
CHALLENGING WESTERN SCIENTIFIC PARADIGMS THROUGH HYPEROBJECTS AND BIOPHILIA IN KIMMERER'S *BRAIDING SWEETGRASS*

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Abstract

This study investigates the concept of Hyperobjects and Biophilia in the Braiding Sweetgrass by Kimmerer (2013). It is qualitative close-reading research that uses Hyperobjects and Biophilia as a theoretical framework. This paper enquires how Braiding Sweetgrass interacts with the Hyperobject theory that is based on Timothy Morton and a biophilia approach brought out by E.O. Wilson to ecological consciousness that is more holistic. As these ideas are examined, the study examines nature may be given the appreciation and experience that surpasses the standpoints regarding the conventional provisions of Western constructs. This study dwells upon the way in which Braiding Sweetgrass explores Western scientific paradigms emphasizes relationality, reciprocity and responsibility towards nature in a manner that is ethical. In order to combat ecological disasters globally, the study lays stress on the significance of Indigenous knowledge systems offers a relational and ethical paradigm that advocates Western scientific paradigm. The study of the complexity and the big sizes of the ecological system makes Hyperobjects focus on the shortcomings of reductionist science. Established simultaneously through the views of Indigenous environmental philosophy, Biophilia offers a relational and empathic approach to environmental management. This framework presents a fresh direction to be taken by future research by illustrating the way in which Hyperobjects and Biophilia can reinstate the way people can approach the ecological crisis. It helps in filling gaps in knowledge systems by bringing the scientifically rigorous and culturally based practices.

Keywords

Environmental crisis, Hyperobjects, Biophilia, Indigenous knowledge, Scientific Paradigms, Anthropocene, Interconnectedness

1. Introduction

Human-environment relationship is one of the primary areas of research over the past years. The interest in this issue is essential as global ecological issues, such as global warming, biodiversity loss and pollution, are global problems. There has been a trend in criticizing and revisiting the common paradigms of Western traditional sciences that tend to perceive nature in the form of fixed and physical objects that are to be studied, manipulated and applied to the advantage of humans. These concepts have influenced our minds. It is based on a reductive, detached and mechanistic perception of the natural world that we have relationships with nature and are still exploiting it in this manner. But there is growing recognition that these methods may not be sufficient enough or even healthy where the environmental problems we have are complex and interconnected. Since these challenges continue to get more complex, it is often suggested that other viewpoints are required. This is a text that makes readers reflect on total relations they actually have with the Earth by challenging the boundaries of Western scientific perspectives with the concepts of the Biophilia and Hyperobjects.

Braiding Sweetgrass is a better method in contrast to the conventional Western science study and plant educational practices. She emphasizes the way human beings ought to develop a strong sense of connectedness with nature using the Indigenous knowledge systems that alter the Western perceptions towards nature. She says that all things are dependent on each other and thus spiritual and personal relationships should be put at the forefront in order to salvage

our planet. Her research incorporates the local knowledge and Indigenous epistemology to strengthen the methods of protecting natural resources. Contemporary ecological disasters indicate that the Western tradition of scientific methodology is inadequate to meet the needs of involving intricate ecological associations. She is able to show us a full picture of ecological stewardship by incorporating scientific data, Indigenous knowledge, and individual experience. As a botanist and a member of Indigenous epistemology or rather an Indian belonging to Citizen Potawatomi Nation, Kimmerer is the one who connects the two spheres, Indigenous and Western sciences, which are often deemed incompatible (Kimmerer, 2013).

Distinguished Professor Edward O. Wilson argues that the Biophilia theory is valid. In his seminal study *Biophilia*, came to the belief that, as stated in *The Human Bond with Other Species*, human beings simply constitute profound connections with the natural world as a genetic requirement that is inherited, as well as accomplishing this, thus providing certain visual advantages (Wilson, 1984).

Morton rewrites the ecological theory by suggesting the notion of Hyperobjects phenomena which are spread very widely all over space and time, such as nuclear radiation, climate change, and global warming. In his view, these things are real and inaccessible to the traditional western scientific paradigm, that relies on the visibly apparent, classification and human domination of nature (Morton, 2013).

The purpose of this study is to examine Kimmerer's critique of Western science and to highlight how her work contributes to the broader conversation about the integration of Indigenous knowledge into environmental discourse.

1.1. Problem statement

By integrating the concepts of Hyperobjects, large-scale environmental phenomena that are so vast they transcend human comprehension, and Biophilia, the inherent human connection to nature, this study seeks to open a discussion about how these perspectives can offer new ways of thinking about ecological preservation, sustainability, and human relationships to the nonhuman world. This research studies how Kimmerer incorporates Indigenous wisdom to examine Hyperobjects and Biophilia to demonstrate that *Braiding Sweetgrass* effectively confronts Western science's destructive methods and presents new holistic methods for protecting the earth. Through her work, Kimmerer persuades readers to respect Earth instead of using it as a source of exploitation.

1.2. Research Objectives

- 1 To analyze the challenges of the indigenous knowledge system to the ecological consciousness between humans and nature.
- 2 To examine how the concepts of 'Hyperobjects' and 'Biophilia' are integrated with Kimmerer's *Braiding Sweetgrass*.
- 3 Evaluate the contribution of the study to addressing environmental crises by rethinking and proposing more sustainable practices in the future.

1.3. Research Questions

1. What do the indigenous knowledge systems challenge about the ecological consciousness of human beings to nature?
2. How do the concepts of Kimmerer in *Braiding Sweetgrass* correspond to the concept of Hyperobjects and Biophilia?
3. What does the study provide in providing a frame of reference towards dealing with environmental crises and rethinking more sustainable practice towards future ecological systems?

1.4. Significance of Research

In order to explore the short-comings of Western scientific paradigms and to study alternative frameworks of ecological relationships understanding, this study will help form a multifaceted discussion. The paper finds a parallel between the idea of Hyperobjects by Morton and Indigenous ecological by Kimmerer. The health of the relationship of human with the nature as the research involves the concept of Biophilia and Hyperobjects, the research will add up to a deeper study of this issue. It highlights the importance of Indigenous knowledge systems to reaction to the ecological crisis of the world, provides relation and ethics paradigms that supplements and broadens Western accredited methods of ecological cognizance. The studies embrace the environmental humanities, and ecological pedagogy which places and highlights-based approaches towards sustainability.

2. Literature Review

This chapter considers the interdependence between human and nature that has involved researches in various fields over centuries. Concerns have been raised regarding whether or not traditional Western scientific paradigms are adequate in dealing with the complicated environmental crises in the past years with the deteriorating ecological crises. Such methods that tend to be reductionist and anthropocentric have been identified as having been insensitive to the complex interrelationships and moral aspects of ecological system. New ideas have developed to respond in this analysis which emphasizes on relationality, interconnectedness, and more holistic approaches to the natural world. In this context, Morton conception of Hyperobjects enormous processes like global warming that humans simply have no understanding of provides one context of reconsidering the role of human beings in the ecology. Moreover, the theory of Biophilia created by Wilson accentuates the unique human interest in nature with its emotional and ethical attachments.

As indicated in Kimmerer's *Braiding Sweetgrass*, where reason and reciprocity with the Earth are basic, his observation is in line with Indigenous knowledge systems. The epistemological objection offered by *Braiding Sweetgrass*, which challenges the dominance of reductionist science through claspings Indigenous wisdom, storytelling, and spiritual connection with the land, is spectacularly comparable to Wilson's requirement for moral expansion (Wilson, 2007). In his 2013 work, *Biophilia as an Environmental Virtue*, David Clowney reexamine concept of Biophilia as a virtuous and environmental virtue in addition to a psychological tendency. As stated by Clowney, Biophilia might act as a feature that should be developed for moral actions in the ecological sector. According to Clowney, those who continuously demonstrate Biophilic dispositions, whether it is through ethical environmental choices, respect for landscapes, or concern for animals, display a virtue akin to compassion or justice (Clowney, 2013).

In her review of *Ecology without Nature and the Ecological thought* Holmes explores how the theoretical framework of Timothy Morton conceptually invalidates the authenticity of conventional ecocriticism by a challenge of the concept of nature as any meaningful or functional category. Holmes shares the thought-provoking sentiment of Morton that the romanticization of nature in Western environmentalism and literature sketches a false dichotomy between human beings and the environment that reinforces the dichotomies that preclude the ecological understanding (Holmes, 2012).

The Great Derangement: Climate Change and the Unthinkable by Amitav Ghosh deals with a troubling paradox of modernity the vast mass of scientific information that climate change is an existential threat to the world does not seem to move humanity in the least. Ghosh argues that knowledge alone has failed to create any meaningful action. This collapse points to the weakness of Western systems of scientific thought that assign the premium in data and

prediction coupled with little regard to moral commitment, imaginative response, and emotional engagement (Gosh, 2018).

Ecology without Nature places Timothy Morton in a dramatic intervention of Western environmental thinking because, as he points out, the notion of nature in itself has become an obstacle of thought, not a solution, to environmental issues. The Western scientific and philosophy traditions often tend to view nature as something eternally beautiful, something untouched that must be left in its original state without interruptions caused by humans and something that is far away and distant to human existence (Morton, 2009).

In handling the dead ends of the ecocriticism facing the post-climate-change period, Timothy Clark focuses on the manner in which the extent and perforce of environmental crisis destabilize the existing literary and political systems. Clark prefer to deconstruct to demonstrate how ironic and inert at the very core of much environmental discourse is the argument: climate change does not lend itself to moral certainty and narrative resolution. (Clark, 2010).

Another principle of a kind is inclusive, consequence-oriented, and principle-oriented ethical science that is not dictated by dominance or profit and is promoted by feminists. She does not attempt to dismiss science, but she wants to coexist with it to offer a more inclusive picture of knowledge. Such intellectual synthesis as the feminist perspective suggests is precisely the type of thing that will create new sciences that will benefit everybody, including individuals who have been historically deprived of positive impact in the benefits of contemporary research (Harding, 1991).

Instead, Kimmerer highlights that the natural world offers gifts that are both tangible and intangible, and that our role is to be stewards of those gifts, reciprocating the Earth's generosity through sustainable practices and ethical behavior. This is supported by research in environmental ethics, which argues for a shift away from anthropocentric views of nature to more ecocentric models, where the value of non-human life is recognized for its own sake (Naess, 1973).

Donna Haraway who argue that science often fails to account for the ethical and relational aspects of environmental interactions. Western science's reductionist methods, which tend to isolate variables and focus on quantifiable data, overlook the interconnectedness of ecosystems and the ethical implications of human intervention in nature. Kimmerer critiques this by proposing a "grammar of animacy" which invites us to perceive the agency of non-human beings, such as plants, rocks, and animals, and to recognize them as active participants in the ecological community (Harway, 2008).

The works, *Decolonizing Methodologies: Research and Indigenous Peoples* by Linda Tuhiwai Smith and *Braiding Sweetgrass* by Kimmerer, are dedicated to inversion of the hegemony of Western and colonial paradigms of research and narrative. She begins her writing by incriminating what she calls research through imperial eyes, the historical objectification and marginalization of the Indigenous people in Western scholarship. (Smith, 2021).

3. Material and Methods

3.1. Methodology

The research method used in this study was a qualitative research design since the main focus of the research was analysis of the text of *Braiding Sweetgrass* by R. W. Kimmerer. It was the qualitative approach that was selected to further examine the themes of Hyperobjects and Biophilia in the story. Through the application of the theories used by Morton and Wilson, the research paper strived to offer a comprehensive idea of how the work wrongs the Western scientific paradigms, as well as exploring the network of human interaction with nature. The concepts of Timothy Morton and E.O. Wilson act as the analytical prisms of theoretical-

interpretive study approach. These paradigms can be used to interpret how *Braiding Sweetgrass* criticizes reductionist and anthropocentric practices of western scientific paradigms. The qualitative design also contributes to the multidisciplinary nature of the works of Kimmerer who seamlessly incorporates ecology, Indigenous philosophy, personal account, and scientific discourse in his work. Through this method, the paper will seek to demonstrate that literary works are not only aesthetic works but also the centers of production of ecological knowledge. The study has been using content analysis approach with paying primary attention to the analysis of *Braiding Sweetgrass* in order to better understand the representation of Hyperobjects and Biophilia in the text of the works being analyzed. The main source of data that has been used in this research was the text of *Braiding Sweetgrass* by R.W Kimmerer. The secondary source was scholarly articles, critical essays and other pertinent sources of theories, which give different views of Hyperobjects and Biophilia as portrayed in the work. The secondary materials provided more context and validation to the interpretation of the primary text to further the analysis and interpretation of the text.

3.2. Theoretical Framework

The ideas included in this study are the ideas of indigenous ecological knowledge, Biophilia and Hyperobjects. These structures form an integrative framework on exploring the complex correlations between human beings and the natural world. This article has its theoretical background within both the theory of Hyperobjects of Timothy Morton and the concept of Biophilia of E.O. Wilson that are mutually dependent on each other. Using these theories to examine the ways in which Robin Wall Kimmerer has critiqued and surpassed the Western scientific paradigm through the application of Indigenous ecological knowledge in *Braiding Sweetgrass* can be stated. This framework explores the intersection of these theories with the stories of Kimmerer through the prism of relationality, ethical responsibility and the agency of the non-human world. A combination of these structures challenges the assumptions of the Western scientific knowledge.

3.2.1. Hyperobjects: Inspects Nature in the Anthropocene

Hyperobjects: Philosophy and Ecology after the End of the World (2013) explains that the notion of Hyperobjects that was introduced by Timothy Morton can be defined as objects that are extremely distributed in terms of time and space and lie beyond human comprehension. Hyper objects defy the dichotomous thinking that creates a divide between human beings and nature, which is one of the characteristics of Western scientific paradigms. They also need an holistic mechanism which appreciates their interdependent and infiltrating quality in the ecological problems. Since Hyperobjects are very huge, they tend to overwhelm the human perception and do not fall into the normal scientific categorization. They are sticking with us and transcending us, involving such problems as plastic pollution, climate change, and even a biosphere as it is, so it is difficult to verify what human activities and what biological systems these systems are concerned with. The chapter titled Learning the Grammar of Animacy by Kimmerer is also an example of how Kimmerer has explored the usefulness of mosses in world ecosystems. The mosses are defined as vital in the ecosystems in terms of the water processes, creation of habitats, and in helping with carbon sequestration, and not necessarily as a species per se.

3.2.2. Biophilia: Refresh Intense Relationship to Nature

It is a fact that, according to a concept by E.O. Wilson that is Biophilia, humans are naturally gravitated towards life and processes related to life due to our evolutionary dependence on nature. Biophilia has also been actively applied to the Western environmental debate in order to promote conservation through the references to love which people have towards nature.

According to detractors, however, this definition by Wilson is more of naturalizing caring as opposed to the issues of obligation, justice, or reciprocity. This school of thought adds that it does not necessarily mean that one has a moral duty to nature by loving it. In the case of Wilson, it is essential to develop Biophilic interactions, which would contribute to the ecological sustainability and human well-being. He argues that individuals do well when they engage with nature on moral and emotional plane and the love of life is inculcated in the human mindset. Biophilia fights against the scientific objectivity of western science by encouraging a more holistic, emotional perception of nature. The idea of Biophilia is totally transformed through the incorporation of such a concept into Indigenous relational ethics in the book *Braiding Sweetgrass*. Kimmerer introduces an affinity with nature as a moral relationship of reciprocity, thankfulness, and control instead of a drive. In the chapter "Asters and Goldenrod." Nonetheless, this shifts to a Biophilic approach when she restores her connection to the world of plants as life allies and teachers, via Indigenous ways of knowing.

3.2.3. Intersections of Hyperobjects and Biophilia: Toward a Relational Paradigm

In *Braiding Sweetgrass*, Kimmerer points out further that Western scientific paradigms are being criticized with the combination of Hyperobjects and Biophilia. Biophilia by Wilson and Hyperobjects by Morton encourage very moral and emotional engagement with nature and reveal the ineffectiveness of the reductionist approach in solving environmental issues. They both criticize the anthropocentrism by recognizing the acts of animals and refuting the claims of human exceptionalism. The issue of climatic change has become a part of everyday life that requires to be morally responsive and not a far off environmental issue. This theory says that human beings belong to a lively community based on the well-being of one another as opposed to planet managers. The example of an educative piece is provided in the chapter by Kimmerer, titled The Gift of Strawberries, in which he explains the wild strawberries. She describes the value of strawberries as gifts that are associated with thankfulness and generosity besides its environmental importance. This perspective takes into account the bigger systems, where the strawberries can be found, as it combines Hyperobjects-oriented thinking of Morton with the emotive attachment in Biophilia. The story is against commercialization of natural resources and is based on gift economy of relational ethic.

3.2.4. Challenging Anthropocentrism and Reductionism in Western Science

Traditional Western scientific traditions have been shaped by anthropocentrism, or the belief that humans are special and distinct to and superior to the non-human world, and reductionism, or the breakdown of complex ecological systems into identifiable and measurable units. Such an approach has not only enhanced technology, but since it has ignored relationships, moral obligation, and long-term impacts, it has also impaired ecological knowledge. The loss of biodiversity, exhausted soils, and warmed temperatures are some of the environmental disasters that reflect the scarcity of qualifying nature by the models produced by humanity centered economy or scientific hairsplitting. Western science has long been anthropocentric and reductionist in its approach to the world, and places an importance on human interests, and mechanistic approaches to understanding in neglecting relational and whole approaches to understanding. By stating that humans possess an inherent biological preference toward other life forms, Biophilia has been used by E.O. Wilson to defy this distinction. Nevertheless, due to the fact that Biophilia can still introduce nature as something that is mostly viewed as psychologically or morally valuable to humans, it is not enough to fully invalidate anthropocentrism.

4. Analysis and Discussion

The writing analyzes how the interrelated notions of Hyperobjects, Biophilia and Indigenous systems of knowledge in *Braiding Sweetgrass* by Robin Wall Kimmerer contradict dominant Western paradigms of science. Kimmerer provides a new approach to the relationship between humans and natural land by combining personal experience, scientific knowledge, and cultural lessons. In this section an arranged discussion on the major concepts and themes is provided. It begins by discussing how the book questions and accuses the failures of Western science. In the ecological context provided by Kimmerer, the presence of Hyperobjects which are gigantic environmental phenomena and which are incomprehensible to human beings. The following part is an analysis of how the text presents the concept of Biophilia, which is the innate human attachment to nature. Finally, the study transfers into the realm of indigenous epistemologies and their ability to provide alternative views on the environment. The study illustrates that the work by Kimmerer can provide a holistic and interdependent view of ecology as it mediates the academic concepts of science and the Indigenous world through careful reading and conceptual inquiry. Such approach does not only assist us to understand her material better, but it also progresses the debate of sustainability and environmental awareness overall.

4.1 Ecological Ethics in *Braiding Sweetgrass*

Braiding Sweetgrass by Kimmerer emerges at the time when the scientific paradigms of the West are increasingly challenged and their failure to respond to the environmental issues is being acknowledged. The needs of climate change, biodiversity loss, and environmental injustice reveal the shortcomings of a worldview that considers nature as an object and finds it necessary to be controlled and handled in a specific manner. Kimmerer is a botanist and a member of the Citizen Potawatomi Nation who introduced a different epistemology that builds on the notion of a relationship ethic, reciprocal accountability, and Indigenous knowledge systems. Her writing challenges the assertions of science as objective and disengaged by combining scientific knowledge with the stories of the Indigenous people and their lives and ceremonies in a way that sees science as not being rejected but challenged.

The book by Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*, severely questions the principles of the Western science. Kimmerer in the book is crafting a radical synthesis that dismantles the artificial divide of Indigenous wisdom and scientific approaches by proficiently combining her roles as a well-known botanist and as a member of the Citizen Potawatomi Nation. Her work has a significant impact on the new field of decolonial scientific research and it presupposes and corresponds to new concepts of the contemporary world such as the Biophilia concept by Wilson and the Hyperobjects theory by Morton. Her critique of Western scientific culture as colonial is the way to approach the research led by indigenous scholars, as demonstrated by her so-called braiding process, which is not merely a metaphor. It is a viable paradigm of producing more egalitarian and inclusive knowledge systems. Her holistic approach proposes essential tools in the management of phenomena that act as Hyperobjects like climate change at a time when humanity is grappling with.

Also distributed, in time as well as space, in very huge amounts compared to human beings.
(Morton, T, 2013, p.1)

The concept of Hyperobjects introduces one of the major designs in the analysis of *Braiding Sweetgrass*, particularly in the light of the consistent critique towards Western scientific paradigms in the text. Examples of Hyperobjects are climate change, pollution and ecological degradation. These bodies are characterized by their massiveness in terms of space and time, impossibility of direct observation and being bound to the everyday activity of man. These

characteristics destroy the Enlightenment paradigm that nature can be fully understood, represented and controlled through scientific reason. Since Hyperobjects involve people even when they strive to stay impartial, they emphasize the shortcomings of this stance. Kimmerer also challenges this alienation by putting herself and her readers within the ecological systems, not outside of them.

Kimmerer says that we are united as we belong to covenant of reciprocity (Kimmerer, 2013, p.389).

4.2 Environmental and Indigenous Sovereignty

This is an assertion that redefines the ecological disaster as a relation rather than an outside problem. Morton defines hyperobjects as being sticky or viscous that is, they stick to us whether we want them to or not. The interrelatedness here is explained by the fact that Kimmerer focuses on reciprocity and, as a result, breaks the illusion of scientific distance. Another quality that distinguishes Hyperobjects is its historical grandeur which makes it impossible to classify them using linear notions of causality and effect. The scientific paradigms of the West often rely on quick outcomes and immediate projections, which align the knowledge development process with improvements in technology and economy.

The earth recognizes you, they know you even when you are missing (Kimmerer, 2013, p. 48). *Braiding Sweetgrass* holds that individuals are not morally and even emotionally neutral observers of the living world. The idea proposed by Wilson and Biophilia, the innate tendency of the human being to associate itself with the world of life and life itself is quite cogently presented in the work by Kimmerer, yet she extends the meaning of the terms well beyond the evolutionary context. In his maturation into the hybrid method of realizing his Animate Indigenous epistemologies, which recognize the non-human world as Animate and engage humans in mutually-relational relationship with land, plants, and other species, Kimmerer shifts Biophilia not as a biological disposition but as an ethical one. This chapter provides an argument that *Braiding Sweetgrass* is challenging Western scientific paradigms, which position nature as inert matter or resources to be used by positioning Biophilia as a moral practice and a form of relationship. Kimmerer deepens the concept of Biophilia into the sphere of responsibility by entailing it in the framework of the ethos of the Indigenous world, where the love towards the living world asks not only care and restraint but also reciprocity. She puts this clear by writing.

Being aware of the fact that you love the earth transforms you, swings you into the action of defending and protecting as well as celebrating (Kimmerer, 2013, p. 132).

The very short description reflects a complete philosophy. The concept of flourishing, which is essentially opposite to Western scientific systems developed on the principles of competitiveness and exploitation, highlights the value of protecting the group (collaboration) over the individual. It also highlights a moral system which is very distinct with the system of utilitarianism in the West. The environment and human well-being are dependent on each other in mutual ethic. Thus, instead of a personal decision, Biophilia becomes a mutual state of affairs that bands communities into the care systems that are not limited to humanity. The history of Skywoman presents ecological time in a profound way in terms of Hyperobjects. The Earth is not given, it is the result of millions of contacts on great distances; the Earth is not static, but difficult to comprehend. According to Morton, Hyperobjects are nonlocal and viscous or sticky and, thus, they attach to us and are beyond our capacity to see them as a whole. In the same way, the world of Skywoman is not a finished but a developing and weak bond, which needs attention instead.

Everything flourishes in interdependence (Kimmerer, 2013, p.27).

Kimmerer provokes and questions the creation and experience of knowledge by drawing the Indigenous and Western science systems into a discussion. She argues that Indigenous forms of knowing the natural world are anchored on reciprocity, relationality and respect and should be allowed to co-exist with science and defies the Western notion that science is the only legitimate way of knowing. The main source of conflict is the Western notion of objectivity that requires the keeping of distance and the elimination of subjective experience. This objectivity, according to Kimmerer is a cultural choice which advocates control instead of being neutral in the relationships. She reflects:

Science cleans the gift of seeing as if science polishes the gift of seeing, (Kimmerer, 2013, p. 48).

Native culture is gifted with gifts of listening and language. She describes science as correct, but still incomplete since it perceives nature as one of the instruments of human dominion, and suppresses the voices of plants and ecosystems by transforming them into data and epistemological violence. This criticism is echoed by other scholars such as Linda Tuhiwai Smith who has argued that over time Western science has been utilized as an instrument of colonization. In his efforts at killing two birds with one stone, Kimmerer is shown to be playing an epistemology that is both relational and empirical.

4.3 Ecological Restoration and Mutual Healing

Man is considered to be the junior brothers of. Creation” (Kimmerer, 2013, p. 9)

Kimmerer also considers the ideas of ownership and extraction that are exists in both scientific and financial systems in the West. The knowledge becomes susceptible to exploitation whenever it is considered as a commodity that has no connection to relationships. She makes a comparison between this with the Indigenous gift economy. Her focus on specific ecosystems and typical ecological interactions helps her demonstrate that the large-scale environmental events are a real experience and not an abstract power. Such an approach contradicts the abstraction that defines the Western model of environmental modeling that often places people outside the impacts of ecological change. She makes the readers realize that they are not powerless by helping them acknowledge their participation in these large systems by being able to tell the story and ecological intimacy.

It is also understood that wealth is simply enough to share (Kimmerer, 2013, p. 27).

It is only through giving away the gift that the abundance of the gift is achieved. This means that science is expected to serve the Earth and the community in general, rather than just the businesses or the government. The best example is her writing of the three sisters raising corn, beans, and squash. This Indigenous practice shows that it understands the symbiosis relationships, but common in agricultural science is the isolation of crops. It has a big disadvantage in alignment of Western scientific structures with short-term targets, which are often driven by technology or commercial interests. Kimmerer contrasts this with indigenous temporal frames that are more emphasis on continuity across the generations. She says that the environmental decision-making should consider the long-relational impacts besides the immediate outcomes. Due to this rich history, responsibility is redefined not as an individual but as intergenerational.

“Never take the first. Never take the last. Get no more than you need (Kimmerer, 2013, p. 192)

Obedience to these rules makes Biophilic attraction something moral. Whereas the approach of Kimmerer introduces sustainability into the ethical relationships, sustainability could be perceived by the Western scientific management as the aspect of optimizing the yield.

Harvesting is transformed into a dialogue instead of a removal, which builds hatred and respect towards each other. This moral element of Biophilia is also ironic of the psychological alienation caused by modernity. Wilson believes that oppression of Biophilic tendencies leads to human sufferings and degradation of the environment. Kimmerer builds up on this insight by linking ecological alienation to linguistic and cultural loss. People encounter when they learn to perceive the world as an object.

A feeling of solitude will be its own sadness, an intrinsic sense of loneliness to the rest of Creation, which has no name and cannot be named (Kimmerer, 2013, p. 216).

This is not just an emotional loneliness but also philosophical because of the knowledge of such systems that are opposed to relationships. In such a manner, the reawakening of Biophilia is a therapeutic process that replenishes the human value and an ecological system. Notably, *Braiding Sweetgrass* introduces Biophilia as a topic, which must be constructed and not assumed. Kimmerer demonstrates how cultural traditions either encourage or frustrate these urges, where Wilson points out basic tendencies. She describes the effects of educational systems that emphasize more abstraction than experience in the tendency to erode the natural interest of children in objects of the world that are either plants or animals. She experiences the clear change of point of view when the learners are requested to address plants as who, but not it.

One of the best tools to retrieve the land is through stories (Kimmerer, 2013, p. 346).

Stories make Biophilic connections to survive in generations as they are encoded with values. Kimmerer says that stories contain instructions on how to live a prosperous life. Stories encourage attitude appeal and shared understanding, unlike scientific studies, which often spread through communities of experts. They sustain Biophilia by merging it to identity, ritual and memory. The Biophilic morality introduced by Kimmerer is also a direct opposition to the logic of extractivism in capitalism and modernity. When science is in conformity to the exploitation of economically, Western science often resorts to the application of knowledge in financial profit. Making value relative, Biophilia would be contrary to this argument. The value of any forest is not related to the quantity of wood one yields but rather, it is a living community.

It is said that a gift makes a relationship (Kimmerer, 2013, p. 38).

The story by Kimmerer focuses on the spatial and time dimensions not within the control of man. She notes that strawberries do not follow a human clock, but their rhythms, so that when they are piled in the market, we know indeed that summer was coming. The Hyperobjects in this case are time itself, as it is seasonal, cyclical, and it possesses ecological relations, and it is even longer than a span of a life of a particular human being. This criticizes western scientific paradigms, which often place a premium of linear and progressive time.

5. Conclusion

This article has applied through the overlapping concepts of Hyperobjects and Biophilia the book *Braiding Sweetgrass* by Kimmerer as an ongoing critique of the Western scientific paradigms. Instead of perceiving environmental crises as purely technological problems that can be solved with more and better input of data, management, or innovation, she reformulates the ecological crisis as an ethical and epistemological failure caused by the suppositions of modernity themselves. It presents another paradigm that relies on relationship, reciprocity and accountability and it reveals the failure of Western science by integrating Indigenous knowledge systems and scientific training, story and practice of living ecologically. The realization that not only are ecological degradation and climate change environmental issues, but also the indicators of ontological epistemological splits is central to the research. According



to the Biophilia hypothesis suggested by Wilson, human beings have an in-built preference towards life and life forms. *Braiding Sweetgrass* takes this concept further to include not only a love relationship but a moral one. *Braiding Sweetgrass* does not make any attempts to come into contact with or master these immense events as the chapters of analysis demonstrate. Rather Kimmerer demands ethical interaction with the ground founded on experienced relationships with land but acknowledging their comprehensible incomprehensibility.

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