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Ecocritical Exploration of Human Impact in *The Sixth Extinction*: Unraveling the Threads of Depletion and Redemption

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Abstract:

This study delves into Elizabeth Kolbert's seminal work, *The Sixth Extinction: An Unnatural History* (2014), to illuminate the intricate connections between human activities and environmental degradation, examining the overarching theme of depletion within the context of the ongoing mass extinction event. Through a lens informed by ecocriticism, this research seeks to unravel the narrative threads that depict the profound impact of human actions on the planet's biodiversity and natural resources. The analysis will scrutinize the book's portrayal of anthropogenic influences, exploring how human endeavors, from deforestation to industrialization, intertwine with ecological systems, resulting in species loss and resource depletion. Drawing from ecocritical perspectives, we aim to unravel the symbolic and metaphorical dimensions embedded in Kolbert's narrative, dissecting the ways in which the text invites readers to reflect on their relationship with the environment.

This research paper aims to dissect the intricate relationship between human technological advancements and the depletion of natural resources within the context of the ongoing Sixth Mass Extinction. The accelerating pace of technological progress has undeniably transformed the way humanity interacts with the environment, triggering unprecedented challenges to global ecosystems. This paper seeks to uncover the specific mechanisms through which technology intensifies the depletion of vital resources, jeopardizing the delicate balance of ecosystems and accelerating species loss. Through an interdisciplinary lens, this paper will scrutinize the multifaceted impact of technology on natural resource depletion, encompassing aspects such as deforestation, habitat destruction, pollution, and climate change. This book prompt readers to reevaluate their roles in the interconnected web of life and inspire a collective commitment to environmental stewardship.

Keywords: Anthropocene, Biodiversity, Ecocriticism, Mass Extinction, Environmental Stewardship

> Technology is a useful servant but a dangerous master.
>
> — Christian Lous Lange

> Nature bears long with those who wrong her. She is patient under abuse. But when abuse has gone too far, when the time of reckoning finally comes, she is equally slow to be appeased and to turn away her wrath.
>
> —Nathaniel H Egleston

According to Research article "The Anthropocene: Conceptual and Historical Perspectives" by W. Steffen et. al "the history of interactions between humans and the environment in which they were embedded goes back a very long way, to well before the emergence of fully modern humans to the times of their hominid ancestors. During virtually all this time, encompassing a few million years, humans and their ancestors influenced their environment in many ways, but always by way of modification of natural ecosystems to gain advantage in gathering the vegetative food sources they required or in aiding the hunt for the animals they hunted." This research article further emphasized the intricate interplay between human activities and the environment, noting that the Anthropocene's onset, while challenging to precisely delineate, aligns with the transformative era of the Industrial Revolution. By examining the substantial changes witnessed in England and the subsequent global dissemination of industrialization by 1850, the researchers advocate for considering AD 1800 as a significant milestone, emblematic of humanity's unmistakable imprint on the planet. In this epoch of Anthropocene, the delicate equilibrium of our planet's ecosystems faces unprecedented challenges. Within the pages of this compelling narrative, Kolbert masterfully unravels the intricate tapestry of human impact on the environment, revealing the looming specter of a mass extinction event. The Anthropocene serves as both the backdrop and the catalyst for this unfolding ecological tragedy, where human-induced alterations to the environment propel countless species toward the brink of extinction.

The Sixth Mass Extinction, as elucidated by Elizabeth Kolbert, unfolds as a complex narrative intertwined with the fingerprints of anthropogenic influence. In this epoch of accelerated climate change, deforestation, and widespread habitat destruction, the delicate balance of biodiversity crumbles, and ecosystems bear witness to a symphony of loss. Kolbert writes:

"Anthropocene is usually said to have begun with the industrial revolution, or perhaps even later, with the explosive growth in population that followed World War II. By this account, it's with the introduction of modern technologies-turbines, railroads, chainsaws-that humans became a world-altering force. But the megafauna extinction suggests otherwise. Before humans emerged on the scene, being large and slow to reproduce was a highly successful strategy, and outsized creatures dominated the planet. Then, in what amounts to a geologic instant, this strategy became a loser's game. And so, it remains today, which is why elephants and bears and big cats are in so much trouble and why Suci is one of the world's last remaining Sumatran rhinos. Meanwhile, eliminating the megafauna didn't just eliminate the megafauna; in Australia at least, it set off an ecological cascade that transformed the landscape. Though it might be nice to imagine there once was a time when man lived in harmony with nature, it's not clear that he ever really did" (Kolbert 219-220).
"SINCE the start of the industrial revolution, humans have burned through enough fossil fuels coal, oil, and natural gas-to add some 365 billion metric tons of carbon to the atmosphere. Deforestation has contributed another 180 billion tons. Each year, we throw up another nine billion tons or so, an amount that's been increasing by as much as six percent annually. As a result of all this, the concentration of carbon dioxide in the air today a little over four hundred parts per millions-is higher than at any other point in the last eight hundred thousand years. Quite probably it is higher than at any point in the last several million years. If current trends continue, CO2 concentrations will top five hundred parts per million, roughly double the levels they were in preindustrial days, by 2050. It is expected that such an increase will produce an eventual average global temperature rise of between three and a half and seven degrees Fahrenheit, and this will, in turn, trigger a variety of world- altering events, including the disappearance of most remaining glaciers, the inundation of low-lying islands and coastal cities, and the melting of the Arctic ice cap. But this is only half the story" (Kolbert 103-104).
Anthropocene not only contextualizes but also amplifies the urgency of Kolbert's narrative, underscoring the interconnectedness of human activities and the accelerating decline of global biodiversity. Kolbert's exploration delves into the far-reaching consequences of rising temperatures, shifting weather patterns, and ocean acidification. "Ocean acidification is, of course, not the only threat reefs are under. Indeed, in some parts of the world, reefs probably will not last long enough for ocean acidification to finish them off. The roster of perils includes, but is not limited to: overfishing, which promotes the growth of algae that compete with corals; agricultural runoff, which also encourages algae growth; deforestation, which leads to siltation and reduces water clarity; and dynamite fishing, whose destructive potential would seem to be self-explanatory" (Kolbert 130). Through vivid storytelling and compelling scientific evidence, the book connects the dots between anthropogenic activities and the alterations in climate that intensify the challenges faced by numerous species.
Kolbert in her book *The Sixth Extinction* presents the idea of "frog-leg soup" hypothesis" (Kolbert 15), an intriguing perspective on the global movement of species and the potential consequences. The hypothesis suggests that the transportation of species across continents, facilitated by human activities such as trade and travel, plays a crucial role in the spread of infectious agents like the chytrid fungus (Bd) mentioned in the text. Kolbert emphasizes the unprecedented nature of this intercontinental reshuffling, highlighting that such widespread movement of species is a relatively recent phenomenon in the context of the Earth's long evolutionary history. The idea is that, without human intervention through transportation methods like boats and planes, certain species, and the pathogens they carry would not have been able to traverse vast distances. This emphasizes how technology-driven globalization has accelerated not only the transfer of species but also the depletion of natural resources and environmental disruptions on a global scale. A recent comprehensive report from the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) 2023 reveals a staggering influx of over 37,000 alien species introduced through diverse human activities across the world's regions and biomes. Alarming is the fact that this conservative estimate is on an unprecedented upward trajectory. Among these, more than 3,500 are identified as harmful invasive alien species, posing severe threats to nature, its contributions to humanity, and our overall quality of life. Regrettably, these challenges often go unnoticed until irreversible damage is done, making invasive alien species a formidable and overlooked global concern affecting people in every region and country.
Thomas Jefferson's belief in the robustness of nature's economy— "such is the economy of nature," he wrote, "that no instance can be produced of her having permitted any one race of her animals to become extinct; of her having formed any link in her great work so weak as to be broken" (Kolbert 23). However, this historical perspective provides a poignant contrast to the current reality of the Sixth Mass Extinction, where human-induced factors, often driven by technological advancements, pose a significant threat to biodiversity and the delicate balance of ecosystems. Jefferson's optimism has given way to a sobering acknowledgment of the environmental consequences of human activities. The "economy of nature" that he believed to be impervious to extinction has encountered unprecedented challenges in the Anthropocene era, where deforestation, pollution, and climate change accelerate resource depletion and push numerous species towards the brink of extinction. Our modern technologies, despite their advancements, have inadvertently become agents of environmental disruption. The contrast between Jefferson's optimistic view and the current ecological crisis emphasizes the imperative for responsible and sustainable approaches to technology, underscoring the need to mitigate the impacts that contribute to the depletion of natural resources and the acceleration of the Sixth Mass Extinction. "Extinction is

inherently morbid, but when magnified to the scale of mass extinction, it takes on a profoundly distressing extinction is a morbid topic, mass extinction is, well, massively so" (Kolbert, Prologue, pp. 3).

According to the IPBES report 2019, an estimated one million species of plants and animals are currently at risk of extinction. Without substantial intervention, a significant portion of these species could face extinction by 2030. The factors contributing to species endangerment are multifaceted, encompassing habitat destruction, climate change, pollution, over-exploitation, and encroachment of invasive species. As we approach the year 2030, the intersection of these threats creates a complex landscape where the future of numerous species hangs in the balance. Notably, technology, while holding promise for conservation efforts, casts a dual shadow on the environment. The positive aspect lies in technological tools aiding biodiversity monitoring and conservation strategies. However, the negative facet unveils technology's role in habitat destruction through industrialization, contributing to pollution through electronic waste, and amplifying climate change through energy-intensive processes. Navigating the delicate balance between harnessing technology for conservation and mitigating its adverse environmental impacts becomes crucial in the complex equation of safeguarding biodiversity in the technologically driven landscape. To mitigate the impending loss of biodiversity, immediate and concerted global efforts are imperative. Governments, organizations, scientists, and communities must collaborate on multifaceted strategies. The journey toward a more sustainable and biodiverse future demands a collective commitment to reversing the current trajectory. "Because the negative consequences of science and technology often occur in unanticipated forms and in distant locations, and sometimes after significant time interval, they are often not perceived as related in their causes. Nevertheless, technology will necessarily produce both positive and negative effects. This character of technology creates a serious intellectual challenge for technological optimists, who exclusively focus on the positive aspects of technology while ignoring the, after enormous, negatives" (Huesemann 7).

"In ecology, as in economics, the law is intended to warn that every gain is won at some cost. In a way, this ecological law embodies the previous three laws. Because the global eco-system is a connected whole, in which nothing can be gained or lost, and which is not subject to over-all improvement, anything extracted from it by human effort must be replaced. Payment of this price cannot be avoided. It can only be delayed. The present environmental crisis is a warning that we have delayed nearly too long" (Huesemann 8). "The technical phenomenon cannot be broken down in such a way as to retain the good and reject the bad…. It is an illusion, a perfectly understandable one, to hope to be able to suppress the "bad" side of technique and preserve the "good." This belief means that the essence of the technical phenomenon has not been grasped" (Huesemann 8).

The categorization of landscapes into "anthromes" (Kolbert 164) by researchers Erle Ellis and Navin Ramankutty aligns with Leopold's call for a comprehensive understanding of human impact on the environment. The delineation of "urban" (Kolbert 164) anthromes, "irrigated cropland" (Kolbert 164) anthromes, and others underscores the diversity of human-altered landscapes. The transformation of over half of the ice-free land into croplands, pastures, cities, and other anthropogenic features reflects a profound alteration of the landscape. Leopold's land ethic encourages a more holistic consideration of the consequences of such transformations, urging us to recognize the intrinsic value of the land beyond its utilitarian purposes. "The land ethic simply enlarges the boundaries of the community in include soils, waters, plants, and animals, or collectively: the land" (Leopold 2). The notion of "wildlands" (Kolbert 164) which may not truly deserve the term in the Anthropocene due to pervasive human influence, resonates with Leopold's emphasis on the interconnectedness of all components of the environment. Even supposedly remote areas like the Amazon or Siberia are not immune to human impact, as evidenced by the infrastructure crisscrossing tundra and seismic lines cutting through boreal forests. "Conservation is a state of harmony between man and land. Despite nearly a century of propaganda, conservation still proceeds at a snail's pace, progress still consists largely of letterhead pieties and convention oratory. On the back forty we still slip Two steps backward for each forward stride" (Leopold 2).

The extinction event at the Cretaceous-Tertiary "(K-T) boundary" (Kolbert 79), paints a vivid picture of ecological upheaval and loss. The decimation of species, including the complete loss of non-avian dinosaurs, reflects the far-reaching consequences of ecological disruptions. Analogous to the K-T boundary, contemporary ecosystems face challenges brought about by rapid technological advancements and resource depletion. The mention of "leaf-cutter ants" (Kolbert 16) and their colonies, resembling mounds of sawdust covering vast areas, aligns with Leopold's perspective of acknowledging the intrinsic value of all components of the ecosystem. The extinction event becomes a metaphor for the ongoing Sixth Mass Extinction, triggered by human activities and their associated impacts on the environment. The mention of "familiar museum shop fixtures, such as hadrosaurs, ankylosaurs, tyrannosauruses, and triceratops" (Kolbert 79) draws attention to the loss of iconic species, paralleling the recognition of endangered or extinct species in the present day. This comparison can be extended to the impact on birds, lizards, snakes, and mammals, demonstrating the interconnectedness of various taxa and the cascading effects of environmental disturbances. The current situation of different species aligns with the quote "dying is the easy part living is the trick" from a novel *To Kill a Mockingbird* by Harper Lee. The quote encapsulates the tragic reality that the survival of various species is often threatened effortlessly by anthropogenic activities. For numerous species, "dying is easy" in the sense that they face heightened risks of extinction due to habitat loss, pollution, climate change, and other human-driven factors. Conversely, "living is the trick" alludes to

the challenge these species encounter in adapting to rapidly changing environments caused by human actions. The intricate balance required for their survival becomes increasingly elusive as ecosystems are altered and resources depleted. The narrative's emphasis on tracking emblematic species in the context of the Sixth Extinction aligns with Donna Haraway's concept of companion species. Haraway explores the entangled relationships between humans and other species, emphasizing the need for mutual coexistence and acknowledging the ecological interdependencies that bind us. This perspective enriches the narrative by framing species not just as subjects of extinction but as companions with whom we share a planet. The mention of the "fragmented Amazon rainforest, on a fast-warming slope in the Andes" (Kolbert, prologue, pp. 3) resonates with Arne Naess's deep ecology philosophy. The leaf-cutter ants, engaged in their intricate tasks, embody the idea of non-human species contributing to the overall ecological balance. The emphasis on avoiding harm to soldier ants' echoes Naess's call for a harmonious coexistence with the more-than-human world. "Human nature is such that, with sufficient comprehensive (all-sided) maturity, we cannot help but "identify" our self with all living beings, beautiful or ugly, big, or small, sentient, or not" (Naess 225). Naess advocates for a deep, ecocentric understanding of nature, emphasizing the intrinsic value of all living beings and ecosystems.

The ecological crisis makes us aware of how interdependent everything is. This has resulted in a creepy sensation that there is literally no world anymore. We have gained Google Earth but lost the world. "World" means a location, a background against which our actions become significant. But in a situation in which everything is potentially significant, we're lost. It's the same situation the schizophrenic finds herself in. She is unable to distinguish between information (foreground) and noise (background). So, she hears voices coming from the radiator, yet hears speech as meaningless burbling. Everything seems threateningly meaningful, but she can't pin down what the meaning is.

— Timothy Morton

The more we become aware of the dangers of ecological instability -melting ice caps, rising sea levels, starvation-the more we find ourselves lacking a reference point. When we think big, we discover a hole in our psychological universe. There is no way of measuring anything anymore, since there is nowhere "outside" this universe from which to take an impartial measurement. Strangely, thinking big doesn't mean that we put everything in a big box. Thinking big means that the box melts into nothing in our hands.

—Timothy Morton

"TO HAVE RISKED so much in our efforts to mold nature to our satisfaction and yet to have failed in achieving our goal would indeed be the final irony. "We need environmental ethics, but when people feel that they unselfishly give up, or even sacrifice, their self-interests to show love for nature, this is probably, in the long run, a treacherous basis for conservation. Through identification, they may come to see that their own interests are served by conservation, through genuine self-love, the love of a widened and deepened self" (Carson 118). The book *The Sixth Extinction* serves as a literary lens through which readers are prompted to contemplate the profound responsibility of humans in the unfolding sixth mass extinction. Drawing on the ecocritical perspectives of Timothy Morton, this narrative becomes a prism that refracts the environmental consequences of human actions in the Anthropocene era. Morton's ecological thought encourages an examination of humanity's entanglement with the environment, emphasizing the interconnectedness of all living entities. "The ecological thought Is a virus that infects all other areas of thinking. (Yet viruses, and virulence, are shunned in environmental ideology.) This book argues that ecology isn't just about global warming, recycling, and solar power-and also not just to do with everyday relationships between humans and nonhumans. It has to do with love, loss, despair, and compassion. It has to do with depression and psychosis. It has to do with capitalism and with what might exist after capitalism. It has to do with amazement, open-mindedness, and wonder. It has to do with doubt, confusion, and skepticism. It has to do with concepts of space and time. It has to do with delight, beauty, ugliness, disgust, irony, and pain. It has to do with consciousness and awareness. It has to do with ideology and critique. It has to do with reading and writing. It has to do with race, class, and gender. It has to do with sexuality. It has to do with ideas of self and the weird paradoxes of subjectivity. It has to do with society. It has to do with coexistence" (Morton 2). *The Sixth Extinction* becomes a literary manifestation of this interconnectedness, revealing the intricate web of relationships disrupted by human activities. "The ecological thought imagines interconnectedness, which I call the mesh who or what is interconnected with what or with whom? The mesh of interconnected things is vast, perhaps immeasurably so. Each entity in the mesh looks strange. Nothing exists all by itself, and so nothing is fully 'itself'" (Morton 15). Morton's concept of the "mesh" aligns with the narrative's exploration of how each extinction event and environmental alteration ripples through the fabric of life, leaving a lasting impact on ecosystems. The book invites readers to confront the unsettling truth that humans are not merely witnesses to environmental change but active participants and, often, contributors to the ongoing mass extinction. Morton's ideas on "dark ecology" resonate with the ominous undertones of the narrative, highlighting the shadowy consequences of human actions on the planet. As a literary lens, *The Sixth Extinction* guides readers to engage with the emotional and ethical dimensions of environmental degradation, echoing Kolbert's call for an ecological awareness that transcends traditional boundaries. The narrative becomes a reflection of Kolbert's plea to embrace a more responsible and mindful coexistence with the natural world.

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