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APPENDIXES

No	Research Question	Novel	Theories	Analysis
2	How should nature be managed in order to be sustainable?	<p>-Anthropocentrism</p> <p>1. The extermination engineers had erected barriers between the Red and the Green zones. In the Green, the men had done their work well-no useless insects survived. But they still had to clear</p>	<p>-Anthropocentrism places humans as the center of moral values and the basis for ecological decision-making, where nature is considered valuable to the extent that it provides benefits to humans. C.J. Barrow (2006) explains that this approach has long dominated environmental management, especially in modern development</p>	<p>In the novel The Green Brain, Frank Herbert presents an ideological struggle between two paradigms of environmental ethics: anthropocentrism and ecocentrism. Both do not only stand as philosophical concepts, but are manifested through the actions and conflicts between humans and other living things—especially insects and the ecological systems in which they exist.</p>


		<p>the way in the Red zone, to destroy insect life there—a lower form of life which was presenting a threat to mankind. p. 1</p> <p>2. "A purely temporary condition," his father said. "We'll shape bees to meet whatever need we find. The destroyers take food from our mouths. It's very simple. They must die and be replaced by creatures which serve a function useful to man." P. 66</p>	<p>that tends to be technocratic and short-term oriented. However, this approach is often considered to have failed to answer contemporary ecological challenges because it places too much emphasis on human interests alone. This is what then gave rise to the ecocentric approach as a critical response to the limitations of the anthropocentric paradigm.</p>	<p>Anthropocentrism is strongly depicted through human policies towards nature, which reflect the paradigm that the universe was created for the benefit of humans. As in the quote in the novel: (The extermination engineers had erected barriers... to destroy insect life there—a lower form of life which was presenting a threat to mankind p.1) humans feel entitled to destroy other species in the name of safety or comfort. Insects are considered only as a threat or source of disease (“without insects to carry diseases, we’ll have less illness,” p.69), not as an important part of the life system. This view is in line with Barrow’s (2006) explanation that the anthropocentric approach dominates modern development with a technocratic and short-term orientation.</p> <p>However, Herbert does not present this view unilaterally. Through the character of Brain and his ecological narrative, a profound critique of this</p>
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	<p>3. "There's no relationship," his father snapped. "Without insects to carry diseases, we'll have less illness." "Perhaps," Joao said, but his tone said he didn't believe it. P. 69</p> <p>4. "Our earliest poisons," Joao said, "killed off the weak and selected out those immune to this threat from humans. Only the immune remained to breed. The poisons we use now -- some of them - - don't leave such loopholes.P. 71</p>	<p>paradigm emerges, leading to ecocentrism. In the passage where Brain states:</p> <p>“Without a substance produced by wireworms, that savannah grass out there would die...” (p.223)</p> <p>The reader is invited to realize that life cannot be reduced to direct benefits for humans. Nature is not just a collection of resources, but an interconnected system, where even small creatures play a vital role. The strong sentence “Break the chain and all die” (p.224) underlines the principle of ecocentrism which emphasizes the interdependence of creatures and the dangers of ecological imbalance.</p> <p>The interplay between these two paradigms in the novel creates a moral and ecological dialectic. The anthropocentric view encourages actions such as</p>
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	<p>5. We've nothing but the mutated bees now, Johnny -- not a single creature to spread disease or eat food intended for humans. p. 44</p> <p>-Ecocentrism</p> <p>1. The Brain rumbled. "Sometimes it developed in the poison excrement of other life . . . and then that poison became necessary to it. Without a substance produced by</p>	<p>the use of poisons and genetic manipulation ("They must die and be replaced by creatures which serve a function useful to man," p. 66), while ecocentrism warns that such actions can lead to the destruction of the entire life system.</p> <p>The conflict between anthropocentrism and ecocentrism in <i>The Green Brain</i> is not merely a difference in values, but a reflection of a broader environmental ethics crisis. The dominance of anthropocentrism in the novel reflects the historical and contemporary realities of environmental management in the real world, where humans often place themselves as the center of the universe and assume that everything is created to serve their interests. Frank Herbert uses the fictional world to highlight the impact of this perspective, especially when humans begin to treat other living things such as insects as objects to be</p>
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		<p>wireworms, that savannah grass out there would die . . . in time”.</p> <p>p. 223</p> <p>2. Without substances produced by . . . insects, and other forms of life, your kind of life would perish.P.223</p> <p>3. Break the chain and all die. p. 224</p>	<p>and encourages the principle of precaution and long-term ecological sustainability.</p> <p>controlled, regulated, and even destroyed if they do not provide direct benefits. In the novel, actions such as the large-scale use of poisons, the engineering of living things, and the limitation of life zones reflect a technocratic approach that ignores the complexity and balance of ecological systems. Herbert implicitly criticizes this approach by showing how human efforts to control nature actually lead to resistance, mutation, and uncontrollable ecological imbalances.</p> <p>As a response to the failure of anthropocentrism, the novel presents an alternative voice through the representation of ecocentrism expressed by the character Brain. In this perspective, all forms of life—even the smallest ones such as insects or microorganisms—have an irreplaceable role in maintaining the continuity of the life system. Sentences such as “Break the chain and all die”</p>
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			<p>emphasize that the ecosystem is an interdependent network and cannot be treated separately. This idea is in line with Barrow's (2006) thinking, which emphasizes that ecocentrism demands recognition of the intrinsic value of nature and the importance of the precautionary principle and long-term sustainability. Thus, Herbert is not only offering a critique of the dominant mindset, but also conveying a strong moral message about the need for a paradigm shift: from exploitative to participatory, from control over nature to coexistence with it. In a world that is increasingly facing environmental crises due to climate change, loss of biodiversity, and ecosystem damage, the message of this novel becomes increasingly relevant. Herbert invites readers to rethink the position of humans in the order of life, and to see that saving nature is not only an ethical act, but also</p>
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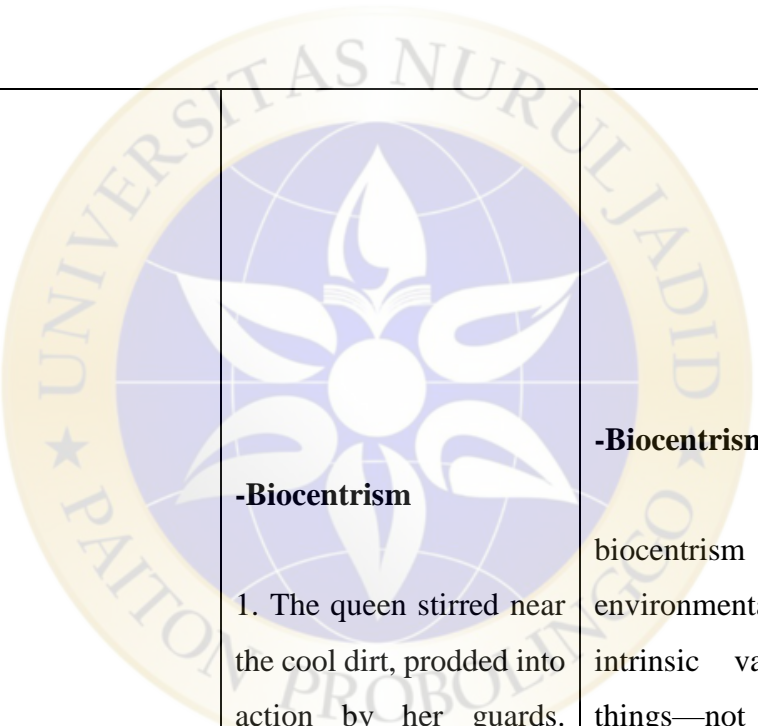


				<p>an existential need for the survival of humanity itself.</p> <p>Thus, The Green Brain not only shows the conflict between the two views, but also calls for a reformulation of environmental ethics—namely that sustainability is only possible when humans position themselves as part of nature, not as its sole rulers. In this case, ecocentrism is not only a critique, but also an offer of solutions to the failure of the anthropocentric paradigm that has so far dominated.</p>

	<p>2. This novel also depicts the conflict between biocentrism vs technocratic</p>	<p>-Technocratic</p> <p>1. Fuming blue gas puffed out the bag around him, and he inhaled a sharp, gasping breath through the mask, astonished at that unanimous demand for poison-free air. Agony! The gas drove through every multiple linkage of his being with needles of pain. P.5</p> <p>2. The stink of the poison gas lay all around him. It was a new one -- a dissembler. They hadn't prepared him for this</p>	<p>-Technocratic</p> <p>Technocratic environmental ethics is an approach that emphasizes the ability of humans to overcome environmental crises through technology, science, and rational policy. According to C.J. Barrow (2006), this approach grew out of the modern belief in control, prediction, and efficiency in the management of natural resources. The environment is seen as a system that can be managed and regulated by human intervention, such as through dam construction, weather engineering, or technology-based agriculture. This ethic is anthropocentric in many</p>	<p>In the novel The Green Brain, Frank Herbert presents a sharp critique of how humans manage the environment through a value struggle between technocratic environmental ethics and biocentrism. These two paradigms are not only opposed, but also intertwined in forming a grand narrative about sustainability, power, and ecological responsibility.</p> <p>In the novel, this is clearly illustrated through various scenes of the massive use of technology and chemical weapons to exterminate insects. For example, in the quote:</p> <p>"The air was thick with the bitter smell of the poisons. Black and orange scum floated past him... Each bit of scum carried its imbedded collection of dead and dying insects." (p. 168)</p>
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		<p>poison. He'd been ready for the radiations and the sonics and the old chemicals . . . but not for this. p. 6</p> <p>3. "The new poisons work -- yes." That was a bandeirante at the table behind her answering the problem of survivors -- resistant strains. The mop-up is going to be brutal handwork, just like China. They had to get down there and kill the last bugs by hand." P. 11</p>	<p>aspects because technology is directed to meet human needs while maintaining sustainability within the framework of development. The technocratic approach to environmental ethics tends to emphasize the use of science, technology, and rational policy as solutions to ecological degradation. This view is rooted in the belief that humans, through technological advances, can efficiently manage and control nature for long-term interests. However, Crist (2019) this approach is often criticized for viewing nature solely as an object that can be modified to meet human needs.</p>	<p>This quote shows how the environment is drastically and aggressively changed through technical tools in order to achieve efficiency in pest control. Other sentences such as:</p> <p>"The new poisons work—yes... The mop-up is going to be brutal handwork, just like China." (p. 11) shows the large scale and brutality of the technocratic approach used to eliminate life forms that are considered disturbing. This view is dangerous because, as criticized by Crist (2019), it reduces nature to an object that can be modified and destroyed according to human needs, without considering the intrinsic value of these living things.</p> <p>Technocratic environmental ethics emerges from the belief that humans have the capacity to solve environmental problems through science,</p>
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		<p>4. The charged hiss and cork-popping of sprayrifles and foamal bombs went on intermittently above him. The air was thick with the bitter smell of the poisons. Black and orange scum floated past him down the river and lay in puff mounds on the beach around the remains of their vine-powered windlass. Each bit of scum carried its imbedded collection of dead and dying insects. P. 168</p>	<p>technology, and rational policies. This view sees nature as a system that can be controlled, measured, and regulated by humans to meet development needs. In The Green Brain, this ethic is manifested in the use of poison gas, chemical weapons, and biological engineering on the environment. For example, the use of chemical weapons to exterminate insects is considered a scientific and efficient step to create an ecological order that is safe for humans. This is in line with Barrow's explanation (2006) that the technocratic approach emphasizes prediction and control of nature to ensure stability within the framework of development.</p> <p>However, this view is criticized in the novel through the consequences caused by these actions. Nature does not remain silent. Insects mutate, adapt, and fight back. Biological resistance and</p>
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		 <p>-Biocentrism</p> <p>1. The queen stirred near the cool dirt, prodded into action by her guards. Unifying communication went out to all the body parts, seeking the survivors, assessing strengths. They'd learned new things this time about escaping notice from</p>	<p>-Biocentrism</p> <p>biocentrism is an approach to environmental ethics that gives intrinsic value to all living things—not just humans. In this approach, all living things are considered to have a moral right to live and thrive, regardless of their benefits to humans. Barrow (2006) calls this approach part of the "ethics of respect for life" which fundamentally challenges human</p>	<p>ecological imbalances emerge. This shows the limitations of a technocratic approach that ignores the complexity of living systems. As criticized by Crist (2019), the technocratic approach often fails because it views nature only as an object that can be modified for human interests.</p> <p>On the other hand, biocentrism offers a philosophical alternative that respects life as something that has intrinsic value. In the novel, biocentrism is expressed through the voices of non-human beings, especially the character Brain, who emphasizes the importance of diversity and the interconnectedness of all life forms. Statements such as “The more different forms of life there are, the more life the greenhouse can support” illustrate the basic principle of biocentrism: that biodiversity is the foundation of a healthy ecological system. In line with Rolston (2020), this approach sees</p>
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	<p>humans. All the subsequent colony clusters would share that knowledge. P. 10</p> <p>2. Sometimes just a faint trace of the substance is needed, such as the special copper produced by arachnids. P. 223</p> <p>3. "We'll merely achieve a new balance," the Brain said. P. 224</p> <p>4. The more different forms of life there are, the more life the greenhouse can support. The</p>	<p>domination over nature. Rolston (2020) biocentric ethics upholds the principle that all living things have intrinsic value that deserves to be respected, and that humans are just one species among a wider web of life. Biocentric ethics emphasizes that humans are not the center of the universe, but rather one species among many other species that are morally and ecologically equal. This requires humans to take moral responsibility for the protection of life, not just rational managers.</p>	<p>humans as one species among many that are interdependent and have a moral right to exist. In one quote it is stated:</p> <p>"The queen stirred near the cool dirt... All the subsequent colony clusters would share that knowledge." (p. 10)</p> <p>This quote depicts insects not as mere passive objects, but as living entities with the ability to adapt and communicate, which are equal in the ecological system. Furthermore, in Brain's dialogue:</p> <p>"The more different forms of life there are, the more life the greenhouse can support... the healthier for all." (p. 224)</p> <p>there is a strong biocentric principle: the diversity of life is the basis of ecological sustainability. This</p>
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		<p>successful greenhouse must enclose many forms of life -- the more forms of life, the healthier for all. P. 224</p>	<p>sentence emphasizes that life cannot be viewed solely in terms of its usefulness to humans, but must be respected as an interdependent system.</p> <p>The relationship between these two approaches lies in both tension and the need for balance. Technocratic ethics, while filled with potential solutions, risks becoming an instrument of domination when not grounded in moral awareness. In contrast, biocentrism presents ethical values that can limit the exploitative tendencies of the technocratic approach. In <i>The Green Brain</i>, Herbert does not absolutely reject technology, but highlights its dangers if used without ecological sensitivity. The <i>Brain</i> dialogue, which states, “We’ll merely achieve a new balance,” emphasizes that sustainability is not about getting rid of technology, but about using it wisely in an awareness of ecological balance.</p>
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				<p>Thus, the relationship between these two approaches is not an absolute antagonism, but a dialectical relationship that corrects each other. Technocratic ethics can provide the tools, while biocentrism provides the moral direction. Both are needed to build an environmental management system that is not only intelligent, but also fair to all forms of life. Herbert's message is especially relevant in the current era of environmental crisis: that technology without ethics will lead to destruction, and ethics without action will lose its transformative power</p>
	3. Managing Nature for Sustainability through			<p>According to C.J. Barrow (2006), environmental management is a broad, rapidly developing field that plays an important role in sustainable development. He says that, environmental</p>

	<p>Environmental Ethics.</p> <p>In order to be sustainable must be managed in compliance with environmental ethics</p>		<p>management encompasses a range of human activities related to the interaction between humans and the natural environment. The goal is to identify environmental problems, evaluate risks, and take appropriate action to avoid, reduce, or adapt to negative impacts on the environment.</p> <p>In facing the complexity of the global environmental crisis, the environmental management approach is no longer sufficient if it only relies on technical aspects. C.J. Barrow (2006) emphasized that sustainable environmental management requires a comprehensive and value-based policy paradigm, in which ethical aspects, public participation, the precautionary principle, and interdisciplinary integration are the main pillars. Through this framework, Barrow offers a new direction in environmental management that is</p>
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				<p>not only responsive to ecological pressures, but also socially just and economically sustainable.</p> <p>1. Ethical Paradigm Shift</p> <ul style="list-style-type: none"> - Shifting the focus from anthropocentrism (human-centered) to a more ecocentric or biocentric approach, where nature is valued not only for its utility to humans, but as an entity that has intrinsic value. - Instilling awareness that environmental management is a moral and collective responsibility, not just the technical responsibility of governments or scientists. <p>2. Multidisciplinary and Holistic Approach</p> <ul style="list-style-type: none"> - Barrow emphasizes that environmental challenges require a cross-disciplinary approach: natural, social, legal, economic, and ethical sciences must work together.
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			<p>- It is not enough to rely on scientific data; it must also consider community perceptions, local politics, and cultural values.</p> <p>3. Application of the Precautionary Principle</p> <p>- In situations of scientific uncertainty, precautionary action must be taken before damage occurs, even if the scientific evidence is incomplete.</p> <p>- This is very important considering that many environmental threats are not easily predicted and can be fatal if ignored.</p> <p>4. Public Participation and Transparency</p> <p>- The community must be involved in decision-making through a bottom-up approach, not just controlled from above in a technocratic manner.</p> <p>- Barrow suggests the importance of environmental education, public consultation, and increasing access to information</p>
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			<p>5. The Principle of Economic and Social Precautions</p> <p>-Economic development must consider the carrying capacity of ecosystems and social justice, including the rights of local communities and future generations.</p> <p>6. Integration between Science and Policy</p> <ul style="list-style-type: none"> - Barrow emphasizes the importance of synchronizing scientific findings and policy decisions, so that research results can be translated into effective real actions. - Working together between scientists, policymakers, and the community is needed to produce sustainable environmental solutions <p>Overall, Barrow (2006) provides a strong and relevant conceptual framework for understanding how anthropocentric and technocratic approaches should be complemented with ethical,</p>
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			<p>participatory, and interdisciplinary approaches. This approach is an important foundation in efforts to build a truly sustainable environmental management system. This study is not only relevant for policy makers and academics, but also for the wider community in understanding their active role in maintaining the sustainability of this nature.</p>
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2. NIM : 2142300003
3. Prodi : Pendidikan Bahasa Inggris
4. Judul Tugas Akhir : Discourse Analysis of Environmental Ethics In Frank Herbert's The Green Brain
5. Dosen Pembimbing : Dr. Tirmidi, M. Pd
6. Konsultasi :

TANGGAL	MATERI BIMBINGAN	KETERANGAN KONSULTASI/ARAHAN	PARAF
1-10-24	Introduction		Tm
6-10-24	Introduction		Tm
9-10-24	Introduction		Tm
15-10-24	Abstract		Tm
24-10-24	Previous study		Tm
3-1-25	Previous study		Tm
7-1-25	Research Question		Tm
24-4-25	Research Method		Tm
13-5-25	Psycholinguistic Approach		Tm
25-5-25	Psycholinguistic Approach		Tm
4-6-25	Intertextual		Tm
9-6-25	Intertextual		Tm
16-6-25	Suprasegmental		Tm
20-6-25	Suprasegmental		Tm
28-6-25	Conclusions And suggestions		Tm
			Tm

7. Bimbingan telah selesai pada tanggal
 1 Juli 2025
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Paiton, 27 Juni 2025
Ketua Tim,

RM. FARUQ, S.H.I.



Author's Biography



The writer, Geofani Kevin Ghofarho was born in Probolinggo, 26 Juli 2002. He was the first child from the couple Ismail dan Juningtias. In 2008, he began his education in TK and graduate in 2010. Then, he continued his study at SDN Taman and graduated in 2015. In following years, he continued his study in Junior High School of SMPN 1 Paiton (2015-2018) and Vocational High School (2018-2021). In 2021 he continued his study at Nurul Jadid University (UNUJA) Paiton Probolinggo. At this year (2025), he completed his thesis with the title “Discourse Analysis of Environmental Ethics in Frank Herbert's The Green Brain”.