

## Science Literature of The Times Evoke: An Analysis of Scientific Temper through Ecocriticism

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### ABSTRACT

The article explores Scientific Temper aspects of ecocriticism under literary criticism by taking eight exemplary scientific English articles from the book *To Nature, With Love, Science. Stories. Solution* from The Times Evoke Collection of *The Times of India*. These articles are analysed in three thematic categories: Ecofeminism, Anthropocene, and Zoocriticism. Ecocriticism evolved as a crucial branch in literature, where the connection between literature and the environment can be felt by the cultural stories that influence ecological awareness among people. Scientific Literature is an accurate information delivery system where we can find scientific temper elements. Through the lens of ecofeminism, the study identifies the link between women's subjugation and exploitation of nature. Zoocriticism is a very necessary field of study for the upcoming generation, wherein exploitation has taken a larger step in making the species go extinct. It questions human-centred narratives and explores the representation of animals in literature. The analyses also focused on the Anthropocene, which examines the deadly effects caused by humans over nature. By analysing all these eight English articles through the lens of theories of ecocriticism, the outcomes illustrate the features of Scientific Temper (ST) present in the popular science literature.

**KEYWORDS:** Ecocriticism, Ecofeminism, Anthropocene, Zoocriticism, Environmental Literature, Scientific Temper.

### 1. Introduction

The environment, in almost all public and environmental contexts, still names a niche issue to be addressed by minor reform measures and increased efficiency" (Clark, 2019). Ecocriticism

originated from the idea of “literary ecology” making it an earth-centred approach to the literary theory. It provides a detailed understanding of the unimaginable connections between literature and the environment, highlighting human and non-human interactions. Anchored in the vast realm of environmental humanities, ecocriticism has crossed many boundaries and stereotypical norms to go beyond conventional literary limits, analysing and understanding how literature mirrors and shapes ecological awareness. It evolved into distinct waves, where the first wave focuses on the human-nature relationship, the second wave reaches out for environmental justice in urban space, and the third wave expands to notice the global ecological crises linking literature with activism and science.

This research employs a blend of thematic analysis with all the above values and eco-critical perspective to examine the selected articles from the book *To Nature, With Love, Science. Stories. Solution* from The Times Evoke Collection of *The Times of India*. A total number of eight English articles are taken for the study, and each article is analysed with a scientific temper (ST) through ecocriticism under literary criticism. The study analyses the theories through three interconnected themes, ecofeminism, zoocriticism, and anthropocene, to explore the complex aspects of environmental ideology in literary discussions.

The study incorporates an ecofeminist viewpoint for three articles, exposing the interconnectedness of gender and nature while protesting against the rigid patriarchal systems and rules, which employ women as a mere caretaker of nature and surroundings. It also advocates to sustain the simultaneous oppression of both women and the environment in society. The prominent writers of the selected three articles are: 1. Mahesh Rangarajan, 2. Chris Cuomo, and 3. Lori Gruen, they are environmental scholars, philosophers, and feminists. The diversity in the field shows the necessity to equalise gender and nature as a quick need of ecological responsibility. The theory, in particular, is very important as it explains the importance of feminist perspectives in reinterpreting human-nature interactions.

Zoocriticism, another theme, becomes an important integrant of ecocriticism, focusing on human-centred ideologies by emphasising the agency and subjectivity of non-human entities.

1. Gerard Talavera and 2. Kulbhusan Singh Suryawanshi is the two key writers of the selected articles who have intensely shown the disastrous and harmful effects that nature has had. They have depicted animals through themes such as migration, survival, and the deep emotional and ecological bonds linking humans and wildlife. This approach will be an effective tool to acknowledge the intrinsic value of all life forms.

Examining the Anthropocene, the third theme is also a part of the study, as in the writings of 1. Amitav Ghosh, 2. Christopher Dickman, and 3. Tom Crowther mirrors the dangerous outbreaks caused by the fierce effects of climate change, ecological decline, and the socioeconomic inequalities severed by environmental issues. Employing this through literature becomes a climate awareness channel, looking at the dual side of disastrous effects and healing environmental practices.

The study aims to identify the scientific temper (ST) elements of science literature of *To Nature, With Love, Science. Stories. Solution* through ecocriticism under literary theories to emphasise the urgent need for preservation and conservation.

## 2. Methodology

The study uses the textual analysis method with ecocriticism literary analysis to identify the scientific temper (ST) messages. The data were primarily collected for qualitative analysis of the stories of the book *To Nature, With Love, Science. Stories. The solution* from The Times Evoke Collection of *The Times of India* was published in March 2022. A total number of eight English articles were collected based on the purpose of sampling to cover the areas of ecofeminism, zoocriticism, and the Anthropocene.

The texts of contents of the articles were analysed with eco-critical perspectives. The following articles were selected: For ecofeminism analysis, 1. *Gender, Dignity, Work and Nature Are All Linked* by Mahesh Rangarajan. 2. *Women and Nature Share a Powerful Moral Connection* by Chris Cuomo and 3. *Patriarchy Devalues Women, Nature, and Animals: Humanity Must Rise Above Gender Divisions* by Lori Gruen was selected. For Zoocriticism analysis, 4. *A Villager Cried at Seeing My Picture of a Snow Leopard*, Kulbhusan Singh Suryawanshi's and 5.

*Painted Lady Butterflies Migrate 14,000 km Seeking an Eternal Spring* Gerard Talavera were selected. For Anthropocene analysis, 6. *Climate Change Warnings Went Unheeded, Now Australia Has Lost Billions of Animals* by Christopher Dickman, 7. *Climate Change Will Hit the Poor, but the Rich Will Lose the Most* Amitav Ghosh and 8. *We Can Restore One Trillion Trees. This Will Powerfully Slow down Climate Change* by Tom Crowther was selected.

### **3. Results and Analyses**

#### **3.1 Ecofeminism: Intersections of Gender and Ecology**

Ecofeminism examines the connection between the subjugation of women and the depletion of the environment under the strict norms of patriarchy. The synthesis of Mahesh Rangarajan's *Gender, Dignity, Work and Nature Are All Linked*, Chris Cuomo's *Women and Nature Share a Powerful Moral Connection*, and Lori Gruen's *Patriarchy Devalues Women, Nature, and Animals: Humanity Must Rise Above Gender Divisions* explore the themes of gender fluidity, environmental ethics, and inequality intersects. This raises crucial questions for underscoring the role of moral relationships between women and the environment. In what ways does the subjugation of women reflect the exploitation of nature in the chosen articles? Together, these articles coincide in the phase of rebelling against the adversities of overcoming the ideology of seeing women as the only caretakers of nature and its essential to rise above the gender divisions. In the future, movements like Bishnoi and Chipko can also include men to shoulder the responsibility.

##### **3.1.1 The ST Results of Gender, Dignity, and Ecology**

Rangarajan(2022) asserted that Gender, Dignity, Work and Nature share a very important and essential bond within themselves. His article shed light upon certain factors that serve to be the driving factors for environmental degradation, technological advancement, and the rising population. Rangarajan brings up the crucial aspect of the diverse effects of environmental degradation on society, affecting the poor and marginalised, especially women, who have been the most vulnerable and lack property rights and access to questioning

authority. The gender disparity has reached a zone where the role of women in managing the dual role of sustaining family expectations and managing resources is undervalued. The author also calls for a modern philosophy that encourages the inclusivity of women's voices and dual roles, making it a collective space for ecological growth.

A similar view was already established by Atwood (1998) in her novel, *The Handmaid's Tale*, and it shared a connection between gender, labour, nature, and dignity. *The present world should understand that women's connection with the environment becomes the key role in maintaining the dignity, which is usually surpassed by patriarchal structures.*

The key to Scientific Temper (ST) from ecocriticism is that the patriarchal norms disconnect women from nature, which may negatively influence "Mother Earth". Systematic oppression of women and nature will stop if gender and ecology are approached with rational inquiry.

### **3.1.2 The ST Results of Moral Connections Between Women and Nature**

Chris Cuomo (2022) adds on by associating the ethical connection between women and nature. Cuomo strongly believes that women surpass the dual responsibility of managing society, and traditional caregivers encompass environmental stewardship, implying that women become the centre of enduring relatively more danger and harm directly from the environment. This ethical link is not just symbolic. It is based on real-life experiences where women frequently serve as primary defenders in ecological emergencies. Hence, Cuomo's point of view explains that examination through the lens of ecofeminism reflects the exploitation of nature and the exploitation of women at an equal level, both resulting from patriarchal oppression.

The novel *The Secret Garden* (Burnett, 1993) *emphasises the nourishing, transformative, and enlightening qualities of the bond between the natural ecosystem and women. He explained the emotional and moral growth as the metaphors in his novel, which coincides with the themes of Chris Cuomo's article.* Both of them portrayed nature as a healer and empowering source for women.

The Scientific Temper (ST) outcome from ecocriticism is that gender equality aids greater environmental advocacy, which promotes women's moral ties to nature and cultivates an awareness of environmental ethics. People should view gender justice as equal to environmental justice. The communication aspect of women empowerment and environment promotions must be out of the clutches of patriarchy.

### **3.1.3 The Results of Environmental Devaluation and Patriarchy**

Lori Gruen (2022) highly condemns the norms of patriarchy, which serves to be the core reason for the depletion of morals and ethnicity in gender and ecology. Gruen argues that society had been practised and tamed in such a way that the patriarchal systems blind people from witnessing the worth of women, nature, and non-human animals and treating them as mere objects from which the unique resources which serve as their strength are extracted for exploitation. Gruen's ecofeminist viewpoint should be considered for its ethical coexistence, and humanity should move beyond strict gender binaries and misleading mindsets to encourage sustainability and fairness.

A novel, *The Color Purpl* (Walker, 1982), coincides with Gruen's ecofeminist approach. Walker's vision of Celie's venture from oppression to empowerment highlights the power of regeneration and revival from encasement to reconnecting with nature. The novel appreciates the richness of nature as a source of healing and spiritual regeneration, confronting patriarchal stories that aim to control both women and the ecosystem.

The Scientific Temper (ST) meaning of ecocriticism is that patriarchal mindsets result in the exploitation of women, animals, and nature; addressing these can promote a more equitable and environmentally balanced world. Human rights, gender equality, and indigenous rights are to be linked to environmental sustainability.

### **3.2 Zoocriticism: Reimagining Human-Animal Relationships**

What moral responsibilities do humans hold towards non-human species in a swiftly urbanising environment? Zoocriticism focuses on the portrayal of animals in literary

works, enhancing its impotence beyond the human-centred world. Zoocriticism perfectly aligns with articles such as Kulbhushan Singh Suryawanshi's, *A Villager Cried at Seeing My Picture of a Snow Leopard*, in conjunction with Gerard Talavera's *Painted Lady Butterflies Migrate 14,000 km Seeking an Eternal Spring*, through both these articles it is evident that human and animals share a powerful connection for peaceful coexistence.

### **3.2.1 The ST Results of Human-Animal Connections**

Suryawanshi (2022) explores the emotional bond between the people and the snow leopard; the response to the leopard's picture through tears shows their bond beyond just admiration. The article explores the truth behind the extinction of the magnificent snow leopard. Industrialisation, becoming a common factor in globalisation, spread its wings towards the Himalayan mountains, significantly affecting the pastures and greenery. The pastures are the source of survival for both the villagers and their sheep. The decrease in the pastures triggers the leopard to feed on the sheep, which in turn agitated the villagers to hit and kill it. What a cycle it is to destroy a whole species from its region.

*The Snow Leopard* (Matthiessen, 1978) is a poignant work which resonates with the same issue by incorporating themes such as spiritual awakening, isolation, and the delicate balance between humanity and nature. Both of them, in their respective way, had significantly proved that the snow leopard is an emblem of nature's wild essence and preserving it is mandatory.

The Scientific Temper (ST) aspect of ecocriticism is that the relationship between humans and animals, especially in a conservation setting, can advance the understanding of species protection and ecological well-being. Non-exploitative relationships with animals are essential to ensure sustainable coexistence and ethical transformation.

### **3.2.2 The ST Results of Butterfly Migration and Ecological Significance**

Talavera's (2022) article highlights the massive migration of painted lady butterflies, travelling a distance of 14,000

kilometres in pursuit of everlasting spring. This emphasises the flexibility of non-human species in response to shifting environmental circumstances as in its journey. It never stops in between for a break until it reaches its eternity. They travel in a particular direction in a particular period as it would support their migration, but climate change becomes a barrier by affecting their routine, reproduction, and population.

*Flight Behaviour* (Kingsolver, 2012) is a perfect correspondence to this article as it reflects the appearance of monarch butterflies as a forest fire in a rural Appalachian town, making it an unimaginable metaphor holding the themes of both human and non-human coexistence. Kingsolver's usage of butterflies is a symbolic representation of the adversities of climate change. In the article, the migration of the painted lady butterfly and the representation of monarchs in flight behaviour reflect the ongoing fight for existence amidst human-made degradation. Both articles under the range of zoo critical themes connect the readers emotionally and intellectually in urging for better wildlife.

The Scientific Temper (ST) results from ecocriticism, which is that the flight of butterflies has a profound impact on climate change, affecting species' natural behaviours and intimating the urgent need to safeguard biodiversity and migratory routes. The food chain disruption should be prevented to avert biological collapses.

### **3.3 Anthropocene: Unveiling the Human Epoch**

The Anthropocene, the deadly effects that human activity has on nature. In what ways has human involvement in nature sped up ecological decline during the Anthropocene period? The articles of 1.Christopher Dickman, 2.Amitav Ghosh, and 3. Tom Crowther shed light upon the escalating environmental crisis like deforestation, industrialisation, and unsustainable practices that have reframed the entire ecosystem.

#### **3.3.1 The ST Results of Climate Change**

Christopher Dickman (2022) sheds more light on the devastating impact that Australian bushfires can have on biodiversity, affecting the population of the species, demolition

of habitats, and the higher level of ecological consequences for both human beings and the environment. Dickman's research focuses on the drying effect with the increased heat conditions due to the human centered actions towards the earth causing climate change and global warming. He goes down to cite the names of certain species from parts of Australia that went extinct: "Black-Tailed Antechinus" and "Silver-Headed Antechinus". Other marsupials were entirely burnt; one such is the kangaroo island Dunnart.

To examine this research, it is necessary to draw a parallel with the novel *The Overstory* (Powers, 2018), which also explores areas such as logging, industrial greed, and the importance of trees. Powers portrayed that the environmental degradation and the extinction of several species are reflected in Dickman research; hence literature becomes a medium where the discussions about the luxury that people create are earned at the cost of the decline of the environment, which in time leads to a catastrophic incident recorded in the history. Therefore, it started understanding that the relationship between humans and nature is essential for a harmonious future. The intertextual exchange of themes highlights that climate change is not only a scientific crisis but has become a cultural and ethical challenge, alarming the urgent need for human responsibility towards the environment and the natural world.

The Scientific Temper (ST) output from ecocriticism is that anthropogenic climate change has resulted in significant biodiversity decline, alarming and quickening international actions to mitigate its impacts and protect ecosystems from anticipated damages. Proactive adaptation and climate resilience should be in place to establish climate justice.

### **3.3.2 The Results of Climate Inequality**

Amitav Ghosh's (2022) ideology was to sharply differentiate the worst effect that nature could cause irrespective of the class consciousness of being rich or poor. He exclaims that climate change affects various socioeconomic classes, so socioeconomic classes don't necessarily need to always affect the poor. However, the rich might also face the risk as no segment of society can be shielded from the repercussions of environmental disruption. His

research dwells deep into the environmental decline and human exploitation and aligns with eco-critical essentials like Anthropocene, ecological equity and interdependency of both human and non-human life forms. The inhuman activity led to environmental crises, such as the shrinking of areas like the Sundarbans, making the human and wild conditions suffer. Hence, Ghosh reflects that wealth does not offer protection to the wealthy from climate-related disasters.

The novel *Oryx and Crake* (Atwood, 2003), which is closely similar, exposes human arrogance and ecosystem disintegration across societal boundaries. This comparison bridges the themes that strongly advocate for the united effort in balancing climate change and its tedious effects. Atwood's work illustrates a dystopian society devastated by human hubris and environmental breakdown, highlighting the vulnerability of human creations against nature's might. Ghosh (2022) also argues that the inhuman activity led to environmental crises such as the shrinking of areas like the Sundarbans, making the human and wild conditions suffer, reflecting that wealth does not offer protection to the wealthy from climate-related disasters.

The Scientific Temper (ST) implication from ecocriticism is that climate change amplifies socioeconomic inequalities, especially when wealthy nations encounter long-term environmental and economic harm due to their historical and ongoing contributions to climate change.

### **3.3.3 The Results of Global Reforestation**

Tom Crowther (2022), in his article "We Can Restore One Trillion Trees. This Will Powerfully Slow down Climate Change," provides a hope that is essential in the growing generation's minds. As an ecosystem ecologist, Crowther identifies that tree restoration is very important as it captures carbon and releases oxygen, which is an essential criterion for human existence. His article connects to the Anthropocene discussion; he recognises degraded lands as key candidates for afforestation, indicating that ecological restoration is both achievable and crucial for addressing climate change.

The literary work of *The Lorax* (Seuss, 1971), warns of the practice of deforestation, which would gradually become an

environmental abuse. *The Lorax* portrayed that trees emotionally and ethically highlight the deadly effects through scientific examination. The merging of these two works through the lens of Anthropocene, considering it a scientific issue but a wider existential crisis that claims a change in human values and actions.

The Scientific Temper (ST) conclusion from ecocriticism is that widespread reforestation can reduce climate change by capturing carbon, showing that restoring ecosystems is a crucial and efficient method for reducing global warming.

#### **4. Conclusion**

All eight articles taken for the study are science literature, which rightfully advocates the protection of planet Earth through scientific temper. Literary examples such as *The Handmaid's Tale*, *The Secret Garden*, *The Color Purple*, *The Snow Leopard*, *Flight Behaviour*, *The Overstory*, *Oryx and Crake*, and *The Lorax* are very effective narratives that show how the environment had been badly affected by the intervention of industrialisation, globalisation and resource generation. These literary works serve as the source through which humans can imbibe the quality of protecting nature and realise that humans should coexist with nature rather than exploit it. The degradation of nature could be felt through the deadly effects of climate change. The writers Amitav Ghosh, Christopher Dickman, and Tom Crowther, Kulbhushan Singh Suryawanshi, Gerard Talavera, Mahesh Rangarajan, Chris Cuomo, Lori Gruen effectively captured the effects and the loss of ecology through their works. Environmental deterioration surpasses socioeconomic divides, affecting the rich and the marginalised at the same levels.

The research suggests a collective response to exploiting nature, animals and the entire ecosystem, irrespective of usage. Ecofeminism, Anthropocene, and Zoocriticism are effective theories under ecocriticism, and all the articles are segregated accordingly and analysed to build the worth of all living beings on earth. They can be small, but their usage in the food chain, soil mineral source or even for reproduction might have an irreplaceable impact; thus, exploiting even a single source can affect the entire ecosystem. Hence, the study reveals the effects

and act accordingly to imagine a fairer, sustainable, and harmonious future for humanity alongside the natural world.

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