

ENVIRONMENTAL CRISIS IN PRIMEVAL AND BIO-PUNK CIVILIZATION: A COMPARATIVE STUDY OF AWAN'S SORROWS OF SARASVATI AND BACIGALUPI'S THE WINDUP GIRL

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ABSTRACT

In the era of information technology, the philosophy of existence has been modified and transformed by scientific advancements. Post-cyberpunk literature depicts these advancements through multilayered subjects, including imperialism, robotics, mechanization, religion, capitalism, ecology, environmental catastrophe, and hyper-casualization. This research aims to foreground the role of these advancements in the environmental crisis within primeval and bio-punk civilizations. Post-cyberpunk literature addresses the divergent practices pertinent to environmental issues represented in primeval and bio-punk narratives. This study employs Gregg Garrard's theorization of ecocriticism to encompass various ecocritical perspectives, aiming to understand how the relationship between humans and the environment is portrayed in post-cyberpunk literature. This study focuses on Safeer Awan's *Sorrows of Sarasvati* and Paolo Bacigalupi's *The Windup Girl* to examine how the differences and adjustments between cyberpunk and post-cyberpunk milieus portray the environmental concerns of the modern era. Using the socio-cognitive perspective of Van Dijk, the illustrations in the selected texts explore the anthropocentric nature of futuristic technology.

Keywords: Biopunk civilization, environmental crisis, primeval world, ecocriticism, anthropocentrism

1. INTRODUCTION

This study investigates the postmodernist inclinations and characteristics in the selected post-cyberpunk novels, *The Wind-Up Girl* (2009) by Paolo Bacigalupi and *Sorrows of Sarasvati* (2023), using the lens of ecocriticism. This research aims to manifest the view of science fiction writings that have consistently been dominated by the portrayal of unrefined science fiction motives, often correlated with conflicts between humans, aliens, and alien spacecraft occupying Earth. The emergence of post-cyberpunk is contentious because it confronts existing power structures and reflects dissatisfaction with established hierarchies. According to some experts, environmental issues first became a problem at the beginning of the Anthropocene. The term 'Anthropocene' refers to a period of Earth's history that includes some of the earliest and most significant effects that humans have

had on the global environment. Other scholars argue that humans began polluting the natural environment much earlier than commonly believed.

A specific genre of science fiction that focuses on biotechnology is called "biopunk," a blend of the words "biotechnology" or "biology" and "punk." It is based on cyberpunk, but instead of emphasizing mechanical cybernetic implants and digital technology, it concentrates on the consequences of bioscience. Synthetic biology is a topic that intrigues Biopunk. Its roots are in cyberpunk, featuring bio-hackers, biotech megacorps, and tyrannical governmental entities that alter people's genetics. Biopunk typically explores the murky aspects of genetic engineering and depicts the low points of biotechnology, generally adhering to the destructive effects of cyberpunk in the modern era. In contrast,

primeval refers to the indigenous environment of ancient civilizations.

This study aspires to highlight cyberpunk as a relevant, culturally pertinent, and sustainable genre. The motifs, which are discussed and examined in analytical discussions, constitute the social connections of cyberpunk literature and its implementation in postmodern life. Cyberpunk is a sturdy source in today's technologically advanced society, producing fictional works in the form of movies and books that represent our association with technology. This connection is necessary to understand because present humanity has become both socially and scientifically energetic. The surrogate genre of post-cyberpunk focuses on logically integrating elements that encompass an understanding of the contemporary postmodernist world. Moreover, it imparts a contemplation of developing unconventional individuality and multiplicity. In the primeval era, people faced environmental crises, but these catastrophes have now worsened. In the contemporary era, the global world is experiencing devastating effects on the environment, with technology playing a primary role. The whole world faces the threat of climate change, and the ecological, social, and economic damage is becoming increasingly devastating. This study examines the environmental crisis in the contemporary era and the impact of modern technology on human ontology. It differentiates between primeval and biopunk civilizations and suggests ways to control the destructive impact of modern technology by justifying our actions toward nature.

Research Questions

1. How does the comparative study of Awan's Sorrows of Sarasvati and Bacigalupi's The Windup Girl illustrate the anthropocentric nature of futuristic technology?
2. How do Awan's Sorrows of Sarasvati and Bacigalupi's The Windup Girl compare and contrast environmental concerns in primeval and biopunk civilizations?

2. Literature Review

Cyberpunk, as a genre, emerged from postmodernism's transformation from an organic to a cybernetic discourse. In science fiction, readers encounter conflicts between divergent worlds, mirroring real-life confrontations between the

practical and the expected. Postmodernist and science fiction coexist as unconstrained genres. In science fiction, postmodern narratives shifted the focus from spatial to temporal disruptions. They do not predict isolated worlds in other galaxies but focus on worlds of the future. As postmodernist fiction has adopted the ontological model, science fiction has also drawn from postmodernism. Both postmodernism and science fiction participate in an intertextual field where patterns, structures, concepts, and material move freely from text to text, allowing for reconsideration, revision, and merging. Science fiction has become a contemporary narrative largely due to the cyberpunk genre. McHale (1992) pointed out that if cyberpunk had not come into being, postmodernist critics would have had to discover it. Indeed, cyberpunk science fiction aligns with the postmodernist critical agenda. Cyberpunk scholars borrow patterns, concepts, goals, and models from postmodernist writers, particularly Burroughs and Pynchon, who themselves employ notions, imagery, goals, and patterns from early science fiction. Conversely, postmodernism incorporates biopunk motifs and patterns. McHale has suggested that cyberpunk is a repository of science fiction and postmodernism because of its interdisciplinary approach.

2.1 Cyberpunk: A Repository of Science Fiction

There are three main figures highlighted by cyberpunk narratives: death, worldliness, and centrifugal forces. The paramount connection between science fiction and postmodernism is an ontological adaptation of death. The culture of struggling to overcome death has always been portrayed in postmodernism; however, cyberpunk narratives decenter impermanence and death in divergent ways. The post-cyberpunk genre has evolved from the former wave. Following the publication of William Gibson's Neuromancer in 1984, the science fiction genre of "cyberpunk" gained popularity during the 1980s, a time of rapid change in both mechanical and sociocultural spheres. The third phase of the post-cyberpunk subgenre is thought to have begun in 1998, marking a shift from the first and second phases of the cyborg subgenre to hard sci-fi. This change signifies not just a name change but also a vastly different historical context and motifs.

The term 'post-cyberpunk' was coined to distinguish the 80s culture of cyberpunk literature from the conventions of the 90s and beyond. This concept was

explored in Lawrence Person's 1999 piece "Notes Toward a Post-Cyberpunk Manifesto," which appeared in a sci-fi journal. In an analysis of introductory texts in ecocriticism, Clark Timothy from *The Cambridge Introduction to Literature and the Environment* (2011) explores underlying issues and highlights the significance of 'The Environment' in his novels. Neal Stephenson's *Snow Crash*, published in 1991, is considered the first novel in the post-cyberpunk genre. In their analysis of the cyberpunk to post-cyberpunk transition, Murphy and Vint highlight a shift in cultural dynamics. Technology was first incorporated into culture through cyberpunk literature, and post-cyberpunk shows how widespread this technology has become in people's daily lives. Information technology has changed not just our homes, educational institutions, offices, and governments but also our emotions, perceptions, memories, and consciousness, with far-reaching effects. The word "Post" in "post-cyberpunk" refers to changes made to ideas that have been associated with this genre. Asian, African, and Latino concerns are often addressed in post-cyberpunk literature, with a focus on those groups' problems. The "punk" in post-cyberpunk represents middle-class middlemen.

2.2 Eco-cosmopolitanism

Environmentalism with a transnational viewpoint is required to create awareness of and analyze these processes as they manifest in various cultural contexts and to provide a diversity of environmental visions of the globe. Ursula Heise, in *Sense of Place and Sense of Planet* (2008), emphasizes the necessity of developing a comprehensive relationship with "place" in an increasingly deterritorialized world. She aims to reconcile the tension between "an ethic of intimacy" and what British sociologist Anthony Giddens designates as "the detachment of culture from place" caused by globalization. Eco-cosmopolitanism contemplates that neither an association with a place ('the local') nor a utopian view of the planet as a whole ('the global') will adequately guide us on how to ethically regulate and understand our place on Earth. To address this concern, Heise advanced the notion of cosmopolitanism to tackle "the complications deterritorialization raises for the environmental imagination." The eco-cosmopolitan paradigm considers the numerous ways that people are positioned within global, ecological, technical, economic, and social networks.

3. Research Methodology

A school of philosophy and law known as anthropocentrism views humans as the most significant beings in the universe. The primary goal of everything in this world is to serve humanity. Humans are considered superior to all other species in nature because nature exists for their benefit. In contrast, the school of thought known as ecocentrism believes that everything that exists has inherent value. Unlike anthropocentrism, which has a more constrained perspective on the Earth, ecocentrism takes a holistic approach to the planet. It prioritizes ecological variables and views the natural world as an entire entity. Biocentrism, on the other hand, is a system that emphasizes the importance of all living things. Some biocentrists argue that conserving animals is more essential than preserving plant species, and safeguarding mammals is more important than protecting invertebrates.

This study focuses on ecological research. The objective is to uncover and emphasize how modern technologies have fundamentally transformed the environment, society, culture, and the essence of human beings. The term "ecocriticism" refers to a variety of critical stances that examine how human-nonhuman interaction is depicted in literature (and other cultural forms), often from the viewpoint of concerns about humanity's negative effects on the biosphere. Other terms used for this field include 'environmental criticism,' 'environmentalism,' and 'green cultural studies.' The concern of ecological studies is to explore and investigate the connection between literature and the global environment. It adopts a multidisciplinary approach by examining the works of writers, researchers, and poets in the context of environmental issues and nature. Critics consider it a broad movement with various names such as green studies, environmental literary criticism, and ecopoetics. Additionally, it draws inspiration from disciplines including social ecology, environmental history, ecology, and environmentalism.

Cheryll Glotfelty (1996) coined the term ecocriticism. It was formally preceded by the publication of two pioneering pieces of writing in the mid-1990s: *The Ecocriticism Reader* edited by Cheryll Glotfelty and Harold Fromm, and *The Environmental Imagination* by Lawrence Buell. Glotfelty describes this theory as the study of the relationship between literature and the environment. This type of criticism has been relatively successful

in avoiding the moral and philosophical altercations often associated with other forms of criticism. Glotfelty's projects and efforts have played a vital role in inspiring other authors and scholars to practice this term, formerly known as green studies. This domain gained reputation and recognition as a theory due to her remarkable works. Jonathan Bate (2013) introduced green studies, the UK rendition of ecocriticism. As far as the theory is concerned, it is also known as an 'increasingly heterogeneous movement' that focuses entirely on an earth-centered outlook, specifically regarding the literature concerning the environment.

4. Text Analysis

This study investigates the environmental crisis in primeval and biopunk civilizations as presented in Safeer Awan's *Sorrows of Sarasvati* and Paolo Bacigalupi's *The Windup Girl* through a textual analysis of the novels. The analysis demonstrates that cyberpunk literature and the theoretical perspective known as ecocriticism are ideal representations of contemporary society. This study also examines various environmental crises in biopunk and primeval civilizations, emphasizing how modern technology affects the ontology of human beings. According to the examination, post-cyberpunk literature describes the phenomena involving the advancement and integration of technology in human life at the level of devastation. This section highlights the range and implications of ecological practices in literary texts.

The Windup Girl illustrates this truth by showing how nonhuman beings undergo a radical epiphany to the awareness that extends far beyond human vision, replacing their human inventors, developers, and viewers as the focal point of their vision. This narrative represents a biopunk civilization and a modern society in which high technology affects the global environment. Such de-anthropologization of humanity can be used to advance a compensatory civilization that aims to improve its interaction with other natural processes. Over coding, which distorts the distinction between human and nonhuman occurrences, is the procedure by which meaning is formed through an interplay of multivalent notions and sequences within a wider material-semiotic network. When this method of contact is dissected, new interpretive narratives of human and non-human connections and forces within the environmental thread are produced. One example involves the over-

coding of computational codes with alphabetic and graphical codes to produce various kinds of technological syntax. These patterns then proceed outside the electronic stratum using a variety of modulation schemes, engaging with a wide range of physical processes like cables and air radiation, and eventually entering another realm where they are subsequently encoded and processed by the human mind.

In *The Windup Girl*, where natural food sources have practically disappeared, humans must rely on synthesized food and genetically modified species to survive. Men modify the gene sequences of exotic, consumable things to generate excess calories. These non-human individuals have undertaken a technique called 'gene hacking' (Bacigalupi, 2009), in which their native DNA code is deciphered and altered. As a result of the over-coding that ensues, their activities transcend the control of human free will and intentional exploitation. The novel depicts a future in which countries around the world battle to create food and energy supplies to operate machinery and boost production efficiency following an ecological catastrophe. Experts, typically white biotech entrepreneurs reminiscent of the infamous East India Company, attempt to plunder the genetic resources of several cultures to ensure the continued existence of human civilization. The aim of individual existence is tied to the morals of objectification that had energized the financial system before the ecological disaster. However, this genetic-colonial endeavor is overwhelmed or frustrated by imperialist objectives. The rapacious Cheshire kittens, genetically engineered fruits such as the gnaw, and synthetically created people called windups, along with the destiny of automatons installed with windup mechanisms that revitalize their bodies, are just a few of the genetically mutated humanoids with dramatically increased capacities that inhabit this world.

4.1 Representation of Bio-Punk Civilization

They resemble modern wind-up dolls, but instead of being made by genetic technologies, they sprout in artificial insemination termed crèches and are generally configured to be servants, sex dolls, or troops in a period where resources are scarce, and technology is no longer capable of functioning. Apart from robotic indoctrination, these windups have sentiments and intelligence, and just like regular people, they can ignore their political and social conditioning, as Emiko does in the narrative. Emiko

becomes the mother of the next human being, which calls into question the idea that humans are a unique species.

The conceptual performances in this novel show that literature can cross boundaries and open up opportunities for epistemological descriptions of both itself and the environment it exists. We discover that the processes of cell division and cognitive advancements visible in the allegedly disparate biological and cultural domains are mimicked by the patterns through which these hypertexts develop, infected computers diversify, and advanced AI obtains independence. To gain engagement and provide a prism for reexamining the value of human life, writings connect with other structured entities by entering this space. For example, the scientifically formed Emiko in Bacigalupi's *The Windup Girl* is a "biological abnormality" made as a sex robot and servant. She challenges what it means to be human by using terminology that blurs the line between the human and the nonhuman. This is proven by the novel's section that follows: Emiko battles the unexpected onslaught of guilt. It appears as though he has cut her apart and is searching through her internal organs, a rude and unsympathetic act akin to an autopsy performed by a cibiscosis medical professional. She sets her drink down carefully. "Are you a gene ripper?" she asks. "Is this how you know so much about me?" (Bacigalupi, 2009, p.43).

Throughout this narrative, the ontological status of not only this quasi-organic technological composition but also the human being is interrogated. Even though she is referred to as a New Person (Bacigalupi, 2009), her humanity is under scrutiny. Her utterances demonstrate she is more than a product, something both more and less than human, much like her human owners. She paradoxically evokes our sympathies.

The novel frequently confronts anthropocentric presumptions by depicting a world where roaring oceans flood entire countries and the human species depends on DNA samples of gene-hacked algae and their genome maps for survival. By using such analogies, the literature both performatively collaborates in and signifies a weakening of the lines separating the inorganic from organic worlds. In her essay "Dirt Theory and Material Ecocriticism," Sullivan also draws attention to this element, using *The Windup Girl* as an example to explain her "dirt theory" (Sullivan, 2012). She posits that natural phenomena like soil are complex subjects,

emphasizing the interconnectedness and co-dependence of humans and the environment. Soil is depicted as cyborg-like, being both inorganic and organic, hazardous and toxic, and functioning as a "damagingly assertive impact" on living organisms it encounters.

The figures in *The Windup Girl* are entangled with sludge and filth as places of transformation. The novel's setting, Bangkok in the year 2103, has previously experienced a population annihilation caused by viruses that undergo radical transformation in an extremely polluted atmosphere. Through dictatorial control over trade, which Sullivan claims epitomizes large-scale material interconnectivity and cannot be managed in a world of fierce capitalist competition between international biomimetic companies like AgriGen, the administration attempts to control these very epidemics. In this environment, bodies can be dangerous as they enable the emergence of various harmful diseases. Burning infected corpses and ruthlessly executing those considered disease transmitters are common practices. Bodies are polluted and constantly degraded, "tarnished by violent sexual labor and the town's muck," just like Emiko's body. Ironically, however, her body is impervious to the illness spreading while many around her perish.

4.2 Environmental Concerns in the Primeval Era

Sorrows of Sarasvati illustrates the ancient history and depicts the primitive environment through diverse dimensions. It describes a time long ago when Aryan tribes populated the great Indus Valley of the subcontinent (including Punjab, Potohar, and Sarhad), and the process of settlement was still ongoing. At that time, the ancient local tribes had become slaves of the Aryans, but the city's two riverside settlements, Mohenjo-daro and Harappa, were still safe from Aryan reach. Mustansar Hussain Tarar presented the environmental concepts related to 700 AD in the novel *Bahao*, later translated as *Sorrows of Sarasvati* by Safeer Awan. This work also anticipates economic ideas in terms of ecology through the classification of two classes: the rich and the middle class.

The main representatives of the middle class and their occupations are described as follows: Parushni fills water in chapar's pots; Pukali makes pots and cooks; Kagri roasts and kills or makes chapar; Cheva herds goats; Samru makes beads, pearls, and seals. Besides making vines on river oysters or agricultural

implements, Dharwa rears the sacred Zeno bulls, and Darwa prepares bricks at the kiln. Mani works in the fields along with her sons; Koli makes dung cakes for the villagers; Sukhi puts bread in the oven for the villagers. Manmasa lives on trees in the forest, so he doesn't need any livelihood; Varchan travels to different places, so he has no special profession. Apart from these, there are also some boat operators on the beaches. In this novel, the kiln owners represent the rich class who oppress the poor workers. Additionally, the river and the water raining from the sky are the biggest sources of livelihood for this civilization. Without these two, all the occupations of these human beings would be devastated.

The major livelihood and source of income is agriculture. "Bahao" refers to a population settled on the banks of the Ghaghra River. Its inhabitants are of Dravidian descent. The main source of livelihood for the people is the river. When the glaciers of the mountains melted and it rained, large waters came, irrigated the fields of the settlement built on the bank, without laying the soil stock, and returned to the river. Apart from this, the local people had their professions. At the beginning of the novel, a bird dies of thirst by falling into the trees on the banks of a dry lake. The Ghaghra River flooded the side of the township. In the same village, a character known as Mati lives with her three sons. In this slum, an old man guards the sacred bulls until the river dries up. Pikli also makes pots with her sons, and the artist Samro also lives in this town. Gagri organizes mass for the villagers. The novel also has animal characters, including the god's dog, Pind Roharan, Mea Aon Karta Peacock, and the wild buffalo that breathes Ananku. Dubo mud and beggars also seem to breathe. The settlement is deserted. To avoid death, Varchan leaves the village, taking Dorga with him. But Parushni refuses to leave the village, holding only a fistful of grain seeds as a symbol of life.

Mustansar Hussain Tarar writes about this novel: "I settled the town of Bahao myself." The jungle ballets, trees, animals, bushes, swamps, and rivers were all my creation, and I had to take a lot of help from research to create them." (Mustansar, Trans. Awan, 2022, p.30). The author made use of existing research materials related to earlier Aryan, and Egyptian civilizations, ancient mythology, construction of dreams, flora, etc., and was inspired by scholars like Ibn Hanif, Ali Abbas Jalalpuri, and Ainul Haq Farid

Koti. Mustansar Hussain Tarar has highlighted Aryan culture in his novel, even before the emergence of Buddhism and the Mauryan Empire. By mentioning the ancient period, the author presents the economic concepts related to that time. Dr. Khalid Ashraf writes: "The flow recreates the prehistoric period when saws began to enter the Indus valley from the northwest. Although there is no coherent history of this period, which is based on 2300 BC to 1750 BC, excavations, coins, seals, vessels, and tools have provided research results on this great civilization of South Asia. This suggests that the time of the Bahao story is around 700 BC." Thus, the author informs us about the economic system of 700 BC, where there was no concept of currency, and bartering was the primary means of trade.

The Sorrows of Sarasvati by Mustansar Hussain Tarar is a stunning illustration of his talent. He creates a museum that replicates Parushni's "hoo... dham... dham... hoo" and unearths a vanished river from beneath dunes in the manner of an ancient archaeologist. He transports us back in time roughly four thousand years, landing us in a nameless village bordered by the River Ghaghara (Vedic Sarasvati) and marshland. It is a place where flooding encourages life, where there is constant anxiety over vanishing wildlife, decreasing water levels, foreign invaders, and diminishing rivers. In the sad story Sorrows of Sarasvati, brilliant individuals live in a village where they raise all kinds of insightful questions but find it difficult to come to any rational conclusions.

Sorrows of Sarasvati has numerous interpretations that can be viewed through multiple angles, similar to all outstanding pieces of art. It offers a glimpse into our Dravidian history as a chronological tale. Mother Nature is forsaking the Dravidians, and the Aryans are seizing ownership. As a defenseless son of the earth, Virchan witnesses Ghaghara's departure and "sharp-nosed" Puran's entrance with the overused colonial justification: "We arrived here... because you were slow and incompetent. You lacked both beauty and intelligence. You were utterly dim-witted. You don't have any faith in any gods or goddesses." It acts as a cautionary tale about the dangers of heat and the devastation caused by climate change.

5. Conclusion

After a thorough analysis that clarified the research objectives and addressed its questions, it can be concluded that the goals of the research have been accomplished. By contrasting the technologically advanced modern period with the environment of the prehistoric era, it is argued that technological advancement has significantly changed civilization and is partially responsible for environmental catastrophes, such as climate change. Similarly, we observe environmental crises in primeval civilizations.

The research has also demonstrated the value of ecological literature as a suitable illustration of today's highly technological civilization. Furthermore, this study uncovered several crucial future directions for researchers related to transformation, eco-cosmopolitanism, and feminist ecocriticism. This research concludes that the narrative represents biopunk civilization and portrays a modern society where high technology affects the global environment. Such de-anthropologization of humanity can be used to advance a compensatory civilization that aims to improve the way it interacts with other natural processes.

This research concludes that we face a global crisis today not because of how ecosystems function but rather because of how our ethical systems function. It requires an understanding of those ethical systems and using that understanding to reform them. In this modern contemporary age, the whole world is confronting climate change and environmental hazards not just because of technology but also due to human behavior. Many scholars believe that environmental hazards began two thousand years ago, indicating that people of primeval civilizations also faced environmental crises, such as shortages of water and food, as shown in the novel *Sorrows of Sarasvati*.

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