann et al., introduction to *German Ecocriticism in the Anthropocene*, 20.

<sup>16</sup> Caroline Schaumann et al., introduction to *German Ecocriticism in the Anthropocene*, 26.

<sup>17</sup> Caroline Schaumann et al., introduction to *German Ecocriticism in the Anthropocene*, 23, 25.

In their work, Schaumann and Sullivan engage in novel scholarship by developing techniques to interpret environmental connections to literature from a variety of time periods. This thesis participates in the existing ecocritical conversation by extending its concerns to the public discourse surrounding environmentalism. Specifically, I will study two thinkers from the beginning of the Green movement in the first chapter, Hans Jonas and Nicolas Born. These writers represent the two opposing schools of thought on environmentalism: Jonas views sustainability with pragmatic realism, while Born takes a cynically fatalist approach. Moreover, Jonas and Born believe that an increased reliance on technology has caused the environmental turmoil present in the 1960s, though they do not share opinions on how, if at all, people can safely live with technology. In the second chapter, I will contextualize two fictional pieces, Wolfgang Petersen's film *Smog* and Günter Grass's novel *Headbirths or the Germans are Dying Out* with the schools of thought presented by Jonas's and Born's works. In analyzing these pieces, I aim to grasp some of the public discourse on environmentalism by way of the author's opinion in their piece. I will then relate the schools of environmental thought with contemporary journalism in the third chapter. In doing so, I intend to measure any changes to the public discourse on environmentalism since the beginning of the Green movement in the 1960s, in addition to the contemporary media culture surrounding sustainability. Evaluating changes to the environmental discourse can position society to understand why some people are not receptive to behavior changes, despite environmentalism's increasing urgency. We also learn that many scholars no longer seem interested in abandoning technology as some supported in the 1960s and 70s, with many thinkers now willing to live with technology, despite the dangers it poses.

## CHAPTER 1

I will be analyzing three texts from the 1960s and 1970s as the basis for the philosophical discourse in this thesis: Hans Jonas's book entitled *The Imperative of Responsibility*, and Nicolas Born's essays "Die Welt der Maschine" and "Phantasie an der Macht." I will begin my discussions of each author by providing a brief biographical introduction to their lives, in addition to the context in which they created their pieces. I will continue by providing a thorough summary of each text. Lastly, I will conclude this chapter by comparing the two authors' ideologies. In doing so, I will specifically identify where their thoughts on the prospects for changing the human relationship with nature and transforming the human reliance on technology concur and differ.

### HANS JONAS

#### A Biographical Introduction to Jonas

Before discussing the substance of Jonas's ideas, it is important to establish the context in which he creates his ethics. Jonas was born in 1903 in Germany to a German-Jewish family.<sup>18</sup> He spent many years of his young life learning from Martin Heidegger at the University of Freiburg before earning his doctorate in 1928.<sup>19</sup> In 1933, Jonas fled Germany in direct response to the Nazis' seizure of power, the same year that Heidegger joined the Nazi party.<sup>20</sup> After Jonas departed from Germany, he taught and lived in many countries, such as England, Israel, and

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<sup>18</sup> Eric Pace, "Hans Jonas, Influential Philosopher, Is Dead at 89," *The New York Times*, February 6, 1993, <https://www.nytimes.com/1993/02/06/nyregion/hans-jonas-influential-philosopher-is-dead-at-89.html>.

<sup>19</sup> Eric Pace, "Hans Jonas, Influential Philosopher, Is Dead at 89."

<sup>20</sup> Eric Pace, "Hans Jonas, Influential Philosopher, Is Dead at 89."

Canada, before permanently settling in the United States.<sup>21</sup> Jonas also served in the British army during World War II, with the sole intention of fighting the Nazis.<sup>22</sup>

Jonas escaped what was ultimately one of the greatest atrocities in human history, and his experiences in exile helped shape his philosophical approaches. Jonas was a gnostic, or someone who believes humans contain parts of God in their bodies, and an ethicist.<sup>23</sup> Toward the beginning of his career, Jonas used his faith to dictate his ethics, and later focused on environmental ethics and bioethics. As Jonas grounded himself in his philosophy, he became critical of technology's increasing role in society and feared for its consequences on nature. Nevertheless, Jonas believed that humanity could live with technology. He stressed the importance of being mindful of the consequences of our actions, but also saw the benefit of using technology to measure progress.<sup>24</sup> Additionally, he was confident that people will take action to live more sustainably, even if their actions may not have immediate benefit.

### The Ethics

Jonas wrote *The Imperative of Responsibility* in German in 1979, publishing a translated version in English in 1984 while he was in the United States. At the time, Jonas witnessed the onset of disastrous consequences caused by an increase in reliance on technology, particularly concerned with the ecological costs. No previously written ethical standards considered

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<sup>21</sup> Patrick Gallen, "Hans Jonas," *Histories of The New School*, June 1, 2018, <http://newschoolhistories.org/people/hans-jonas/>.

<sup>22</sup> Eric Pace, "Hans Jonas, Influential Philosopher, Is Dead at 89."

<sup>23</sup> Lewis Coyne, *Hans Jonas: Life, Technology and the Horizons of Responsibility* (New York: Bloomsbury Academic, 2021), 9.

<sup>24</sup> Hans Jonas, *The Imperative of Responsibility* (Chicago: The University of Chicago Press, 1984), 163.

technological advancement to be a catalyst of changing human behavior. Thus, Jonas wanted to establish environmental ethics that make clear “man’s duties to himself.”<sup>25</sup> Essentially, some ethical characteristics by which humans previously abided became really irrelevant, or in need of revisiting, as technology became more prevalent. First, previous ethics believed that human interaction with nature was “ethically neutral,” with checks and balances in place to prevent people from severely damaging nature.<sup>26</sup> Second, previous ethics were *anthropocentric*, dealing only with person-to-person interaction and disregarding interaction with the natural world.<sup>27</sup> Third, “man” was considered a constant, unchanging entity; people do not have the capacity to significantly develop and change.<sup>28</sup> Finally, previous ethics did not consider the possibility that individual human behavior could change the world. In the past, one’s behavior was short-term and could only affect what was presently occurring. Prior ethics also considered the future only as one’s immediate lifetime, which has changed due to recent technological advancements. When one acted, one should only think about present and immediate consequences because the future is uncertain.<sup>29</sup>

Thus, Jonas proposes a new ethical dimension encompassing this new technological age. Humanity previously used technology for necessity, designing things that humans needed to live. People have greatly succeeded at creating new technology, entering “a positive feedback of functional necessity and reward.”<sup>30</sup> Essentially, people consistently find themselves wanting

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<sup>25</sup> Hans Jonas, *The Imperative of Responsibility*, back cover.

<sup>26</sup> Hans Jonas, *The Imperative of Responsibility*, 4.

<sup>27</sup> Hans Jonas, *The Imperative of Responsibility*, 4.

<sup>28</sup> Hans Jonas, *The Imperative of Responsibility*, 4.

<sup>29</sup> Hans Jonas, *The Imperative of Responsibility*, 5.

<sup>30</sup> Hans Jonas, *The Imperative of Responsibility*, 9.

more. While there is still some immediacy in these new ethics, they are now accompanied by a larger, more long-term scale. In other words, human action may have consequences beyond one's neighbors, with possible effects reaching into future generations. Jonas's new ethical realm handles cumulative actions, the results of which become worse over time. Although life with technology is unavoidable, humanity needs to hold itself accountable for its actions, whether positive or unintentionally detrimental.

Still, Jonas believes that creating new ethics will be challenging for humanity. To allow society to grasp the dangers of this new realm, the new ethics must determine the long-term consequences of technological advancement. The ethics must also conjure enough fear in humanity so people can understand the threat at hand. Jonas argues that, while humanity's current behavior is unlikely to kill anyone's immediate family, "the prophecy of doom is to be given greater heed than the prophecy of bliss."<sup>31</sup> This fear of impending doom is enough reason to form new ethics; governments should make political decisions under these assumptions. Technological progress moves faster than the natural checks and balances in place to counteract human mistakes.<sup>32</sup> In other words, nature could previously repair any human damage on its own without issue. Technological advancement has now caused people to damage the environment faster, thus nature is no longer able to easily repair itself. As a result, our behavior can never threaten human existence. If humankind's existence is ever at risk from an action, that behavior should be considered unacceptable.

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<sup>31</sup> Hans Jonas, *The Imperative of Responsibility*, 31.

<sup>32</sup> Hans Jonas, *The Imperative of Responsibility*, 32.

Jonas outlines two dimensions of responsibility: a formal dimension (“Verantwortung als kausale Zurechnung begangener Taten;” “*responsibility as a causal attribution of committed actions*”) and a substantive dimension (“Verantwortung für Zu-Tuendes: Die Pflicht der Macht;” “*the responsibility of what is left to do: the duty of power*”).<sup>33</sup> Jonas chose these English and German terms to distinguish between responsibility for a past and future behavior. In a formal dimension, one is held responsible for a behavior committed in the past. For example, if one committed a murder, one must be held responsible for that crime. This dimension is primarily applicable to legal proceedings rather than the development of ethics. When one is held responsible for an act under the formal dimension, the defendant must typically face a consequence for their action to “restore [society’s] disturbed moral order.”<sup>34</sup> Substantive responsibility is not for what one has done, but for what can be done in the future. Under this realm, one can be held responsible for something if their behavior can affect it. If a hypothetical object requires one’s behavior to exist, one is responsible for that object. Likewise, if one’s behavior can threaten that object’s existence, one is responsible for that object. Jonas determines that the substantive realm is of particular importance when creating new ethics. Many behaviors can affect nature significantly, which is why humanity must be responsible for securing its health. The definition of irresponsible behavior is also clear regarding either of these realms. When one’s behavior puts at least another person at risk, they are acting irresponsibly. For instance, a driver who drives recklessly may be careless, but they become irresponsible when their behavior endangers others’ safety.

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<sup>33</sup> Hans Jonas, *Das Prinzip Verantwortung* (Frankfurt: Suhrkamp Taschenbuch Verlag, 1979), 172 – 174; unless otherwise noted, all translations are my own.

<sup>34</sup> Hans Jonas, *The Imperative of Responsibility*, 91.



Jonas continues his definition of responsibility to distinguish between natural and contractual responsibilities. The only instance of natural responsibility is bestowed upon a parent for a child. This responsibility is not agreed to but is awarded to parents when they have children. Jonas argues that natural responsibility is the most important type; without parents raising children into adulthood, there can be no contractual responsibility. On the other hand, contractual responsibility is mutually agreed upon by all involved parties. A component of contractual responsibility is political responsibility, which is when one wishes for power and enters a contract to be responsible for a society. Although natural and political responsibilities are quite different, they are similar because, plainly, politicians and parents are both unconditionally responsible for other people. Regardless of whether one feels that humanity should exist, parents and statesmen must still protect it entirely; now that people are on Earth, Jonas feels they need to stay on Earth. Any responsibility for a present life must also require responsibility for future life because “the future ... is no less, but also no more, ‘itself’ and for its own sake than was any portion of the past.”<sup>35</sup>

While Jonas recognizes the importance of thoroughly defining responsibility, he also understands the need to outline how this responsibility will manifest itself in society. Above all, Jonas feels that society’s primary task is to prevent people from going extinct. This is not an anthropocentric approach, though, because Jonas also argues for the preservation of the nonhuman world. When the nonhuman aspects of nature thrive, humanity also thrives. These tasks beg the question: which political environment is most conducive to the preservation of

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<sup>35</sup> Hans Jonas, *The Imperative of Responsibility*, 109.

nature and, therefore, humanity? In perfect conditions, total economic and political control found in Marxist regimes could best counter the environmental dangers at hand. A government also needs its citizens to want to obey this total control, which occurs in communism. However, capitalist societies can modernize swiftly, and Jonas is skeptical of the prospect of communism progressing as fast as capitalism. Jonas does not endorse any one political or economic system. Rather, he offers general guidance on how to remain responsible. First, society must not promote prosperity because responsibility requires the equal distribution of resources worldwide; the concept of prosperity entails that one group has more than another. Additionally, governments need to be transparent with their constituents about the current dangers the world faces. Thus, Jonas weighs the pros and cons of a society in which society can adjust its expectations for acceptable living conditions to be stewards to nature.

Although there are clear benefits to creating a perfect society to protect nature, Jonas spends his last chapter outlining the downfalls of such a utopia. Specifically, he criticizes the “physical conditions” and “desirability” of the Marxist utopia.<sup>36</sup> Essentially, Jonas does not believe that nature can sustain a utopia that requires “*plenty* [of material] for satisfying the needs of all.”<sup>37</sup> He is specifically skeptical of the prospect of developing a utopia that allows for the appropriate use of technology with little disturbance to humanity, which can make-or-break a society’s existence.<sup>38</sup> Jonas is also cynical about the “desirability” of a utopia.<sup>39</sup> Marx describes the necessity of work as “a first need of life,” a need from which workers became

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<sup>36</sup> Hans Jonas, *The Imperative of Responsibility*, 186, 192.

<sup>37</sup> Hans Jonas, *The Imperative of Responsibility*, 186.

<sup>38</sup> Hans Jonas, *The Imperative of Responsibility*, 187.

<sup>39</sup> Hans Jonas, *The Imperative of Responsibility*, 192.

alienated through the domination of machines in industrial capitalism.<sup>40</sup> As such, society can easily lose sight of the value of work. Jonas cites Ernst Bloch as sharing his cynicism. Namely, Bloch believes utopia is blurring the roles of work and leisure in society, leading to an inherent undesirability of these utopias.<sup>41</sup> Jonas concludes his work by clearly binding together the relationship between technology and a utopia. For Jonas, the two directly relate to each other because “the critique of utopia is implicitly a critique of technology.”<sup>42</sup> Jonas warns that society must be mindful of all “extreme possibilities.”<sup>43</sup> Nevertheless, he leaves his readers with a final warning that society must work to protect the environment with careful moderation, rather than appealing to extreme, and perhaps regretful, behavior.<sup>44</sup>

## NICOLAS BORN

### A Biographical Introduction to Born

Nicolas Born was born in 1937 in Duisburg, Germany.<sup>45</sup> Born remained in Germany for much of his life, though he briefly lived in the United States in 1969.<sup>46</sup> Initially rising to fame as part of the New Subjectivity literary movement after 1968, Born progressively advocated for West Germany to become an inclusive and sustainable society. He later dedicated many works

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<sup>40</sup> Hans Jonas, *The Imperative of Responsibility*, 193.

<sup>41</sup> Hans Jonas, *The Imperative of Responsibility*, 195.

<sup>42</sup> Hans Jonas, *The Imperative of Responsibility*, 201.

<sup>43</sup> Hans Jonas, *The Imperative of Responsibility*, 201.

<sup>44</sup> Hans Jonas, *The Imperative of Responsibility*, 203.

<sup>45</sup> “Index entry on Born, Nicolas,” Deutsche Biographie, accessed on March 22, 2022, <https://www.deutsche-biographie.de/pnd11851363X.html?language=en#indexcontent>.

<sup>46</sup> “Nicolas Born,” Ploughshares at Emerson College, accessed on March 22, 2022, <https://www.pshares.org/authors/nicolas-born>.

to imagining versions of a utopia, focusing on poetry. Born quickly found faults in many long-standing environmental and social policies in West Germany, writing about people “becoming aware of their own baleful agency ... when it may already be too late.”<sup>47</sup> As a result, he developed radical ideas for how humanity must prepare itself for, and possibly work to prevent, the eventual “Stück für Stück” (“*piece by piece*”) destroying of the Earth.<sup>48</sup> Born took many of his views from Herbert Marcuse, who subscribes to a western Marxist school of thought. Marcuse and Marx believe that people grow through a manipulation of nature to fit human needs, which has ultimately resulted in the development of technology.<sup>49</sup> However, technology has caused an alienation of labor which occurs when people work in different social classes as part of capitalism. As a communist thinker, Marx argued that technological development was actually a necessary condition for human freedom.<sup>50</sup>

Born wrote “Die Welt der Maschine” (“*The World of the Machine*”) as a strong warning to society on how to best save the Earth and, accordingly, humanity. Despite the importance of protecting the environment, Born was cynical and fatalistic. To make truly positive advancements, “*das Leben zu verteidigen*” (“*to defend life*”), humans need to enact a sudden and drastic movement away from technology.<sup>51</sup> Our reliance on technology stems deep, making this the only recourse, however unlikely, that allows for the Earth’s and humankind’s survival.

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<sup>47</sup> Paul Buchholz, “Ecological Pessimism and the Pronouns of the Future in Nicolas Born’s ‘Radikale Ernte’ (1975),” *The German Quarterly* 92.3, 367.

<sup>48</sup> Nicolas Born, “Die Welt der Maschine” in *Die Welt der Maschine: Aufsätze und Reden* (Hamburg: Rowohlt Verlag GmbH, 1980), 28.

<sup>49</sup> Arnold Farr, “Herbert Marcuse,” *Stanford Encyclopedia of Philosophy*, December 18, 2013, <https://plato.stanford.edu/entries/marcuse/>.

<sup>50</sup> Jonathan Wolff, “Karl Marx,” *Stanford Encyclopedia of Philosophy*, December 21, 2021, <https://plato.stanford.edu/entries/marx/>.

<sup>51</sup> Nicolas Born, “Die Welt der Maschine” in *Die Welt der Maschine: Aufsätze und Reden*, 29.

### “Die Welt der Maschine” Summary

“Die Welt der Maschine” was written as a broad critique of the technologization of society toward the end of the twentieth century. Specifically, he argues that society has become so overtaken by technology that machines no longer exist to help people. In referencing technology, Born refers to a particular mega-machine, a term coined by Lewis Mumford. Instead of people controlling the mega-machine, the mega-machine now controls people.<sup>52</sup> Born begins by acknowledging that the power of the mega-machine has consumed society. Technology has forced people into a dangerous addiction with wanting more, new, and better; the mega-machine has caused society to realize that it “zu allem fähig sind” (“*is capable of anything*”).<sup>53</sup> As a result, nature, including people, is becoming obsolete. Humanity has largely lost its ability to reason through an increasing reliance on technology, which replaces the human capacity for independent thought and action. Industrialization has also created issues related to human behavior, particularly the ways in which people experience feelings. People have become impersonal because of technology; one’s identity no longer refers to one’s personality, rather the car in their driveway or their next vacation destination.<sup>54</sup> Born argues that since emotion cannot influence technology, people are less sensitive and emotionless.

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<sup>52</sup> Nicolas Born, “Die Welt der Maschine” in *Die Welt der Maschine: Aufsätze und Reden*, 13.

<sup>53</sup> Nicolas Born, “Die Welt der Maschine” in *Die Welt der Maschine: Aufsätze und Reden*, 12.

<sup>54</sup> Nicolas Born, “Die Welt der Maschine” in *Die Welt der Maschine: Aufsätze und Reden*, 17.

Born proceeds to explain the significant effects of technology on the worldwide economy, namely that the economic system is increasing the power of the mega-machine. People are becoming obsolete in the workforce because many tasks that previously required human work can now be completed using technology. Born argues that this trend is being driven by humanity's need for an ever-growing economy with excess profits. Additionally, as people have been losing their jobs to technology, governments around the world have been creating programs designed to help those affected earn a living. However, Born feels these programs will ultimately become automated, falling victim to technology. For example, computer subsidies may create jobs, but they nevertheless stem back to computers, which rely on technology. Increasing industrialization and presence of the machine also creates, Born argues, an unhealthy reliance on nuclear technology. The waste generated by nuclear energy will affect society's drinking water and food supply, which Born believes would lead to the degradation of nature. Ultimately, Born argues that it is now the mega-machine's duty to keep the Earth clean and pretty, rather than nature working to keep itself healthy.

After discussing the frightening consequences of society's reliance on technology, Born begins to discuss what we can do to mitigate these effects. Unfortunately, he does not offer a clear solution, and is pessimistic at the prospect that one exists at all. Though Born recognizes past individuals' valiant attempts to limit human effects on nature, he contends that there is no viable alternative to technology. The machine no longer exists to assist people, rather it runs our lives. Although he feels society needs to withdraw from technologization, he also

recognizes that there is no way for us to survive without it.<sup>55</sup> Born claims that this risk is not worth the damage that technology may cause to nature. He is clear in his belief that our use of technology is still extremely damaging to nature, despite our reliance on the mega-machine to execute daily functions. Nevertheless, we have put ourselves in a position from which we cannot escape. Even if there are solutions to this technological crisis, they are so inconceivable that we cannot describe them with words.

#### “Phantasie an der Macht: Literatur als Utopie” Summary

Born continues this idea with which he ends “Die Welt der Maschine” in “Phantasie an der Macht: Literatur als Utopie” (“*Fantasy in Power: Literature as a Utopia*”): change in behavior is needed among all people around the world, though what nature exactly needs to survive may not be feasible in execution. Utopias traditionally attempt to create a perfect life under impeccable circumstances. To try and protect the environment, Born argues that many have envisioned utopias as societies that have completely abandoned technology. While Born does not believe it is possible to exist without technology, he is not anti-utopian. He believes in a different kind of utopia, but notably did not offer specifics outlining his vision for the world. Alternatively, he argues that the utopia the world needs to survive is only attainable through expression, primarily fantastical means of expression, like literature. Objective facts are undeniable and Born affirms the importance of accepting the truth when it presents itself; however, facts are often examples of technology taking over the world, which Born views

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<sup>55</sup> Nicolas Born, “Die Welt der Maschine” in *Die Welt der Maschine: Aufsätze und Reden*, 29.

negatively. Nevertheless, people need to imagine a time or space where these facts do not hold true anymore, which is only possible in the literary realm. Society is often deprived of a way of expressing realistic terms for how we can lead a different life. Thus, we need to hold onto “aller Bedeutungen, Symbole, und Metaphern” (“*all meanings, symbols, and metaphors*”) that allow us to imagine things differently.<sup>56</sup>

## COMPARISON

Jonas and Born share some broad similarities presented in their writing. Both thinkers were known to criticize the Third Reich. Although they experienced the Nazi regime in very different ways (Jonas was Jewish and went into exile, whereas Born was a young child), they hope for a more equal world, the opposite of what the Nazis produced. The two thinkers feel that economic equality and fair access to resources would slow the degradation of the environment. Additionally, both authors argue that technology has caused environmental destruction, changing human nature forever. They find humanity’s increasing reliance on technology to be severely problematic and felt that its growing presence in society supports our unnatural need for excess. Lastly, the two thinkers generally agree that humans could theoretically instill positive change to move away from technology to protect the environment. Though people can hypothetically change for the better, Jonas and Born differ in their opinion on whether positive change will actually come to fruition.

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<sup>56</sup> Nicolas Born, “Phantasie an der Macht” in *Die Welt der Maschine: Aufsätze und Reden* (Hamburg: Rowohlt Verlag GmbH, 1980), 59.



Despite their general agreements on some matters, Jonas and Born have many contradictory ideas, namely that Jonas approaches environmentalism pragmatically, and Born apocalyptically. On the one hand, Jonas is confident in humanity's ability to promote change for the sake of protecting the environment. Jonas's impression of human nature is arguably too optimistic. He assumes that society will inherently change its behavior to protect others, both present and future. Jonas concedes that past ethics were notably anthropocentric. However, he boldly supposes that if governments can garner enough fear in their citizens that humanity will soon cease to exist, that will cause panic and result in more sustainable actions.

One of Jonas's main arguments in *The Imperative of Responsibility* is the importance of moderation. He is wholly against a complete separation from technology and believes that people can work to protect the environment while using technology sparingly. He understands that people have become exceedingly reliant on technology, with no way for humanity to survive without it. As a result, Jonas advises against trying altogether. Instead, society should use the fear that comes with the uncertainty surrounding our future existence as a catalyst for developing ways to use technology with restraint. Lastly, unlike Born, Jonas provides readers with detailed levels of responsibility. Specifically, he makes clear that not all people can be held responsible for environmental protection in the same way. Moreover, Jonas seems to leverage the power of politicians. In appealing to their ability to encourage sustainability, Jonas empowers politicians to promote informed decisions to their constituents on how to protect nature for the sake of humanity.

By contrast, Born takes a pessimistic and fatalistic approach to sustainability. Like Jonas, Born also concludes that humanity has become too reliant on the mega-machine to healthily divorce itself from technology. However, while Jonas believes that people can successfully limit their use of technology, Born does not think this is possible. For Born, any limiting of the mega-machine is automatic suicide and should not be attempted. Since the risks of abandoning technology far outweigh the benefits to nature, Born fundamentally surrenders any possibility of sustainable use of technology in moderation.

Born is also vaguer than Jonas with his suggestions for how society can move forward with environmental protection. Throughout “Die Welt der Maschine” and “Phantasie an der Macht,” Born consistently maintains his pessimism about the prospect of a feasible solution to the effects of the mega-machine. Contradictory to Jonas’s optimism, Born argues in both essays that humanity cannot possibly conceive any potential resolution to this conflict. Rather, the answer is merely a fantasy, if one exists at all. This pessimism is doubtfully helpful, leaving readers lacking hope for the possibility of humanity’s survival, in addition to little motivation to save it. Born’s attitude is notably different from Jonas’s, who offers clear, yet general, guidance on how to make ethical decisions about sustainability.

## CHAPTER 2

Studying themes presented in fictional works of the late twentieth century can provide an accurate understanding of the environmental discourse of the time. To do so, I will examine Wolfgang Petersen's 1973 film, *Smog*, and Günter Grass's 1980 Novel, *Headbirths or The Germans Are Dying Out*. I will first provide any relevant background information on each work, including a summary, while acknowledging the historical contexts in which each work appeared. Subsequently, I will proceed with an analysis of common themes that each piece presents, focusing on attitudes toward the future in environmental discourse of the 1970s.

### **SMOG**

Wolfgang Petersen's television film, *Smog*, released in 1973, allows viewers to experience four days of environmental chaos in the Ruhr region in the German state of North Rhine-Westphalia. West Germany began enacting environmental protection policies as early as the 1960s with a growing movement against nonrenewable resources and nuclear energy.<sup>57</sup> One of the primary causes of this newfound concern for nature was the increasing concentration of smog in the European air.<sup>58</sup> At the time, the smog consisted mostly of sulfur dioxide, which is caused by emissions that result from burning fossil fuels and other harmful nonrenewable resources.<sup>59</sup> Excess sulfur dioxide in the atmosphere can cause harm to plant

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<sup>57</sup> Frank Uekoetter, *The Age of Smoke: Environmental Policy in Germany and the United States, 1880-1970* (Pittsburgh: University of Pittsburgh Press, 2009), 180.

<sup>58</sup> Frank Uekoetter, *The Age of Smoke*, 187.

<sup>59</sup> Frank Uekoetter, *The Age of Smoke*, 6.

and animal life, in addition to an increase in acid rain and other climate-warming agents.<sup>60</sup> Additionally, sulfur dioxide can be detrimental to human skin and respiratory systems.<sup>61</sup> Therefore, European governments hoped to restrict sulfur dioxide after discovering its dangerous potential. The disaster presented in *Smog* resembles what many had been fearing would happen in Germany during the early 1970s.

On the first day of the catastrophe, government officials begin measuring alarming amounts of sulfur dioxide in the atmosphere, raising concern for human safety. From the onset, officials try to curb any potential negative consequences. While keeping the public abreast via broadcast radio, officials offer suggestions for how individuals can limit their impact, such as restricting the use of personal cars whenever possible. Despite their attempts, the government does not halt citizens from going about their ordinary lives. People neither stop using their personal vehicles, nor believe the government would ban cars out of fear of destroying the economy. Furthermore, individuals adhere to the bystander effect when deciding how to behave. For instance, many believe they could keep driving their cars merely because others were also driving. Some hold erroneous beliefs that one person's consumption did not matter in the grand scheme of containing the smog, or that people need learn to live with the smog without any changes in behavior. Essentially, individuals either do not care about the smog, or do not believe there was any possibility of protecting the environment, deeming a disruption to normal life unnecessary. Interestingly, a major German corporation, Globag-Werk, tries to restrict the information being disseminated to the public about the true gravity of the smog,

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<sup>60</sup> "Sulfur Dioxide Basics," Environmental Protection Agency, accessed on April 6, 2022, <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics>.

<sup>61</sup> "Sulfur Dioxide Basics."

fearing a loss of business. After hearing of increased smog, a representative from Globag-Werk automatically questions the integrity of the weather report, asking an expert “ob es denkbar ist, dass sie die Wettersituation falsch [ist]” (“*If it is reasonable that the weather situation is false*”).<sup>62</sup>

The second day with the smog sees much of the same behavior. People continue to live their lives undeterred by the growing environmental and public health concerns. Although some citizens are growing ill due to the smog inhalation, most do not allow this to tarnish their livelihood. For example, one person continues a widespread appeal to the bystander effect and defends driving their car in the smog because “die anderen fahren ... auch” (“*the others are also driving*”).<sup>63</sup> Overall, the population continues to pay attention to new developments on the smog progression, while still going about their regular business, such as patronizing bars and restaurants. Radio and television news outlets keep reporting on updates as the fiasco escalated without any apparent opposition from government entities. In covering the state of affairs, the media also seems to give adequate voice to doctors and other experts, informing the public of the most accurate information. This comes with continued opposition from businesses like Globag-Werk, arguing against any disturbances to business.

Life in the Ruhr area comes to a screeching halt on the third day of the emergency. At this point the government begins official restrictions to daily life, instituting “eine völlige Lahmlegung des privaten Kraftfahrzeug Verkehrs,” in addition to “eine starke Einschränkung für

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<sup>62</sup> Wolfgang Petersen, *Smog*, directed by Wolfgang Petersen (1973; North Rhein-Westphalia: Westdeutscher Rundfunk), film.

<sup>63</sup> Wolfgang Petersen, *Smog*.

die Industrie" ("a complete blocking of motor vehicle traffic [in addition to] a stark restriction on industry").<sup>64</sup> Additionally, this is when the people of the Ruhr area begin experiencing severe illness, with many individuals dying as a result of exposure to the smog. However, Globag-Werk does not concede its efforts to sustain its business operations. Many environmental activists protest the large business, imploring executives to recognize the harm that sulfur dioxide is causing to the environment and to human lives. In the face of the activists' pleas, businesses maintain the impossibility of any environmental degradation due to their operations. Globag-Werk even threatens the Ruhr area government, declaring that they will find another place to operate if officials impede on their ability to function. Large businesses persistently continue their work, notwithstanding the lengthening obituary sections with people who have died due to their negligence.

After three traumatizing days of agony, normal life returns on the fourth day. With the improving weather conditions and minimal sulfur dioxide in the air, scientists approve of the Ruhr area returning to normality, making "der ganze Spuk vorbei" ("the whole spook is gone").<sup>65</sup> Once officials remove their restrictions, cars begin flooding the streets, businesses continue their manufacturing, and pollutants return to the atmosphere. Now that the smog crisis has concluded, government officials in the Ruhr area are hesitant to publicly reflect on the disaster. Representatives cannot attribute a certain number of deaths to the smog, and apparently wish to forget the incident and move forward without consideration of a future event.

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<sup>64</sup> Wolfgang Petersen, *Smog*.

<sup>65</sup> Wolfgang Petersen, *Smog*.

It is worth noting that young people, particularly children, play an important role in *Smog*. Throughout the film, viewers periodically follow one family as they experience the smog shutdown. As viewers follow the family, they see their baby grow ill because of the smog. By the conclusion of the movie, the baby passes away. Additionally, adults ignore the danger of the smog and keep their children in it as the situation progressively worsens. Some children even grow severely ill due to their parents' carelessness. Young adults recognize the long-term danger smog poses to nature, causing them to be the primary initiators of many protests featured in the film. Young people must live with the consequences of the smog for years to come, but older adults repeatedly dismiss their concerns, putting them at immediate risk.

Jonas would argue that the government portrayed in the film acted too slowly in responding to the smog crisis. His main argument throughout *The Imperative of Responsibility* originates from the need to protect the future of humanity at any cost. When a government uncovers a harmful agent that puts people's safety at risk, they should act immediately to shield its citizens from danger. From early in the crisis, it was clear to officials that the smog was problematic; the population was suddenly and increasingly growing ill from inhaling excess sulfur dioxide. The government officials in the film ultimately did not act swiftly enough to save lives. In the event of an emergency, it is a government's responsibility to take whatever actions necessary to protect its citizens. It is true that Jonas does not hold extreme views on permanently altering daily life for the sake of sustainability. Nevertheless, in an emergency, Jonas would deem people's safety as his highest priority. Hence, officials should have felt comfortable temporarily restricting normal life while they control the emergency. Waiting

multiple days to act ignores the emergency, putting citizens at risk, which is directly against Jonas's guidance.

If Jonas were judging the governmental response to the emergency, he would have also disagreed with its complete return to normality upon its conclusion. As shown throughout the disaster, human action exacerbates the smog in the air, which causes illness and death and harm to nature. Thus, change to daily behavior is necessary to prevent smog from plaguing society in the future. Despite recovering conditions, Jonas would claim that the government must take action to protect citizens, given known information on what worsens and improves the smog. However, when crafting a long-term response to smog, Jonas would not institute drastic changes to daily life because that is unlikely to garner the citizens' cooperation. Instead, he feels that societies should have a moderate approach, taking reasonable steps that protect nature while allowing people to live normally. Although changes should not be extreme, they should still heed expert guidance and prevent the reappearance of harmful pollutants. Ultimately, a government needs to protect its citizens to ensure the future of humanity.

In addition to critiquing the government's response, Jonas would have been appalled by the behavior of private citizens during the smog emergency. Jonas consistently maintains that it is everyone's responsibility, not only the government's, to ensure that people remain for future generations. As such, private citizens also needed to take actions to control the smog for everyone's safety. For example, rather than protesting restrictions, Jonas would contend that people should have been eager to halt their use of motor vehicles to protect others. This certainly did not happen, as the population in the Ruhr area continued their daily regimens as if



an environmental and public health crisis were not ensuing. After the crisis ended, people should have been receptive to changing their habits to prevent the smog from returning. While it is unreasonable for residents to drastically alter their routines in Jonas's opinion, they should have instituted their own changes in behavior to live more sustainably, with or without governmental instructions.

On the other hand, Born was quite radical in his beliefs on sustainability, and would therefore have reacted to the smog in the film radically. In the film, experts testified on the radio that human-developed machines, such as vehicles and factories, were causing and aggravating the smog in the air. Immediately after learning of the crisis, Born would have argued for a total societal shutdown without any machines or mechanisms that could exacerbate the smog. Upon containing the pollution, I predict Born would have continued a radical shutdown without machines. A world without technology, according to Born, is better for nature with the reduction of smog in the air. In addition, eliminating technology restricts the influence of the mega-machine on the worldwide economy, allowing us to better control nature and the economy for future generations.

Yet Born perfectly predicted an important event in the film: the major corporation at play, Globag-Werk, was apparently an active participant in the governmental response to the smog. Immediately at the onset of the situation, Globag-Werk executives were pressing forward with their work, regardless of the consequences. As the issue worsened and a shutdown ensued, the company leaders were defying official orders, continuing their harmful operations while threatening to move if the government were to resist. This dangerous rhetoric

from a powerful corporation is precisely what Born believed would drive political decisions. While not explicitly confirmed in the film, it is safe to conclude that Globag-Werk's threats to abandon the Ruhr area were a strong driving force in the government's decision to fully reopen. When a mega-machine, in this case a powerful business, gains too much control over the economy, nature begins to fall victim. Born's theory has been confirmed: in the case of the film, the smog would endure so that Globag-Werk can continue to function unobstructed, although their operations played a large role in causing the smog.

### **HEADBIRTHS**

Günter Grass was a major postwar novelist and political commentator who, according to Encyclopedia Britannica, was known as “the literary spokesman for the German generation that grew up in the Nazi era and survived the war.”<sup>66</sup> Grass published his novel *Headbirths* in 1980 amid many political, environmental, and economic developments in West Germany. The consequential West German election of 1980 was underway, with the moderate Helmut Schmidt of the Social Democratic Party facing reelection against the fiery Franz Josef Strauss of the Christian Democratic Union.<sup>67</sup> Some members of the SPD, which Grass supported, had begun a movement against nuclear energy in the 1970s, with these grassroots activists eventually diverging from the SPD and forming the Green Party. For example, these SPD

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<sup>66</sup> “Günter Grass,” Encyclopedia Britannica, edited by Amy Tikkanen, accessed on April 6, 2022, <https://www.britannica.com/biography/Gunter-Grass>.

<sup>67</sup> R. E. M. Irving et al., “The West German Election of 1980: Continuity Preferred to Change,” *Parliamentary Affairs* XXXIV, no. 2 (1981), 191.

activists halted the construction of a controversial nuclear power plant in Brokdorf, Germany in the 1970s and 1980s.<sup>68</sup> Additionally, the West German anti-nuclear movement had opposed the development of a nuclear waste repository in the German municipality of Gorleben.<sup>69</sup> West Germany also saw demographic changes to its population in the years leading up to the novel's publication. Refugees, immigrants, and stateless individuals moved to the country in the late twentieth century in large numbers, settling in municipalities such as Weil am Rhein.<sup>70</sup> A significant driver of the population changes was the 'Gastarbeiter' movement in which refugees migrated to West Germany to help recover its postwar economy.

*Headbirths* follows the fictional couple Harm and Dörte Peters, foreign language teachers from West Germany, as they travel through Asia during the 1980 German election. Though the novel's protagonists and plot are explicitly fictional, Grass acts as the narrator and includes some of his actual life experiences in this work of metafiction. During their travel, Harm and Dörte hope to assist the narrator with the filming of a movie that discusses world population growth. While the couple explores a variety of Asian countries, such as Thailand, Bali, and India, they discover connections to the politics of their homeland. The Peterses connect the population growth in Asia to the discourse back home predicting that Germans would soon become extinct due to a low birth rate and increased immigration. The couple's trip also allows them to understand why reliance on nuclear energy, against which Harm's political

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<sup>68</sup> Tim Schauenberg, "Germany's long anti-nuclear protest ends," *Deutsche Welle*, December 29, 2021, <https://www.dw.com/en/germanys-long-anti-nuclear-protest-ends/a-60278006>.

<sup>69</sup> "Germany to shut controversial Gorleben nuclear waste facility," *Deutsche Welle*, September 17, 2021, <https://www.dw.com/en/germany-to-shut-controversial-gorleben-nuclear-waste-facility/a-59211763>.

<sup>70</sup> Anthony Faiola et al., "Germany confirms asylum seekers are suspected in New Year's Eve assaults," *The Washington Post*, January 8, 2016, [https://www.washingtonpost.com/world/europe/asylum-seekers-suspected-in-rash-of-new-years-eve-assaults/2016/01/08/af1ed4c8-b584-11e5-8abc-d09392edc612\\_story.html](https://www.washingtonpost.com/world/europe/asylum-seekers-suspected-in-rash-of-new-years-eve-assaults/2016/01/08/af1ed4c8-b584-11e5-8abc-d09392edc612_story.html).

party is protesting at home, is increasing. They are predominantly concerned that rapid population growth in Asia resulted in higher demands for energy, leaving society with a need for more efficient means of energy production. Lastly, Harm and Dörte witness the environmental impacts of population growth in the countries they visited. Throughout the novel, the couple uses their experiences to weigh the advantages and disadvantages of having a baby during such a time of turmoil.

While Harm and Dörte ultimately decide to have a child, with Dörte pregnant at the novel's conclusion, the couple remains concerned for the planet's health. As mentioned, the protagonists fear the consequences of increased reliance on nuclear energy. Grass outlines their disdain for nuclear energy by describing a recent visit to Brokdorf:

Dörte Peters is absolutely opposed [to the construction of the nuclear site] on existential grounds—"it's a crime against nature, against people!" She trots out arguments that are always "somehow": "Then we must somehow economize or somehow find other sources of energy." In the interest of the workers—"After all, they're the ones who always have to pay!"—Harm is in favor, but with reservations. "Naturally, they first have to find solutions to the problem of safeguards, and specifically, medium- and long-term means of waste disposal. Otherwise it's a no go."

"Dörte and Harm have taken positions. Her "somehow against," his "for with reservations" travel through Asia with them, along with his vacuum-sealed liver sausage, natural casing and all, and along with their transportable quarrel over the child, whose existence, questionable from the start, has come to depend more and more on the nuclear energy question:" One more fast breeder and our child has had it, as far as I'm concerned."<sup>71</sup>

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<sup>71</sup> Günter Grass, *Headbirths or the Germans Are Dying Out*, trans. Ralph Manheim (San Diego: Harcourt Brace Jovanovich, Inc., 1982), 59 – 61.

The couple shares many of the important concerns about nuclear energy that Born mentions in “Die Welt der Maschine.” Born specifically warns that nuclear energy will gradually kill both humanity and nature in due time. He also claims that nuclear waste has the potential to deplete some of the natural resources upon which humanity relies, such as drinking water and the Earth’s food supply. Keeping with the economic consequences of nuclear energy, Born cautions readers that the materials required to produce it have the potential to exhaust the global supply chain, in addition to causing dangerous waste that must be disposed. Like Harm and Dörte, Born argues in favor of demonstrations against nuclear energy, despite his concession that the pro-nuclear movement will likely prevail. This overlap in the two authors’ logic emphasizes the usefulness of Born’s thinking in guiding some of the political and ecological discourse of the 1970s and 1980s.

Throughout their journey, Harm and Dörte note other concerns stemming from overpopulation, many of which mirror Born’s sentiments. The Peterses specifically notice environmental degradation because of widespread reproductive planning. For example, in Bombay, they feel that the population is overwhelmed by beggars and children in the street, with Harm noticing “here everybody shits where he pleases.”<sup>72</sup> While Born does not share some of the specific concerns that Grass references in *Headbirths*, he emphasizes the environmental necessity of worldwide population planning. Responsibly growing society’s population can allow us to prevent the environmental consequences of homelessness and overcrowding that Harm and Dörte observe, thereby working to guard nature from harm.

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<sup>72</sup> Günter Grass, *Headbirths*, 61.

As shown in the preceding paragraphs, many of the issues presented in the novel come from the consequences of overpopulation. The true problem, the characters believe, is not caused by all populations uncontrollably reproducing. Rather, they believe the issue stems from *certain* groups overpopulating, namely third world societies in Asia. Throughout the novel, many characters voice their concerns about third world populations constantly proliferating, like one of Dörte Peters's students:

“But what about us? No more babies. Fewer and fewer Germans. Why have we stopped having children? Why? In India, Mexico, and China, they're multiplying like mad. And we here, we Germans are dying out!”<sup>73</sup>

Dörte battles with her own emotions after hearing her student's racism. Although initially feeling baffled by the direct xenophobia, the narrator reveals that Dörte allows the same concern to “invade” her psyche.<sup>74</sup> Harm also expresses deep worry for the future when trying to figure out whether to have a child, shouting to his wife “If I make a child, I want to do it consciously. Do you hear? Not the Hindu way!”<sup>75</sup> This outburst suggests that Harm feels the Indian population is recklessly and unconsciously overpopulating, thus causing the anxieties that prevent him from wanting a child at the time.

The rhetoric that Grass presents through his characters was hardly abnormal at the time. Many Western thinkers and politicians of the 1960s and 1970s promoted the notion that overpopulation in third world countries was causing an uptick in immigration to the first world.

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<sup>73</sup> Günter Grass, *Headbirths*, 12.

<sup>74</sup> Günter Grass, *Headbirths*, 13.

<sup>75</sup> Günter Grass, *Headbirths*, 52.

Many argued that stopping immigration would reduce overpopulation everywhere. Consequently, this would allow for more balanced reproduction in the first world, bringing the population to a more stable equilibrium worldwide. As one might suspect, this theory coincided with a racist campaign in Europe that targeted people of color and Asian descent.

Herbert Gruhl was one of the staunchest proponents of this xenophobic theory. In his 1976 book, *Ein Planet wird Geplündert: Die Schreckensbilanz unserer Politik*, Gruhl argues that a ban on immigration would have helped solve the world's population problems, had such a ban been instituted at the appropriate time. Yet, because third-world societies have been too rapidly overpopulating, "reichen die Vorräte der Erde für eine solche Lösung ... nicht mehr aus" ("*the reserves of the Earth are no longer sufficient for such a solution*").<sup>76</sup> Although many European countries were positioned to help solve the problems, these countries have largely absolved themselves of this benefit by turning into "Einwanderungsländer für den gesamten Erdball" ("*immigration countries for the entire world*").<sup>77</sup> Gruhl believes that it is too late for society to implement any positive change. Nonetheless, his arguments represent the discourse that encouraged hostility toward minority populations in Europe.

In contrast to the potentially racist rhetoric surrounding immigration, Jonas holds views different from those of Gruhl and Grass. Jonas feels that one should act in a way that would be deemed acceptable in any setting under universal conditions. Hence, Jonas argues that all populations, regardless of race or culture, should be permitted to thrive. While Grass and Gruhl essentially believe that certain groups should not reproduce at all, I do not believe Jonas would

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<sup>76</sup> Herbert Gruhl, *Ein Planet wird Geplündert: Die Schreckensbilanz unserer Politik* (1976), 185.

<sup>77</sup> Herbert Gruhl, *Ein Planet wird Geplündert*, 185.

agree with that argument. Jonas would instead reason for responsible, sustainable reproduction. In his view, it is the responsibility of both governments and individuals to protect all future generations. Thus, governments and private citizens should develop plans that allow for all populations to reproduce in moderation. Jonas's guidance is evidently quashed in *Headbirths*. Grass draws attention to the xenophobic rhetoric of the 1960s and 1970s notwithstanding the main characters' liberal political ideations. The racism that Grass analyzes in the novel continues the harmful movement that singles out minority groups out of fear that they will take over the planet, leaving no room for white Europeans.



### CHAPTER 3

Now that I have analyzed how Jonas's and Born's ideas presented themselves in German fiction around the time of their publication, I will now identify how they are applicable today. I will first outline important changes to the discourse surrounding environmental responsibility that have occurred from the 1980s to the 2020s. I will then study contemporary German journalism that reports on the modern environmental movement. Specifically, I will highlight whether either thinker was correct in their predictions of modern environmental phenomena, while noticing the contemporary opinions on the prospect of the future.

Prior to delving into specific reporting from the modern era, one must appreciate how environmental discourse has changed since the 1980s. First, Germany reunified in 1989 at the end of the Cold War. As shown in the works from the late twentieth century that I previously discussed, West Germans were primarily concerned with the detrimental effects of nuclear energy and overpopulation on the environment. While both issues continue to pose significant risks to nature, the scientific community now believes that climate change poses the primary risk to the environment. Specifically, scientists now know that common human behaviors, such as driving with gasoline-powered vehicles, disposing of waste in landfills, and using nonrenewable resources like plastics, are releasing harmful chemicals into the atmosphere that warm the Earth.<sup>78</sup> Ecosystems and, therefore, the environment at large become damaged when this happens; nature cannot easily function with excessive temperatures and chemicals

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<sup>78</sup> "Basics of Climate Change," Environmental Protection Agency, accessed on April 6, 2022, <https://www.epa.gov/climatechange-science/basics-climate-change>.

compounds in the atmosphere.<sup>79</sup> Due to these new concerns, people around the world have begun advocating for changes to environmental legislation and societal behavior that limits harmful emissions.

Environmental sustainability has long been a key component of German politics. In the years after the 1980 election in West Germany, however, the Green Party started to gain unprecedented political traction. The policy stances of the Green party became so popular that the party ultimately became the third largest political party in the German Bundestag in 2021.<sup>80</sup> For example, the Greens ignited a widespread movement against nuclear energy because of the harmful effects of nuclear byproducts.<sup>81</sup> As environmental experts shifted their concern from nuclear energy to climate change, the Green Party responded by promoting policies aimed at reducing the harmful emissions released into the environment.<sup>82</sup> In recent years, the Greens have proposed a widely supported plan to eliminate coal power from Germany by 2030.<sup>83</sup> Consequently, the world's most desirable energy is now considered to be energies like solar and wind because of their renewability, moving away from nuclear and coal.<sup>84</sup>

As I have outlined, the environmental discourse worldwide has shifted its focus in quite a few ways. Hence, a discussion of the contemporary environmental discourse is necessary to

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<sup>79</sup> "Impacts of Climate Change," Environmental Protection Agency, accessed on April 6, 2022, <https://www.epa.gov/climatechange-science/impacts-climate-change>.

<sup>80</sup> David P. Conradt, "Green Party of Germany," Encyclopedia Britannica, <https://www.britannica.com/topic/Green-Party-of-Germany>.

<sup>81</sup> David P. Conradt, "The Green Party of Germany."

<sup>82</sup> Jens Thurau, "What do the German Greens want if they gain power?" *Deutsche Welle*, September 24, 2021, <https://www.dw.com/en/what-do-the-german-greens-want-if-they-gain-power/a-57248907>.

<sup>83</sup> Ciara Nugent, "How Germany's New Government Plans to Be the Greenest One Yet," *TIME*, November 26, 2021, <https://time.com/6124079/germany-government-green/>.

<sup>84</sup> "Renewable Energy at EPA," Environmental Protection Agency, accessed on April 6, 2022, <https://www.epa.gov/greeningepa/renewable-energy-epa>.

determine whether Jonas's and Born's writings are still relevant despite the change in the conversation. An analysis of 1970s and 1980s fiction was a useful method to gauge the true public perception of the environmental crisis at that time. Nevertheless, examining modern journalism allows one to understand how today's world is reacting to climate change and sustainability. I will specifically analyze reporting and opinion pieces from prominent German media sources, capturing a wide array of positions from across the political spectrum.

The articles I have chosen to analyze were all written in 2022, with one intentional exception. I want to provide a full account of relevant opinions from as recently as possible, and the best way to accomplish this goal was to focus primarily on journalism from this year. To gauge a full assortment of journalistic perspectives, I chose many different news sources from across the German-speaking world. The outlets I have included are some of Germany's most popular and wide-reaching sources, each of which is known for relatively objective reporting. Politically, I have chosen sources that are largely center-left leaning, for that is the general political position of the creators of the previous works I have analyzed. Despite this political leaning, most Germans tend to read and watch the same news sources as each other, many of which are included in this thesis.<sup>85</sup>

Maria Mast, a columnist for *Die Zeit* Online, a left-leaning German newspaper, published an analysis of the COVID-19 pandemic's effects on sustainability on March 5, 2021. Mast

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<sup>85</sup> "News Media and Political Attitudes in Germany," Pew Research Center, May 17, 2018, <https://www.pewresearch.org/global/fact-sheet/news-media-and-political-attitudes-in-germany/>.

focuses her writing for *Die Zeit* on nature, specifically on fires, trees, and bees.<sup>86</sup> In this piece entitled “Jetzt wäre der Moment, es anders zu machen” (“*Now would be the time to do it differently*”), Mast discusses how sustainability efforts have unconsciously increased during the pandemic shutdown, drastically curbing carbon emissions. The world came to a complete stop in 2020 with most of society unable to engage in many behaviors that have caused harmful emissions to spike in the past. For example, “the economy was simmering on the back burner [alongside] reduced travel and people staying at home.”<sup>87</sup> This greatly reduced the emissions generated from cars and other means of transportation. In a similar vein, these new work-from-home orders curtailed travel worldwide, therefore contributing to the diminishment of emissions generated by mass transportation. As a result, outputs of carbon dioxide, one of the most harmful gases to the environment, plunged by 2.6 billion tons globally in 2020.<sup>88</sup>

Nevertheless, Mast argues that the world may not have the will to continue reducing emissions at such an exponential rate. While society needed to take drastic measures to curb the effects of the pandemic at its onset, Mast does not argue that humanity can fully function with limited carbon emissions. According to the Paris Climate Agreement, the world’s carbon dioxide emissions would have to decrease “by an average of one or two billion tons per year in the 2020s” to restrict global warming.<sup>89</sup> With the 2020 lockdowns in the rearview mirror, Mast

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<sup>86</sup> “Dr. Maria Mast,” *Zeit Online*, [https://www.zeit.de/autoren/M/Maria\\_Mast/index](https://www.zeit.de/autoren/M/Maria_Mast/index).

<sup>87</sup> Maria Mast, “Jetzt wäre der Moment, es anders zu machen,” *Zeit Online*, March 5, 2021, <https://www.zeit.de/wissen/umwelt/2021-03/co2-emissionen-corona-wirtschaftskrise-klimawandel-klimaschutz>.

<sup>88</sup> Maria Mast, “Jetzt wäre der Moment, es anders zu machen.”

<sup>89</sup> Maria Mast, “Jetzt wäre der Moment, es anders zu machen.”

raises a fair concern: do people have the bandwidth to keep up their sustainability, despite lockdowns also being undesirable?

While Mast does not offer her opinion in this analysis, I find her relatively fatalistic approach similar to Born's. It is true that, under dire circumstances, people have the capacity to care for the environment, even unconsciously as happened in 2020. However, the implicit conclusion of this article is that humanity is past the point of no return, which is also the conclusion at which Born arrives. Put simply, "the strides [toward sustainability] are not big enough and emissions continue to rise in far too many countries."<sup>90</sup> As society continues to move past the pandemic, Mast rightfully reminds readers of the dangerous carbon dioxide emission levels before COVID-19. Her approach does not offer much optimism; with each positive concession she makes, she also brings up the ways in which humanity continues to lack in its efforts. Mast remains objective while reporting clear facts on carbon dioxide emissions before and after the pandemic. Yet, one must notice her underlying message that mirrors Born's: regardless of the promising strides made toward sustainability, what is necessary to protect the planet is far too great an endeavor for society to handle.

Although Mast discusses society's adaptability in extreme situations, some experts question whether it will be possible for humanity to prevail in current conditions, regardless of its will. The article "So gefährlich ist der Klimawandel für Ungeborene und Kleinkinder" (*"Climate change is dangerous for the unborn and infants"*) was published on January 15, 2022,

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<sup>90</sup> Maria Mast, "Jetzt wäre der Moment, es anders zu machen."

by an unknown author in the center-left leaning German newspaper *Der Spiegel*. This article primarily analyzes the effect of climate change on newborn babies and population growth throughout the world. According to the article increasing global temperatures puts newborns at an increased risk for birth defects, resulting in the heightened likelihood of infant mortality. Additionally, “rising temperatures are associated with faster weight gain in babies,” which increases a child’s chances of obesity later in life.<sup>91</sup> Lastly, a study referenced in the article suggests that mothers giving birth in a place with high air pollution have a “16 percent higher risk of having a preterm birth.”<sup>92</sup>

As shown in this article, German commentators continue to be concerned with reproduction and worry about the ability for people to have healthy children in the future. While the author cites objective research when drawing their conclusions in true journalistic fashion, their message is clear: it is humanity’s responsibility to ensure that people can healthily reproduce. The article specifically uses data from around the world, suggesting that this problem does not only apply to Germany. This inference relates directly to Jonas’s concern that current human behavior does not protect all of humanity, urging immediate change. It is also worth noting the change in messaging on the discourse about population growth. First, the conversation revolved around the effects of an increasing population on the environment. Instead, people are now discussing the risks to infant and parent health when one reproduces.

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<sup>91</sup> “So gefährlich ist der Klimawandel für Ungeborene und Kleinkinder,” *Der Spiegel*, January 15, 2022, <https://www.spiegel.de/gesundheit/klimaerwaermung-und-das-risiko-fuer-kleinkinder-so-gefaehrlich-ist-der-klimawandel-fuer-die-juengsten-a-285c0966-0352-4064-bcdc-83c78d618ee2>.

<sup>92</sup> “So gefährlich ist der Klimawandel für Ungeborene und Kleinkinder.”

Despite this change in focus, some Germans are still emphasizing the negative costs of reproduction.

It is clear that some mainstream news outlets, including *Die Zeit* and *Der Spiegel*, have rather pessimistic outlooks on society's future. Deutsche Welle, a centrist German media outlet with a goal of promoting Germany as a "liberal democracy rooted in European culture," will diverge from this viewpoint in a brighter approach.<sup>93</sup> While Deutsche Welle has much of its content in German that appeals to a German-speaking audience, it also has prominent international reach. The outlet offers online content in over thirty languages, with television stations broadcasting in English, Arabic, Spanish, and German.<sup>94</sup>

Holly Young published an article called "How to find hope in the face of the climate crisis" for Deutsche Welle on February 18, 2022. Despite the mounting reports that may diminish hope for a sustainable future, Young explains some experts' optimism using a series of quotes from interviews with climate activists. As shown in this article, political action has the potential to make a positive difference. For instance, a researcher who studies climate litigation appreciates "the several ways in which the law is being used" to address what "science is telling you ... the problem is."<sup>95</sup> Rather than remaining neutral toward issues of sustainability, many governments are passing laws that enforce measures to mitigate the effects of climate change.

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<sup>93</sup> "Who We Are," *Deutsche Welle*, <https://www.dw.com/en/about-dw/s-30688>.

<sup>94</sup> "Who we are."

<sup>95</sup> Holly Young, "How to find hope in the face of the climate crisis," *Deutsche Welle*, February 18, 2022, <https://www.dw.com/en/how-to-find-hope-in-the-face-of-the-climate-crisis/a-60716665>.

Concomitantly, other experts make interesting arguments on the benefits of technology for controlling the warming climate. In lieu of eliminating technology altogether, an entomologist hopes to use technology to “find novel ways to capture carbon to ensure that greenhouse gases are not contributing to the further worsening of the climate.”<sup>96</sup> This entomologist argues that, above all, society should aim to secure the health of species and ecosystems throughout the world, which comes by reducing harmful emissions in the atmosphere.

The interviews portrayed in this article provide readers with very interesting perspectives, specifically on the use of technology to improve sustainability efforts. Jonas and Born offer arguments against technology, claiming that it always provides more harmful consequences than beneficial ones. Jonas is milder with his approach and believes that, while technology may provide some good to society, it is too dangerous to be relied upon. Born radically feels that technology is always harmful to the Earth. By including the interview with the entomologist, Young implies that technology cannot be more harmful than beneficial, directly challenging both Jonas and Born. Given this contradiction, some other interviews show governments and communities identifying issues with society’s sustainability efforts and working to fix them. Jonas would applaud those efforts, likely encouraging communities to continue their work in the face of constant backlash. In contrast, Born would challenge those initiatives, rendering them moot.

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<sup>96</sup> Holly Young, “How to find hope in the face of the climate crisis.”



On February 15, 2022, Stuart Braun published “Climate crisis: Mourning disappearing snow and winters” for Deutsche Welle that discusses the effects of climate change on natural snow and ice formations around the world. With the consistently warming climates, glaciers have begun melting with no promise of their return. In addition, snowy winters are diminishing worldwide in areas widely known for their snow, such as Oregon and the Swiss Alps. As a result, residents of such areas have begun mourning the loss of winter weather. Along with this newfound grief comes considerable anxiety surrounding the planet’s health. While physical structures are disappearing, cultural symbols and solastalgia, “distress that is produced by environmental change,” began affecting those experiencing the loss.<sup>97</sup>

Fascinatingly, grieving residents appear to react in one of two ways, either like Jonas or Born. When some people grieve, they are known to react pessimistically, surrendering any efforts to protect the environment. In Born’s style, some honor what they have lost with little faith that any efforts could result in their return, “knowing [they] have a role in this.”<sup>98</sup>

Alternatively, other people use the loss of snow and glaciers as a catalyst to push for positive change. Of course, no one can be certain if any promising effort will result in improvements to environmental health, and Jonas even mentions the temptation to “trust our luck including that of prosperity” when making decisions on sustainability.<sup>99</sup> Still, Jonas and the optimists in the article feel that trying to halt impending damage is more productive than not acting at all.

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<sup>97</sup> Stuart Braun, “Climate crisis: Mourning disappearing snow and winters,” *Deutsche Welle*, February 15, 2022, <https://www.dw.com/en/snow-winter-glaciers-ice-solastalgia-climate-grief/a-60717282>.

<sup>98</sup> Stuart Braun, “Climate crisis: Mourning disappearing snow and winters.”

<sup>99</sup> Hans Jonas, *The Imperative of Responsibility*, 30.

Now that I have looked at four of the most popular German mainstream media outlets, it is also important to understand how alternative media outlets react to the climate crisis. *Taz* is a left-leaning German news source with a particular focus on environmental journalism. Susanne Black and Bernhard Pötter, journalists for *Taz* who write about the climate crisis and sustainability, wrote an article entitled “Anpassen oder aussterben” (“*Adapt or Die Out*”) in response to the release of a report from the Intergovernmental Panel on Climate Change. In their findings, the panel warns that global warming is accelerating at alarming rates, resulting in significant damage to the species and the environment “jenseits der natürlichen Variabilität” (“*beyond natural variability*”).<sup>100</sup> Humans are experiencing malnutrition and birth defects, with many fleeing warm areas in favor of colder climates. In the animal kingdom, numerous species are going extinct and will continue to die out if the atmosphere keeps warming. The Earth has seen extreme weather events, like flooding, heat waves, and droughts, with increasing probability of these events worsening in the coming years.

The Intergovernmental Panel on Climate Change’s report provides too many grim warnings for the future of the Earth. Rather than surrendering hope for improvement, Black and Pötter, like Jonas, call for a drastic change in human behavior to protect the environment. The authors make clear that any chance of progress will require hard work from everyone. In addition to increases in funding allocated to international sustainability efforts, they stress that “ein Umdenken bei vielen Verantwortlichen” (“*a rethinking among those responsible*”) is also

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<sup>100</sup> Susanne Black et al., “Anpassen oder aussterben,” *Taz*, February 28, 2022, <https://taz.de/Neuer-Klimabericht/!5837958/>.

necessary.<sup>101</sup> This includes informed planning for the future of cities across the world, guaranteeing that people will not destroy nature to protect themselves. The two authors caution that time is running out, and urgent action is required immediately; the longer the world waits to act, “schlieÙe sich das Mglichkeitsfenster immer mehr” (“*the window of opportunity increasingly closes*”).<sup>102</sup>

Jonas offers warnings like the two authors of “Anpassen oder aussterben,” arguing for rapid changes in behavior considering the dangers of waiting to protect the environment. Notably, however, *The Imperative of Responsibility* and “Anpassen oder aussterben” both emphasize the potential for people to wish for environmental sustainability, even if they cannot achieve it. Like Jonas, they generally argue for using reason to seek out that which “can instill in us the fear whose guidance we need” to combat environmental threats.<sup>103</sup> By contrast, Born argues strictly against this hopeful way of thinking. Any possible improvements, he maintains, is not actually feasible to achieve, making any positive suggestions useless.

Unlike the cautious optimism of “Anpassen oder aussterben,” Ptter published a separate opinion piece, “Die Blase der Unverwundbarkeit” (“*The Bubble of Invulnerability*”), in response to the ongoing war in Ukraine that lacked such hope. While Russia’s invasion of Ukraine is horrifying in itself, Ptter sheds light on the consequences of the war on the climate change crisis. Namely, he points out that (“viele Dinge gleichzeitig aus der Spur greaten”

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<sup>101</sup> Susanne Black et al., “Anpassen oder aussterben.”

<sup>102</sup> Susanne Black et al., “Anpassen oder aussterben.”

<sup>103</sup> Hans Jonas, *The Imperative of Responsibility*, 27.

(“several things are going off track at the same time”), stressing the dangers of the war in Ukraine and the climate crisis.<sup>104</sup> With all that appears to be going wrong at once, Pötter argues that this is potentially the end of the world; “those responsible are ... [too] narrow-minded” to comprehend the gravity of the threats at hand.<sup>105</sup> Despite “crises, war, [and] diseases,” unaffected people try whenever possible to “solve everything with money and good will” because these problems are “elsewhere and with others.”<sup>106</sup> Hence, he is not confident in humanity’s ability to adequately respond in a way that ensures the safety of the planet.

This fatalistic approach aligns very well with Born’s philosophy. Like Pötter, Born also believes there are far too many serious threats to the Earth’s health for humanity to be able to properly respond. Society has waited too long to start being sustainable. Curbing the machine and, therefore, increasing environmental sustainability is no longer feasible in Born’s view, making the end of the world likely. In contrast, Jonas distinctively claims that people have a collective responsibility to protect future generations and can adapt well to change in behavior for that purpose. Jonas does reference the many hazards that face humanity but is confident that people are open-minded, flexible, and can combat any challenge that comes its way, such as war and climate change.

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<sup>104</sup> Bernhard Pötter, “Die Blase der Unverwundbarkeit,” *Taz*, March 11, 2022, <https://taz.de/Zwischen-Krieg-und-Klimakrise/!5840694/>.

<sup>105</sup> Bernhard Pötter, “Die Blase der Unverwundbarkeit.”

<sup>106</sup> Bernhard Pötter, “Die Blase der Unverwundbarkeit.”

## CONCLUSION

At the beginning of the Green movement in the late twentieth century, pragmatism and fatalism were two primary schools of thought surrounding environmental responsibility. Namely, some thinkers believed that there was recourse from the damages caused by society's increasing reliance on technology. On the other hand, many felt that the damages were too great to fix. In this thesis I learned that there are still some thinkers who follow these schools of thought. Of the journalism I studied in the third chapter, I can deduce that approximately half of the articles took a hopeful approach. Contrarily, the other articles were cynical toward the prospect of significant changes in behavior. This split that presents in today's news likely contributes to pessimism that exists in contemporary environmental discourse, providing us with some insight into why it is difficult for some individuals to adapt new sustainable behavior.

The prospect of a complete abandonment of technology was certainly contemplated in the 1960s and 1970s, with the use of most modernized technology temporarily halting in *Smog*. Interestingly, however, the authors and experts cited in the articles I analyzed did not appear to discuss abandoning technology. Instead of radically relinquishing technology from the world, for which Born had advocated and *Smog* portrayed, today's society appears to have accepted the staple that technology has become. Living without modern technology is no longer an option, with some modern authors even advocating for the use of technology to achieve sustainability.<sup>107</sup>

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<sup>107</sup> Holly Young, "How to find hope in the face of the climate crisis."

Moreover, numerous articles featured in this thesis show that Germans are still concerned with reproduction, albeit sharing different concerns presently. As mentioned in Chapter 2, the 1980s had Germans concerned about certain groups of people reproducing, specifically minority populations or third-world countries. Today, German environmentalists seem to be less concerned about who reproduces, instead worrying about people reproducing altogether. Now, anyone who procreates will place their children at risk for birth defects, if they are able to conceive a child at all. Despite the increasing strides the world is taking to combat racist discourse, I am not suggesting that people do not address race and ethnicity in the discussion on worldwide reproduction. Nonetheless, the sheer idea of having children appears to continue to frighten German commentators, which has not changed since the 1980s.

If I had more time to expand on this project, there are a few noteworthy voices I would like to include. For the purposes of this thesis, I focused my philosophical discussion primarily on Jonas and Born because they represent two environmental schools of thought at the onset of the Green movement in West Germany. Yet, Jonas and Born are both white men. There are other thinkers, many of whom women, I would have included to provide greater diversity in philosophical perspectives. Rachel Carson, for example, was a prominent voice in the conversation on sustainability in the 1960s.<sup>108</sup> Including Carson's work would have offered a welcome international perspective, due especially to the global reach of her thinking. As I focused this thesis on left-wing perspectives, I would have also wished to study right-wing

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<sup>108</sup> Debra Michals, "Rachel Carson," National Women's History Museum, 2015, accessed on April 6, 2022, <https://www.womenshistory.org/education-resources/biographies/rachel-carson>.

philosophers, like Herbert Gruhl. Doing so would provide a more complete account of widely ranging perspectives in environmentalism.

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