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*Editor-in-Chief*  
**Dr. Kalyan Gangarde**



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### FROM THE EDITOR'S DESK

It gives us great pleasure to present **Volume 4, Issue 2 (February 2017)** of *New Man International Journal of Multidisciplinary Studies (NMIJMS)* (ISSN: 2348-1390), a peer-reviewed and indexed monthly journal committed to promoting quality research across diverse academic disciplines. This issue continues our endeavor to create a vibrant intellectual platform where ideas from literature, education, social sciences, and scientific inquiry converge meaningfully.

The present issue reflects the richness and diversity of contemporary scholarship. It begins with Dr. Aruna Henry's insightful paper on effective communication, a subject that remains central to both personal and professional development in today's globalized world. Archana Devendra Joshi's study of Gloria Naylor's *Mama Day* offers a nuanced exploration of supernatural elements within cultural frameworks, opening new perspectives in literary analysis. Similarly, Shail Mishra's contribution on environmental education highlights the urgent need to cultivate ecological awareness in the face of growing environmental challenges.

The literary dimension of this issue is further enriched by Indrajit Kundu's discussion of John Millington Synge and the Irish theatre tradition, along with Daxa Thakor's examination of female empowerment in Bharati Mukherjee's *Jasmine*. The theme of education finds relevance in Dr. Shweta Sood's paper on teleconferencing and its role in globalizing teacher education, reflecting the increasing importance of technology in pedagogy.

Childhood, identity, and human relationships are thoughtfully addressed in Sumera Subuhi's comparative study of Charles Dickens and Mulk Raj Anand, while Dr. B. T. Lahane revisits Oscar Wilde's *The Importance of Being Earnest*, emphasizing humor as a subtle yet powerful tool of critique. Dr. Sachin Verma's exploration of Ernest Hemingway's philosophy provides deeper insights into gender perspectives in literature.

The issue also includes important contributions in the field of economics and social thought, such as Dr. Sawant Waman V.'s study of foreign direct investment in India, which reflects ongoing economic transformations. Jugasmita Das's work on women's selfhood in the nineteenth-century American context, with reference to Kate Chopin's *The Awakening*, adds a critical feminist dimension to the volume. Maknikar U. S. explores inner awakening in Arun Joshi's *The Foreigner*, while Dr. Ankush L. More highlights the contributions of R. C. Dutt as a translator and scholar.

What makes this issue particularly noteworthy is its interdisciplinary scope. Dr. Upendra Singh's paper on hydrological parameters brings in a scientific perspective, linking fluid mechanics with environmental physics. Complementing this, the Hindi contribution by Dr. Arvind Kumar Upadhyay focuses on the expression of human experiences and social realities in the stories of Shyamsundar Agrawal, thereby enriching the issue with a regional and cultural dimension. Taken together, the articles in this issue represent a thoughtful blend of humanities, social sciences, and scientific inquiry. Each contribution, in its own way, reflects a commitment to critical thinking and academic rigor, while also addressing issues of contemporary relevance.

We express our sincere gratitude to all the contributors for their valuable research and to the reviewers for their careful evaluation and guidance. We also thank our readers for their continued encouragement and support. It is our hope that this issue will stimulate further research, dialogue, and reflection across disciplines.

We look forward to your continued association with *NMIJMS* as we strive to uphold the standards of academic excellence and intellectual engagement.

**Dr. Kalyan Gangarde**, *Editor-in-Chief*  
*New Man International Journal of Multidisciplinary Studies (NMIJMS)*

## CONTENTS

Sr. No.	Title	Author	P. No.
1	Road to Effective Communication	Dr. Aruna Henry	05
2	Culture of Supernatural Power in Gloria Naylor's Mama Day	Archana Devendra Joshi	07
3	The Importance Of Environmental Education	Shail Mishra	11
4	John Millington Synge And The Irish Theatre	Indrajit Kundu	13
5	Jyoti As An Empowered Jasmine In Bharti Mukharjee's Novel Jasmine	Daxa Thakor	16
6	Role Of Teleconferencing In Globalizing Teacher Education	Dr. Shweta Sood	20
7	The Portrayal Of Childhood In The Novels Of Charles Dickens & Mulk Raj Anand	Sumera Subuhi	23
8	Laughter Than Ridicule: Oscar Wilde's 'The Importance Of Being Earnest'	Dr. B.T. Lahane	26
9	Hemingway's Philosophy Of Life In Regard To Men And Women	Dr. Sachin Verma	29
10	Study Of Foreign Direct Investment In India	Dr. Sawant Waman V.	31
11	Woman Selfhood And Nature - A Study Of Nineteenth Century American Women With Reference To Kate Chopin's The Awakening	Jugasmita Das	33
12	Experience As A Means To Inner Awakening In Arun Joshi's The Foreigner	Maknikar U. S.	36
13	The Economist R. C. Dutt: A Great Translator of Hindu Epics & Literary Works	Dr. Ankush L. More	39
14	Comparative Analysis of Hydrological Parameters: A Fluid Mechanics and Environmental Physics Approach	Dr. Upendra Singh	44
15	लघुकथा में जनजीवन और मानवीय अनुभूतियों की अभिव्यक्ति (श्यामसुंदर अग्रवाल की लघुकथाओं के विशेष संदर्भ में)	डॉ० अरविन्द कुमार उपाध्याय	50
16	The Mythical Background in T.S. Eliots poetry	Dr. Umesh Tripathi	53
17	Fractals and Chaos Theory; Understanding Complexity in Natural Systems	Dr. Abhishek Kumar Srivastava	55

## ROAD TO EFFECTIVE COMMUNICATION

**Dr. Aruna Henry**

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### Abstract:

*Building good relationships with other people can greatly reduce stress and anxiety in one's life. In fact, improving social support is linked to better mental health in general, since having good relations can act as a "buffer" for feelings of anxiety and low mood. Communication skills are the key to developing (and keeping) relationships and to building a strong social support network. They also help in taking care of own needs, while being respectful of the needs of others. People aren't born with good communication skills; like any other skill, they are learned through trial and error and repeated practice. The article addresses the various areas of communication that one may put to practice for effective communication.*

### Introduction

The most powerful drug ever used by mankind is 'Word'. It has the ability to help, to heal, to hurt, harm, humiliate and humble while communicating. But the word alone cannot help people to communicate effectively. The effective tools used in interacting with people include a wide range of things. Knowingly or unknowingly everyone exposes oneself in the way they think, feel about oneself, and others. So, an image is portrayed through words and actions. If words alone could decide the effectiveness of communication, everyone would be perfect in their approach. The keys for powerful/ effective communication may also include "assertiveness, authenticity, body language, open mindedness, empathy, clarity and good listening". To be understood in the right way, one has to think positively, and mirror that thinking with appropriate posture and gesture, and the best of words, constructing assertive open minded statements, questions, requests and directives.

### What is Assertiveness?

Assertiveness is the ability of a person to express with confidence, listening and responding to the needs of others, without neglecting one's own interests or compromising one's principles. It is about choice - being able to express needs, opinions or feelings, confident without allowing others to dominate, exploit or coerce against the wishes of an individual. An Assertive person is perceived seriously as people would identify traits like enhanced self awareness greater confidence, self esteem, honesty and above all effective

communication skills. The positive language and interactions with other person result in right communication in turn with positive solutions. On the contrary, a person with low self esteem is often seen as weak in personality, thereby, may constantly be used as a 'doormat'. The impact of it is greater to maintain relationships whether in personal life, office or business.

### Authenticity:

The authenticity of being true to one self can enhance the reputation of a person. The polite, courteous behavior with sincerity and transparency in dealing with people create a positive approach, hence, the values of such people are honored. It also helps to identify the boundaries of oneself, and stimulate courage to fight for right results. At the same time one can realize the rights of others, which automatically allows to examine and deduce the areas of self development. Authenticity also allows the individual to take ownership of the message. The 'I' statement while giving the other person an opportunity to accept or reject the suggestion, takes responsibility for individual opinion and come across as more direct true and confident.

### Open Mindedness:

It is the willingness to hear every single suggestion given by the other person with no dogmatism. Social and cognitive psychologists have noted widespread faults in judgment and thinking which all humans are vulnerable for. In order to be open minded, one has to work against these basic tendencies. It is receptiveness to new ideas, the way in which people

approach the views & knowledge of others. The benefits of being open minded helps to experience changes, experience new ideas and thoughts, and challenge the current beliefs. If one can see from others perspectives, it helps not only to recognize potential mistakes made, but also keeps one open for making new mistakes. It also aids in strengthening oneself, to gain confidence and to be honest. It helps people learn and grow, strengthening belief in oneself.

### Empathy:

Empathy is most often defined by the metaphors of 'standing in someone else's shoes' or 'seeing through someone else's eyes'. After combining and synthesizing the different ways the most essential angle to think of is the "Feel of Empathy", where it is looking at it from the personal felt experience of it. Empathy simply means to understand and appreciate another person's position in a given situation. Experiencing others emotions is truly a much required and conscious process. As psychology transformed from the 'science of the mind' into the 'science of behavior' (Skinner 1953, Watson 1919), an important topic to be addressed is experience of emotion. It is a brief conscious experience characterized by intense mental activity and a high degree of pleasure or displeasure. Whereas empathy is the capacity to understand or feel what other beings are experiencing from within the others frame of reference, to place oneself in another's position.

### Body Language:

Body language in simple terms is the conscious and unconscious movements and postures by which attitudes and feelings are communicated. It is a kind of nonverbal communication, where thoughts, intentions, or feelings are expressed by physical behaviors, such as body posture, gestures, facial expressions, eye movement, touch and the use of space. Body language exists in both humans and animals. It is also known as kinesics. It complements verbal communication in social interaction. It helps

to establish the relationship between two people and regulates interaction, but can be ambiguous. Hence, it is crucial to accurately read body language to avoid misunderstanding in social interactions. It can go both ways: body language reveals one's own feelings and meanings to others, as well as, other people's body language reveal their feelings and meanings to the opposite person. Body language is instinctively interpreted by us all to a limited degree, but the subject is potentially immensely complex. Hence it is essential to learn this art for effective communication

### Be an engaged listener:

Generally, the focus of people is on what to say and how to say, but effective communication is less about talking and more about listening. Active listening can actually help to tune in with the other person and establish a basis for strong foundation. To be an engaged listener one has to focus fully on the speakers, their body language, tone of voice and other non verbal cues. One has to be attentive, and respond through various means. Maintaining eye contact, smile, nod, leaning forward, frown is some means of nonverbal cues to show attentiveness. Effective listening leads to gaining understanding, respect, admiration and friendship from others. Also, one can feel the pulse of other people like the way they think, what they believe in and how they reach to conclusions. It also aids in gathering knowledge, experience and wisdom from others.

Beyond the elements suggested above, the communication can generally be improved when the speaker tries to be clear and explicit, and that the speaker and the listener bring their complete attention to bear on the conversation and consider the feelings of each other. Most of the times satisfaction, growth, development and happiness are the end products of effective communication. It is easy to deal others if only we can communicate efficiently and effectively. It implies the knowledge suitable to the listeners and the context of communicating. To state in simple terms communicating effectively is just being "Partners Friendly".

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## CULTURE OF SUPERNATURAL POWER IN GLORIA NAYLOR'S MAMA DAY

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### INTRODUCTION ABOUT THE NOVELIST

GLORIA NAYLOR WAS born ON 25 JANUARY 1950 in New York to Black African Parents. Gloria Naylor was raised in New York by working-class parents and respect love for the classics of English literature. Her mother encouraged her to write when she began to exhibit creative ability at the age of seven. But when she graduated from high school, instead of attending college, as her parents wished, she became a Jehovah's Witness, traveling through New York and the South from 1968 to 1975. After she returned to New York, she earned her degree in English from Brooklyn College of the City University of New York in 1981. It was in college that she first learned about the rich tradition of African-American literature. In 1993, she was 27 years old before she knew Black women even wrote books. She began the task of writing about the marginalized, the mistreated and neglected section of the American society\_ the Blacks, with special emphasis on African-American women.

### INTRODUCTION ABOUT THE PAPER

The aim of this paper is to illustrate the importance of magic realism in American women's fiction. The term magic realism, which has traditionally been associated with Latin American men's writing. It offers an overview of the different conceptions and applications of the term. It can be describing as a number of characteristics common to a corpus of work, and can be considered as an aesthetic category different from others fantastic literature. The implementation of magic realist strategies in African American writing will be examined in Gloria Naylor's *Mama Day* with a particular emphasis on the significance of African culture background. A description of the borderland cultural in the American is provided. The setting of the novel is split between New York City, where George was born and raised and Ophelia has recently moved, and the fictional community of Willow Springs, a coastal island situated on the border of Georgia and South Carolina where Ophelia's family has lived for several generations.

### OBJECTIVE OF THE PAPER

The objective of this paper is to show how the culture touch of supernatural works in the novel of Naylor. Though *Mama Day* is told from three perspectives, the story itself is a simple one; it presents the courtship and marriage of Cocoa and George, and finally George's death in Cocoa's ancestral home, Willow Springs. Cocoa first sees George in New York, where they both live, and then meets him formally at a job interview, which does not go well because Cocoa must spend August in Willow Springs with her grandmother, Abigail, and her great aunt Miranda, known as *Mama Day*. It acknowledges how the belief of Naylor in magic and the supernatural has been incorporated in the theme of the novel. It describes traits and significant role of the character named Miranda or *Mama Day* in her community. The novel addressed various topics which include healing, materiality, and power of women in the society.

The novel "Mama Day," by Gloria Naylor each seeks to transcend the established boundaries of the real. The authors blend magic, myth, and fantasy amidst the realism of daily existence. Naylor uses cultural work, to illustrate the human potential. *Mama Day* novels avoid linear narration and focus on a disintegration of boundaries. The novel also focuses on characters that learn magic from an ancient source.

### PURPOSE OF THE PAPER

The purpose of this paper is to discuss Naylor mother figure that has supernatural, magical or divine properties. These figures are particularly *Mama Day* and *Eve*. These characters considerably differ in their qualities: *Mama Day* is rather a non-Christian but highly spiritual, coming from an African tradition and the worship of nature, thus she represent an alternative religion. *Eve* is a Christian woman, herself based on the biblical *Eve*, and however her character demonstrates a different version of Christianity than has been widely presented by patriarchal cultures. On the other hand, both *Eve* and *Mama Day* are leaders of their communities and both can do what could be

considered as magical to help other people, especially woman.

The article discusses magical realism in the book *Mama Day*, by Gloria Naylor. Magical realism as an emerging genre interrogates and expands the traditional notions of the relationship of language and narrative, especially fictional narrative, to the real world; specifically, it challenges conception of reality and the function of narrative in creating rather than simply transparently representing an already established, knowable real world. According to Naylor, novels use the magical or supernatural to demonstrate that there is more in heaven and earth than is dreamt of in the Cartesian, humanist philosophies.

### BRIEF ANALYSIS OF BACK GROUND

*Mama Day* centers on the characters George and Cocoa. Cocoa, whose real name is Ophelia, is a young southern woman living in New York who is still deeply connected to her family and ancestry, even though her family's history is fraught with pain and tragedy. George, an orphan who grew up in a boy's home, but now owns an engineering company. Cocoa and George meet when Cocoa interviews for job at George's firm. George is unable to hire Cocoa because the job starts immediately and she is obligated to visit Willow Spring Island every August to spend time with Mama Day and her family. Prior to returning to New York from her trip to Willow Springs, Cocoa writes a letter to George saying that she still wants the job. Mama Day intervenes and puts a mysterious substance on the envelope, which causes George to remember Cocoa and soon later recommend her to someone for another job. George and Cocoa begin to date and marry suddenly, but George doesn't visit Willow Spring with Cocoa for four years, during which time Cocoa never shares with him the more unusual and even supernatural aspects of Willow Springs. And after several years return to Willow Springs together. When George finally does accompany her, being a practical minded engineer with no family history or special convictions to help him relate to the people of Willow Springs, he has a hard time believing in or understand some of the events that take place. When he discovers that Cocoa is dying because of a hex put on her by the deeply jealous and hateful Ruby, who is a conjure woman and Mama Day's wicked counterpart, George wants to use practical means to save her life. But a hex on Cocoa because she believes that Cocoa has been flirting with her husband. This causes Cocoa to become physically, and psychologically ill. In the midst of Cocoa being sick a hurricane knocks out the bridge that is connected to the "outside" world,

making entering or leaving the island impossible. He and Cocoa are now stuck in Willow Springs, and forced to use the remedies available through Mama Day and the mysticism of the island instead of going off to seek a modern healthcare treatment. The only person that can save Cocoa is George, by following the instructions of Mama Day. However, he is unable to surrender to and believe in the mystical forces that Mama Day has described to him, and when he ultimately tries to take matters into his own hands, it leads to tragic ends.

The Communal voice of the people from Willow Springs is an example of this style. It is also the first one introduced to readers. This voice is best described as an omniscient voice that has been around to see everything. The introduction and sections throughout the book are written in this voice as the different stories of Bascombe Wade, Sapphira Wade, and what exactly "18 and 23" is. For an example of this communal voice is in this sentence from the introduction that states, "And he could listened to them the way you been listening to us right now." Rita Mae Brown states that "The different voices are beautifully realized but confusing to read."<sup>[1]</sup> As well as the communal voice, Mama Day offers both a 1st person narration and occasionally a free indirect discourse which gives readers direct access to Mama Day's thoughts. Mama Day's section is preceded by three diamonds. In her narration she often speaks about what is taking place at present or events from her past.

### RECEPTION

Much of the world of *Mama Day* is fictitious, even mythical, in a manner reminiscent of William Faulkner's fictional Yoknapatawpha County. Naylor even provides her readers with a map of the offshore island between Georgia and South Carolina, but the island, connected to the mainland by a tenuous bridge, seems otherworldly, a matriarchal paradise. The bridge becomes a passage to a mainland world, which Willow Springs residents distrust: "And we had done learned that anything coming from beyond the bridge gotta be viewed real, real careful." The mainland is the source of real estate developers and education that distances students from reality and truth. Miranda cites the example of "Reema's boy," the African American anthropologist whose university education has rendered him unable to listen and to understand. Naylor's readers face a similar task; they read a story that defies logic and are asked to listen and believe, just like George and Ophelia.

Despite the family tree, the bill of sale, and the map, the story of George and Ophelia changes, not for

readers so much as for the tellers; as Ophelia says, "there are just too many sides to the whole story." As Miranda tells about Sapphira Wade, she includes different versions about the death of Sapphira's husband, Bascombe Wade—Sapphira either poisoned him or stabbed him.

### INFUSE OF INCIDENTS FROM NOVEL

In *Mama Day*, Naylor relents even more, offering the character George Andrews as her portrait of a good man. A gentle, understanding, hardworking engineer who loves his wife, George even comes across as a better person than most women in the book, including his wife, Cocoa. George is not a woman, however, and hence he has serious limitations deriving from his masculine propensity to approach things in a strictly rational manner—a severe kind of tunnel vision. George's failure to understand the wider worlds of nature and the supernatural inhabited by the women proves to be fatal. Over these worlds reins old Mama Day, representing the powers that be. She is the antithesis of the demonized Luther Needed.

Such is the feminist gospel according to Naylor. Whether it will ultimately be limiting to her work remains to be seen, but as Naylor's varying portrayals of men indicate, her thinking has continued to develop. Naylor's abilities as a writer have progressed, as well: Her style has improved, she has tried new techniques, and with each book she has taken on a more difficult task and succeeded. Naylor's work contains much more than feminism. Her concern with serious themes is relieved by a sense of humor that presents an effective representation of black banter and repartee. She provides an intimate glimpse into black life at all levels and a daring critique of its problems. Her interest in these difficulties, while sometimes related to her feminism, at other times seems to supersede it. Outstanding among the problems that her characters faces are discrimination, poverty, family breakups, and, in particular, the question of black identity.

### SUPERNATURAL ELEMENTS

I will return to the SUPERNATURAL implications of Naylor's cultural politics below. Here, I focus on how her depictions of Cocoa as rooted and of George as rootless erect, at first, the notion of an irreconcilable opposition between cultural integrity and alienating modernity. On the one hand, Cocoa's grounding in a specifically African American values system, history, and tradition supplies her with a fortitude that is formidable. When, for example, early in their courtship, George tells her about his continued interest in a former girlfriend, Cocoa reacts

with composure and then reflects on it: "Now, I'm gonna tell you about cool. It comes with the cultural territory: the beating of the bush drum, the rocking of the slave ship, the rhythm of the hand going from cotton sack to cotton row and back again. It went on to settle into the belly of the blues, the arms of Jackie Robinson, and the head of every ghetto kid who lives to a ripe old age. You can keep it, you can hide it, you can blow it—but even when your ass is in the tightest crack, you must never, ever, LOSE it." This meditation on cool delves beneath the surface of posture and style, and it grounds Cocoa's self-awareness in a collective history of dispossession, hardship, endurance, and transcendence. Cocoa's definition of cool echoes in many ways the islanders' flexible use of the phrase "18 & 23" to refer to the myriad of physical, emotional, familial, and economic hardships they suffer: "If the boy wanted to know what 18 & 23 meant, why didn't he just ask? ... He coulda asked Cloris about the curve in her spine that came from the planting season when their mule broke its leg, and she took up the reins and kept pulling the plow with her own back. Winky woulda told him about the hot tar that took out the corner of his right eye the summer we had only seven days to rebuild the bridge so the few crops we had left after the storm, could be gotten over before rot sat in . The respective passages about cool and "18 & 23" suggest that cultural memory is grounded in a collective history that is encoded on bodies that bear the physical and psychic scars of trauma. This memory is carried by black bodies as well as on the tongue through orality.

Though *Mama Day* is told from three perspectives, the story itself is a simple one; it presents the courtship and marriage of Cocoa and George, and finally George's death in Cocoa's ancestral home, Willow Springs. Cocoa first sees George in New York, where they both live, and then meets him formally at a job interview, which does not go well because Cocoa must spend August in Willow Springs with her grandmother, Abigail, and her great aunt Miranda, known as Mama Day. Cocoa does not get the job with George's engineering firm, but on her return from Willow Springs, she sends George a note. He in turn sends her application to a client, and asks her to dinner. Their first date is disastrous, but George decides to show Cocoa what he loves about New York City. Meanwhile, in Willow Springs, Mama Day helps Bernice to conceive a child, and Junior Lee leaves his common-law wife, Frances, for another woman, Ruby.

Cocoa loves seeing New York with George, although their regular outings don't seem romantic to her. After

George tells her about his girlfriend Shawn, Cocoa tells him she doesn't have to see him again. Later he comes to Cocoa's apartment and they make love for the first time. The two have fallen in love, but there are still conflicts between them. Cocoa feels that George doesn't open up about his feelings. When she sees his old girlfriend in his building, she fights with him, calling him a "son of a bitch," then accepts a date with an old boyfriend. George waits outside the old boyfriend's apartment all night, and then tells her he doesn't like being called a son of a bitch because his mother was a prostitute and his father a john. Then he asks Cocoa to marry him, and they elope.

George and Cocoa settle into their married life, but Cocoa returns to Willow Springs without him in their first August together. While there she experiences Ruby's jealousy when she makes plans to see a concert with Junior Lee and some other friends. Cocoa fights with Miranda, but she continues to visit Willow Springs each August. George does not come to visit Willow Springs until their fourth year of marriage, after Cocoa has graduated from college and they have made plans to start a family

#### CONCLUSIONS

The novel juxtaposes the story of a successful African-American businessman, George, who has grown up in New York City, cut off from any sense of where he or his people came from, with that of a young African-American woman, Cocoa, who must come to terms with her powerful ancestral legacy.

Their clash and uneasy union is brought to a head when they visit Cocoa's home, Willow Springs, a magical place that holds the secrets of Cocoa's past and the key to her future.

Naylor's third novel, *Mama Day*, was her first to explore the experiences of African-Americans in the South. To write the novel, she drew on her parents' stories about living there and her own experiences as a Jehovah's Witness traveling the region. This novel was a culmination of her concern with the loss of identity and heritage suffered by contemporary urban African-Americans. The novel emanated, she told Michelle C. Loris in 1996, from her "belief in love and magic.... I know that love can heal."

Naylor connects her writings by having the same characters appear in more than one novel. *Mama Day* first appeared in *Linden Hills*, and George's mother became a central character in *Bailey's Cafe* (1992). The Day family will reappear in a future novel, *Sapphira Wade*, she told Loris. In this book, "Cocoa comes back as an old woman. It's 2023." Naylor will also tell the stories of Bascombe and Sapphira Wade from 1817 to 1823. "Always in my head Sapphira Wade would be the cornerstone because she has been the guiding spirit for now close to twenty years, and now it's time to grapple with her," Naylor said. For Naylor, writing about the present and future African-American community means grappling with its past as well as the rich folklore, language, and tradition that have sustained it.

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## THE IMPORTANCE OF ENVIRONMENTAL EDUCATION

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Man has started the exploitation of the environment since he came into existence on earth. The exploitation of nature can be seen when he began to live in caves, settled and practiced agriculture. For the fulfillment of his fundamental needs and eagerness, he began to exploit nature by cutting trees, destroying forests, devastating patches of area, developing structures, draining of assets, utilizing different methods of transportation, advancement in innovation and so forth. This misuse reached at peak when the population expanded definitely. Contaminations, deforestation, loss of biodiversity, ozone gap, an Earth-wide temperature boost are a portion of the ecological issues that are confronted by the world today. The consequence of this devastation can be seen in many places in the form of deforestation, different types of pollution, ozone depletion, Green house effect, Acid rain, various natural calamities etc. Number of plants and animal species has started to become extinct, large number of incurable diseases both for plants and animals have started to rule the earth and even man fails to find suitable preventive measures to fight diseases.

For the sake of earth, obviously environmental education plays vital role for creating interest in environment. "This is the crucial time that environmental awareness and environmental sensitivity should be cultivated among the masses particularly among youths. For the awareness of society it is essential to work at a gross root level"(Lieberman 32). So the whole society can work to save the environment. If we want to generate the environmental values in our children we have to know the responsibility towards environment and also we have to show our behavior as a like eco-friendly. "Environmental awareness should be the integral part of any environmental curriculum encouraging children to take an active role in the protection to their environment in one way by which the critical balance between man and environment may be preserved"(Dewey 51). Through it children are full of curiosity to learn about their environment. Among those compulsory environmental education at all level in the education system as directed by Supreme Court is the most appropriate strategy towards environmental protection. The Environmental Education, Awareness and Training is an important scheme of the ministry for enhancing the understanding of people at all levels about the relationships between human beings and the environment and to develop capabilities/ skills to improve and protect the environment.

The Johannesburg World Summit on Sustainable Development (WSSD, 2000), proposed the Decade of Education for reasonable Development (DESD), flagging that training and learning lie at the heart of ways to deal with practical improvement. The key vision of the DESD goes for a world where everyone has the opportunity to benefit via preparing and take in the qualities, behavior and lifestyles required for a viable future and for positive societal change. A segment of the proposed DESD targets are to energize interfaces and frameworks organization, exchange and participation among accomplices in ESD; give a space and opportunity to refining and propelling the vision of, and move to supportable change through a wide range of learning and open care; foster extended nature of teaching and learning in preparing for viable headway; make strategies at every level as far as possible in ESD. The decade allows to countries to describe for them the kind of way they wish to take after. It is basic for accomplishing ecological and moral mindfulness, qualities and dispositions, abilities and conduct steady with practical improvement and for powerful open cooperation in basic leadership" (Chapter 36 of Agenda 21, Rio Statement 1992).

Environment education programs that add to instructive change and manageability have a wide range of variables relying upon area, social connections, or group concerns. Education has made numerous profitable commitments to social orders and advancement all inclusive, and is perceived for the imperative part it has in enhancing jobs around the world. Quality education ought to plan social orders to effectively take an interest in worldwide legislative issues and financial aspects, and additionally furnish individuals with the aptitudes important to settle on educated choices and take dependable activities. All through the world, social orders have perceived education as a key segment of supportable advancement. Reasonable advancement has been advanced since its commencement more than 20 years back as a successful intends to decrease the debasement of human and natural frameworks. The United Nations characterizes practical improvement as an advancement methodology that spotlights on taking care of the requests and needs of present-day subjects without bargaining the future's capacity to meet theirs'. Economical improvement focuses on parts of the economy, society and environment with a specific end goal to accomplish its objectives. Environmental training is a multidisciplinary field,

drawing from the social, physical and organic sciences. As per the Environmental Education and Training Partnership, or EETAP, environmental education urges subjects to settle on learned and educated choices about their environmental conduct taking into account the mindfulness, information, aptitudes, and dispositions ingrained in them. Environmental training depends on both formal and non-formal instructing methods to fulfill a definitive objective of urging residents to make educated and positive activities toward the earth. Environmental training makes utilization of numerous controls, methods, and assets to fulfill its objectives. Since understudies gain from a variety of non-conventional, various insights, for example, naturalistic, interpersonal, or intrapersonal, ecological training can be a system that scaffolds numerous learning styles. Environmental instruction educational program can help with a controlling obligation regarding effective project improvement by focusing on unequivocal ideas.

Today Environmental Education (EE) in the formal instructive framework in India is taken care of at three levels. It is a composite subject called Environment at the grade school level; it is injected into environment in reliable school subjects at the inside and helper school level, and is an alternate subject at the school level. A biological study goes for educating the understudies to be better arranged to go up against the interminably changing environment in his future life. The objective of characteristic studies is the change of critical attitudes, aptitudes additionally, thoughts for the examination of various circumstances. In the current informational structure, teachers face different issues related to nonattendance of advantages, physical or academic goals. While the substance for teaching is given as course books, the system, aptitudes likewise, reinforce materials for the effective usage of the instructional material are routinely not given.

Children should investigate the learning circumstances and take in the implications all alone by interfacing their insight with foundation encounters and the neighborhood information. Subsequently learning would be found from their environment and not through reading material. Learning gets to be critical to the degree that its interest passes on the soul and technique for request. In this manner, the learning ought to include a methodology that will help the child to think basically and create different aptitudes like request, critical thinking, and participatory basic

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leadership capacity and so on. Incorporation of materials and encounters to build up an applied comprehension of the wonder of progress and the issues identified with maintainable advancement to create minds that adapt to change and sensible systems is the need of great importance. Substance and results should be tuned in to the cultural and social substances of the times. Introduction to cultural and social substances likewise includes esteem bearing ideas and encounters which empower examination of significant worth and quality clashes.

Numerous elements are fused into environmental training programs that effectively address both instructive change and supportable advancement. The blend of the requirement for enhanced training worldwide and fast ecological corruption has prompted expanded open doors for natural instruction projects to upgrade both. Programs that attention on well known situations and groups advance understudy achievement and certainty on a nearby scale, and give the establishment to comprehending bigger societal and ecological issues later on.

Students must be encouraged to understand their surroundings and a framework for action plan must be formulated. EE is the need of the day. It must encourage social participation. Hence integrating environment education into a curriculum is a wise option to connect students with the nature right from their childhood. The significance of environment studies can't be debated. "The requirement for manageable improvement is a key to eventual fate of humankind. The corruption of our surroundings is connected to proceeding with issues" (Hart 20). For the assurance and protection of regular habitat of India, a ton of work has been finished. This has come about into mass development for environment preservation and security. Consequently, to entirety up, for accomplishing all encompassing EE, changes must be made in three essential angles that are the center of science training, which is extremely crucial to the way toward learning natural sciences. Prevalence of humankind must not be utilized to devastate the regular world. Also the methodology ought to be developed with an understudy focused thought of the subject conveyed. Instructors must give due appreciation and do the needful before they educate, at exactly that point the learners will be empowered to conquer any hindrance between strolling the walk and talking the discussion. At exactly that point the goals of EE can be achieved.

## JOHN MILLINGTON SYNGE AND THE IRISH THEATRE

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John Millington Synge is now known as one of Ireland's great writers, and his most recognized plays are featured in all comprehensive collections of Irish dramatic literature. He is one of the standard-bearers of the Irish dramatic canon. An outstanding amongst the most essential writers of the Irish Renaissance; John Millington Synge is currently getting new consideration as his works are being re-explored in light of the political and social settings of his time. In the paper, it has been discussed that Synge acquired legendary subjects and agnostic philosophy from the old Irish culture and utilized them as a part of his plays to serve his nationalistic perspective. Synge rejects those patriots who, he accepted, were grasping 'outside impacts' that were suffocating Ireland in moderate qualities. Synge has depicted for the most part those episodes in his dramatizations which unequivocally introduce impacts of the Celtic mythology and old stories. His peasant characters depend on genuine individuals he met with in Wicklow and the Aran islands. He found in the Aran Islands, Connemara and Wicklow a lower class which was impeccable material for dramatization as he had come to believe "it should be written; or rather, acquaintance with the people awakened in him a perception of the sort of material the dramatist must use if his art is to be both human and beautiful. In this people, as he saw it—and he had no sentimentality to mar his vision—the god and the beast were mixed in just proportions. . . ." (Bickley 25). Synge's idea of life in general and his own situation in particular then was already well organized before he went to the Aran Islands. The islands provided him with a means to express his own self. Synge found on the islands an outside world similar to his own situation and the accurate means of composing his plays to revive ancient Irish mythology and folklore. He found on the islands, as W.B. Yeats said, "among forgotten people a mirror for his bitterness" (Gerstenberger 2).

Alongside this first and most imperative perspective Synge found on the Aran Islands something that turned into the describing highlight of his plays. He found in the islands the dialect to express his disposition and the mentalities of the Irish individuals. The dialect he found there was English talked by local Irish speakers, which took after Irish pitch, grammar, and in parts additionally vocabulary. Synge, by utilizing this style, stayed away from the

issue that a considerable lot of alternate scholars inside the Irish Literary Revival had; a large portion of them were no local Irish speakers, their Irish was for sure exceptionally poor. Therefore they either wrote in English or they used a very artificial Irish, which in Synge's and also Yeats' views was even worse than using no Irish at all. Writing in "normal" English, in any case, was viewed as improper too on the grounds that the 'English perspective' would in this way be kept up and an Irish social personality contrary to the English. Synge initially utilized this new dialect as a part of his book *The Aran Islands* recording discussions among the Aran individuals, the fairy tales that were narrated to him by the old men from the islands, and obviously Martin Macdonough's (his educator of the Irish dialect on the Aran Islands) letters, which he deciphered word for word from the Irish. The Aran Islands then furnished Synge with a setting, a figure of speech, and a dialect to express his states of mind towards life when all is said in done and Irish life specifically. Synge had contended in his "Introduction" to *The Playboy of the Western World* that all art is collaboration. The 'chanting' style of the actors while delivering dialogue provided help to Synge to produce a non-English atmosphere in his plays. The actors were well trained by Fay, and Nic Shiubhlaigh specified that "To Frank Fay must go the credit of training the actors. Without Willie Fay there might never have been an Irish theatre company, without Frank Fay there might never have been a competent one" (qtd. in Ritschel 74). Synge, according to Ann Saddle Myer, created "his own Synge song" in his plays—almost a musical score forged by the words and silences ("Synge's Soundscape" 181).

By drawing different cases of Irish myths and old stories and their likeness with a few episodes and ceremonies introduced in Synge's plays, that Synge made plentiful utilization of Irish mythology and old stories in his plays with the assistance of his laborer characters. In this way, he has made an effective endeavor to restore Celtic mythology. As Donna Gerstenberger points out, "There is nothing, that is unessential; there is nothing that is without importance in an aggregate example..." (45). The present paper seeks to justify the fact that the common Irish islander's belief in mythology and folklore is firm and its significance in Synge's plays

cannot be negated. Synge's interest in the occult, dreams and premonitions helped him to understand the fairy lore of the country people. Synge never interfered with the views of his characters which were delineated on the basis of real primitive community because their experiences provided the best test to reality. The people were nearer to the primary truth because they were closer to nature. Irish peasants are a medium in conveying old Celtic myths because they are the modern practitioners of what had existed before. As their beliefs are still the same, their counterparts in Synge's plays do justify the usage of old mythical beliefs and folklore of Ireland. Tales about the likelihood of being kidnapped by fairies on certain days were connected to rituals of protection, such as wearing clothes backwards and carrying iron pins in the scarf. In the play *The Shadow of the Glen*, Nora leaves the tramp alone with her dead husband, and goes outside to call someone for help; but before she could go, the tramp asks her for a needle:

TRAMP [*moving uneasily*]. Maybe if you'd a piece of a grey thread and a sharp needle there's great safety in a needle, lady of the house I'd be putting a little stitch here and there in my old coat, the time I'll be praying for his soul, and it going up naked to the saints of God.

NORA [*takes a needle and thread from the front of her dress and gives it to him*]. There's the needle, stranger, and I'm thinking you won't be lonesome. . . . (Synge, *Plays* 11)

It may be noticed that "this very act of using charms against fairies reminds readers of a popular folklore of Tara, in Ireland which is a tale about a shoemaker and his wife who lived near Moat Knowth, and their first child was taken by the queen of the fairies who lived inside the moat, and a little leprechaun left in its place. The same exchange was made when the second child was born. At the birth of the third child the fairy queen came again and ordered one of her three servants to take the child; but the child could not be moved because of a great beam of iron, too heavy to lift, which lay across the baby's breast. The second servant and then the third failed like the first, and the queen herself could not move the child. The mother being short of pins had used a needle to fasten the child's clothes, and that was what appeared to the fairies as a beam of iron, for it was believed that there was virtue in steel in those days" (Evans-Wentz 35).

A understanding of the Irish Revival of the late nineteenth and early twentieth century, makes it vital for one to study writing composed about Irish peasants, since one focal thought of the Celtic

renaissance was to revivify the old Irish society which was still honed by the country workers. The scholarly treatment of the worker played a vital and dubious part in the developing feeling of Irish national awareness in the mid twentieth century. In their own particular distinctive ways, W. B. Yeats and J. M. Synge, the two most critical figures of the Irish scholarly Revival, were occupied with this development. Yeats and Synge had diverse yet integral methods for taking a gander at Irish workers and it pushed them to build up another feeling of society and etymological character in Ireland by changing Irish fables into craftsmanship and by catching the rhythms of the somewhat English Irish vernacular. Synge was worried with the peasants of his time, particularly those he met in Wicklow, Kerry, and Connemara and on the Aran Islands. Deborah Fleming writes in the presentation of her book, *A Man Who Does Not Exist: The Irish Peasant in the Work of W. B. Yeats and J. M. Synge* that Yeats saw the workers as "inheritors of Celtic convention" whose old stories and legends were vital for the improvement of national writing. Synge celebrated what he saw "as the robustness and spirit of the country people" and "realized the literary potential of the peasant's culture "as it "represented a mystical and virtuous tradition" (Fleming 1). That culture "suffered from nineteenth-century imperialism and from the degradation of modern times; yet, even though their way of life was threatened by the outside world, the country people displayed courage and the ability to endure" (Fleming 1).

Synge's entrance into the dramatic world of Dublin couldn't bring him fame all of a sudden. He had to struggle a lot. All his major plays, at initially, neglected to draw in the group of onlookers and his *The Shadow of the Glen* and *The Playboy of the Western World*, were received with lack of concern and hostility. Parodies, on Irish town life, for example, Mr. George Moore's *Bending of the Bough*, could be endured, however parody on the Irish peasantry the time-regarded icon of sentimentalists was in no insightful to be borne. The ideal correlation between Irish ladies and the ladies of England or Scotland in the matter of celibacy was a trump card in the hands of the Nationalists. Here was an author who appeared to call it being referred to; a wonder such as this was impolitic, if no more regrettable. It's implied that Synge had no craving to lower his countrymen according to the world. However, in the event that he had just found one unchaste lady in the four areas and had thought her the right stuff for show he would have sensationalized her; or on the off chance that he had discovered none, he would have

concocted one had his motivation required it. The political question did not exist for the writer. But to the majority of Irishmen art still means a political pamphlet... the demonstration against *The Playboy of the Western World*, in which a man who is supposed to have killed his father is admired as a hero. . . . According to "The Freeman's Journal" it was "calumny gone raving mad." That active body of extreme Nationalists, Sinn Fein, declared war, and at the second performance there was an organized interruption. (Bickley 15-16)

John Millington Synge was a revolutionary playwright during a transformative period in Irish history. He achieved dual background of working in the theatre first as a performer and composer. His work will certainly appear not just the efforts of a

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## JYOTI AS AN EMPOWERED JASMINE IN BHARTI MUKHARJEE'S NOVEL *JESMINE*

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Indian woman is more conscious about the moral values and ethics of human life as Indian culture is the most orthodox and conservative so far the ground of morality and womanhood is concerned, especially for the second generation, I mean female section, of the society is concerned. Normally former women, even many of today too, are found mild, delicate and submissive while struggling with diplomatic, delicate and traditional issues. But among such Indian women, we could have Laxmibai, Padmavati, KalpanaChavla, Sarojini Naidu, Kasturba, Smt. Indira Gandhi and many more who can be acquainted as empowered Indian women's of a very orthodox society. Such characters are really eye catching who paved way for other Indian women to cross the home doors for their upliftment through which the betterment of Indianans. As like partition trauma and women oppression, many good writers have encountered empowered women protagonists in their works of art. Bharti Mukharjee's *Jesmine* is a good example of it. Here we can see that to enrich Jyoti's empowerment, her modern husband Prakash generates self-confidence in her and makes her feel that she can do what she likes or wishes to do.

Mukharjee has tried to depict *Jesmine's* empowered self in a sensible way. *Jesmine* speculates through the series of adventures from a state of Punjab to California via Florida, New York and Iowa. She finds herself in the changing scenario of different cultural surroundings preserves her identity as Indian woman who like a strong and bold modern woman confiscates the strength of will for the reaffirmation of her circumstances. Her life revolves around herself will, self confidence and full unheralded dedication to meet her dreams and fulfill her challenge to live life amid the luxurious of American culture. She could form her way through the thorny and difficult path of heterogonous life conditions. She is depicted so powerfully that we can observe her as an Indian Empowered Modern woman who is voted in Indian religiousness and spirituality. She becomes adoptive of our religion so whole heartedly that she can violator like Kali and while doing this she treats her as an incarnation of an Indian Goddess Devi Kali. She makes spaces with her firm faith in Indian

religious values. The journey of the life of *Jesmine* seems to be a process of the synthesis of progressive ideals of west and the native values governing the life of Indians.

*Jesmine* has to encounter many problems in her life even at the very young age-

'Lifetime experiences are crammed into a few years in the life of its young female protagonist as *Jesmine* is put through the most grueling confrontations with death (of her husband Prakash), murder, assault and crippling (Bud) and suicide of her neighbor Darrel. She is for a while the mother of a seventeen year old Du (an immigrant like her), she is expecting the child of a crippled man whom she leaves for the man she thinks she actually loves (Taylor). The picturesque, surrealistic, no-holds-barred ethos obviously has a message beneath the action: that change and adaptability are the key to survival, ad that the successful immigrant has the instinct". In the whole novel we can observe that how this protagonist *Jesmine* adapt the contemporary reality so wisely to pave her way ahead to achieve her goal. She faced all the problems so boldly, adjusted herself so actively with deep understanding of the reality. Her these sincere efforts make us realize that she is, "in the process of becoming an empowered individual more than that of becoming an American" The state of exile, a sense of loss, the pain of separation and disorientation makes *Jesmine* a quest for identity in an alien land. In facing all these she never felt weakened or scared. On the gets different shapes through thorny process and creates its own identity to become useful to others. *Jasmine* possess through several transformations during sailing of her life boat in the ocean of America. She becomes Jyoti to *Jasmine* to Jane and often experiences a deep sense of estrangement resulting in a fluid state of identity. This journey becomes tale of moral courage, a search for self-awareness and self-assertion.

*Jasmine* is a story of a naïve young Punjabi girl who could have enjoyed life as other Punjabi girls in full fledge with common life style, she could also have

lived a subdued life of suffering and widowhood after her husband's death but we can see that she didn't do any of these. As she always desired for challenges-to fulfill her dreams to be settled America –a dream instilled in her by her modern natured husband Prakash. Jesmine seems husband devotee, so conservative and orthodox woman who pave her path on the way designed by her husband: but, perhaps, reality is different. It is described as after Prakash's death Jasmine migrates to America illegally in order to fulfill her deceased husband's dreams. On the unknown land she underwent the sock of rape but instead of feeling scared through, she killed him 'very boldly as a Hindu goddess' 'Kali'. The trauma of violence and displacement transforms her totally and changes her identity from Jesmine, given by her husband Prakash to Jane Ripple Mayer. She migrated from India to escape the oppression of tradition and Indian widow has to go through. Born into a traditional Hindu family that survives Partition violence and flees Pakistan into India, she has to fight for her primary education since her family deeply served with gender discrimination. They were not in favour to literate her as she was a girl. When she marries a 'modern, man Prakash she put a plant before Prakash to arise a source of extra income to meet their dreams. She put a proposal to sell goods from door to door which was denied by Prakash as it might harm their social reputation. But this small proposal shows us that since the very beginning of her married life, she was winding to be empowered. Prakash's dream was to come to Florida to be educated on a more better way but before his dream comes true, he is killed by a Sikh fundamentalist just before a day of his departure too Florida. Playing the role of a dutiful wife, Jasmine decides to complete her husband's journey by coming to Florida and by cremating herself on the pyre of his suit. But her fate doesn't co-operate her. She escapes from the Indian tradition for widow but when she reaches there, she was assaulted by her smuggler. She reaches there with forged documents but these Half-face changes her forever. Instead of moving on to fulfill her husband's wishes, she moves on, on her own way to live her life to fulfill her own desires. Afterwards, she kills her violator there. She arrives at the house of Ms Lillian Gordon, a lady who helps and shelters illegal immigrants. She had cut her tongue when performing Kali, the goddess of death, when it heals while staying at Ms Lillian, she moves towards New York. There she first gets employed as a domestic helper to the Vadhears and then as a day-care provider to Taylor and Wylie's adopted daughter, Duff. After encounter with Sukkwinder her husband's murderer, in New York, she decides to move to Iowa where she meets Bud Ripplemeyer, a banker and stays with him

for many years before heading out once again to California with Duff and Taylor, who is recently divorced.

An astrologer has declared her widowhood and exile at very early in her life but jasmine is born rebellion. As she didn't believe in the forecast, she decided to battle with her fate if it came true. After sometimes the forecast comes forwards. Her husband is killed and she becomes widow. She did register marriage with Prakash going against her parents wish. Without performing religious rituals she gets married but as it was a court marriage it was not accepted by her parents. Thus form the very beginning of her life she has been revolted against her fate and the path drawn for her. In the novel we could see far our country is in touch to maintain such relation that to before many years, for an Indian lady is a quite challenging task. No doubt, in the very beginning she is found a rustic village girl in whom after her marriage with modern husband, Prakash, she is filled up with a soft confidence, self-assertion and self-reliance in her personality which has totally changed her mode of thinking and living. She has global and cosmic vision for living a life a head. When she moved to America, it was not easy to for the Americans to accept her as their own maintaining her own decorum. Her process of Americanization was so traumatic but she won each unfavour of the unknown air. She became as an accurate empowered woman who struggled every confront in her life to ascertain. She firmly believed that once identity is not his/her citizenship or social status or an individual identity, it is her/his inner strength that support his/her at every walk of own life, especially when the wind is bellowing against that individual. It lies in the inner strength of the person to be at concord with her. Jasmine's commencement from her first rebirth to her fly to America passes through a number of ups and downs that exposes her inner empowered self as reborn numerous times till she attains a complete empowerment and strength to live on her own way.

Her first step to never mourn over her left birth place reveals her power. She says, "It was how only a few months later but I didn't think I could cry over Hasanpur, ever again." She became so strong enough that she could pave her own way. She said that she ripped herself here of the past. It is a proof of it. Her lines, "I changed because I wanted to bunker oneself inside nostalgia to sheathe the heart in a bullet Pro. Vest was to be a coward on Claremont Avaneue in the Hayeses big clean, brightly lit apartment, I bloomed from a different alien with forged documents into adventurous Jase," show how empowered she is! Only this, she has woman consciousness too. She is

of opinion that big city man marries rustic girls that they can live on their own way. They are just using the girls as their objects. Her feelings are expressed through, "Big city men prefer us village girls because we are brought up to be caring and have no minds of our own. Village girls are like cattle whichever way you lead them that is the way they will go." This thinking cannot touch to a common girl. So she seems very uncommon. No doubt she gets a very good friend in the form of a husband who changes her attitude towards her life and makes her bold enough to react the Indian orthodox and traditional mindset. The marriage with Jyoti is a kind of revolution. Prakash has illuminated her life.

She had handled the utter gloomy situation during her exile in America. Many times the series of incidents break her inner strength. Living in relationship with Bud, an old banker which makes her pregnant; raped by Half Face on the first eve in America by black mailing her as she could be there due to her gorge documents; relationship with Jyalor-all these things are not to tolerable for her even though instead of committing suicide or surrendering herself to the traditional life in India for a widow, she faces all the situations so bravely. A common girl may feel guilty with the psychological displacement with spiritual agony as one has to give the sacrifices of culture, rituals, traditions and even religion also. But as Jasmine is so uncommon so fare her empowered self is concerned, she has positive look towards this adopted culture and self-realization. Her self-invention has positive and optimistic view to change her fate. Her assimilation is with self-will and self-aspiration for creating new adoptive personality. Due to her personal aspirations, she finds solution of each problematic encounter with her inner potential and global ideology.

Her empowerment has changed her vision and way to look at life. Through her narration it is cleared that condition of women in India is critical and transitional. Foreign women are different an, more liberal than Indian women. Indian woman lives life with orthodox cultural impact and rituals. Patriarchal social system has influence her life from birth to death. As a child she lives under the shadow of her father, young phase of life under the protection of husband and old age lives under the supervision of son. When she came to America, she has observed American women. She realizes paradoxical situation between the lives of Indian and American woman due to her woman consciousness which made her more strengthened and empowered Jasmine seems bold while arguing with her husband. For any Indian woman it's so uncommon, particularly for a rustic

girl who marries a modern man. It could be resulted in divorce too but without thinking all these she argues with her husband for her longing for motherhood./ Every time Jasmine told Prakash that she wanted to be their child's mother but instead of thinking on the way, they starts arguing. He dismisses it as feudal compliance on Jasmine's part, while she tried to fight back about 'he-tech' not being able to solve a woman's need to be a mother.

Jasmine strives to insert roots in the dream land. Her struggle has paved its way with her birth. Her identity crisis and impressed life begins with her birth but she fights it empathetically. She says, "My mother has a sniper. She wanted to spare me. The pain of dowry less bride." She was born after fifteen years partition riots in Hasanpur in Jalandhar district Punjab. As fifth child, her mother wanted to give her best life a spare from the wrath of patriarchy and orthodox Indian social system. Her name Jyoti leads towards light and knowledge but she is already brave and rebellious nature and cultivated modern die to her mother. Her fighting spirit is depicted as, "I survived the sniping. My grandmother may have named me Jyoti, light but in surviving I was already Jane, a fighter and adapter." It shows her empowered nature.

It is rightly said that psychic violence transforms anyone into empowered or rebellious. Same was happened with jasmine. It seems that she doesn't wish to continue her life as a life of Jane or Jase but forces her to live that life so it is the psychological burst of an Indian orthodox woman. The violence with her purity converts her totally. It has made her strong enough to do what she like. Her killing of that agent was another side of her empowered self. The transformation of identity becomes her survival mode of life in her dream land which later becomes the alien land. It is a kind of adaptation to survive the process of Americanization. Thus life of Jasmine is the myth of the acquisition of new way of life and search identity to cope with modernity. Jasmine got satisfaction and self-realization in America the only land on earth that given one ample opportunity to work at making a dream a reality. To achieve her goal, she can go even beyond extreme level. Her empowerment supports her in revolting against the system.

Jasmine's fight to Iowa and her renaming as Jane is indicative of a slow but steady immersion into the main stream culture according to Nagendra Kumar. Here we can see a changed Jasmine one who had murdered Half Face for violating her chastity, now being an empowered willingly embraces the company of an American, that too without marriage

and carrying his child in her womb. This last stage is a step ahead to common and weak woman, especially for an Indian woman now she becomes complete empowered as she can learn how to live for herself. The suicide of Durrelajd departure of Du from home in search of his family makes her restless. Now she is caught between duty and feelings. She starts to think about morality and present life. She feels before her there is her Duty towards Bud and her love towards Tylore. She has to choose one and, than as a modern empowered woman she determined to go with Taylor keeping her duty aside. She says, "I realize a have already stopped thinking of myself as Janel." And thus she takes a decision as a Jane. Brinda Bose has rightly observed that, "By grasping at the dream of a new life Jasmine feels compelled to sacrifice most of

her original self, because both the ethnicity and the womanhood that she identified with have to be massively reworked.

She is nothing but the heart beats of modernism that is the new face of changing social face of global society. She is a rebellious woman who has changed herself to survive and live on the new land. Her life in America was search of her inner self and who she is. At last, she has found herself and she recognized that she has been changed now. She has been totally new woman who want to live for herself. She has subsumed the global culture and new way of life to live in America It is the incarnation of new empowered woman through the hardships of life. As she has challenging personality she has tackled all problems with self-esteem.

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## ROLE OF TELECONFERENCING IN GLOBALIZING TEACHER EDUCATION

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Change is the key element for the twenty first century that poses many challenges and enormous pressure on our daily life, work and society. Political, economic, social, and technological environments are changing significantly and rapidly. Information and Communication Technology (ICT) has transformed all aspects of education, which is a rapidly growing segment. The advent of the Internet as a means of information access and distribution, and the explosive growth of the World Wide Web has transformed teaching from a broadcast mode to an interactive one. Distance Education has been moving very fast from correspondence education to online education or web-based delivery of education. New types of educational technologies are emerging at an ever accelerating pace. It has widened the scope by including online education, online courses, virtual courses, and virtual library etc. Learning has become more self-directed, more resource-based, collaborative, intertwined with personal life and work, and calls for perpetual access, usage of information and learning resources. Learning has shifted from *know what* to *knowing how*; how to learn, how to secure information, how to use it, and how to relate it to the ever changing society. The new emphasis is on access and usage. Faculty and librarians are all at the crossroads and being constantly pressured to increase their productivity and to change instructional strategies to accommodate changes and educational reforms. There is a need for adopting a new vision which could meet the challenges of changing Education environment.

Globalization is a universal lexicon today. It is a chief ideology of the present era since it is more potent and pervasive than any other. Its reach is global and universal. It is a process by which the experience of everyday life, marked by dissemination of ideas and commodities is becoming standardised around the world. Its activities increase from a local, regional and national levels to a global or international level. Trade & Commerce, Technology, Science, Information Knowledge and Culture are the major constituents of globalization. Its aim is connecting closeness, togetherness and interdependency. Globalization magnifies the economic activities of a country across national

boundaries. Its essence lies in integrating world with a single order.

The current trend of globalisation is one that is having a marked impact on society and the area of education in particular is feeling the impact. In a normal classroom situation, teacher's lecture is followed by discussion by the students. In this case, the teacher has to assume the role of cognitive and meta-cognitive coach, rather than knowledge holders and disseminators, and the students have to assume the role of active problem solvers rather than passive learners as information is a shared aim of teaching and learning process. The dramatic changes that are taking place as a result of globalisation mean that the demand for education is increasing significantly. There is a growing recognition of not only the need for skills development but also reskilling and a requirement for lifelong learning. In the current evolving education and work markets, there is a need for both staff and students to be involved in lifelong learning process to acquire and develop broad range of skills.

An innovative attempt was made by the UGCon 15<sup>th</sup> August 1984 to reach the undergraduate students in semi urban and rural areas. The objective of these programmes was to enrich the quality of education by opening a window to the world, but the one main drawback of these programmes was realised that the viewers can't communicate back to the teacher in an interactive mode and get answer to their queries as they can't question to the T.V. teacher. So the outcome of such dilemma led to the advent of teleconference.

Teleconferencing is a new mixed model approach for Distance Education combining satellite teleconferencing with hands-on activity session. It was developed to adjust for many of the disadvantages associated with Distance Education and traditional in-person training. It brings together a community of learners for interactive education anywhere, any time and any place. This uses live teleconference speakers, video clips, interactive call-in sessions and local session. Distance education is responsible for promoting quality information, resources and expertise. The early Distance education systems relied primarily on printed

materials for instruction. Correspondence courses have been the most common delivery method of course materials to distant students. People may be geographically isolated because of distance, terrain, or undeveloped communication systems. There are three main reasons for disseminating education to all societies: geographical isolation, social isolation and disadvantaged groups. Distance teaching techniques enable people to undertake a course of study in privacy. The Web, when combined with other network tools such as listservs, Usenet newsgroups and video conferencing acts a virtual classroom to bring together a community of learners for interactive education. The growth of television, telecommunication, videotape, audio conferencing, audio graphics conferencing and video conferencing permits linking the learners and the instructors who are geographically separated. Teleconferencing is a unique method of providing real time face-to-face interaction that enables immediate peer and teacher interaction and the feedback. This interaction can minimise feelings of isolation and provide for a richer learning experience for students and staff at geographically separated sites.

Teleconferencing technologies are powerful tools for dispensing education and play a major role in the creation of new teaching and learning environments that are becoming increasingly common through the use of flexible delivery options. The use of new technologies in developing alternative teaching and learning environments provides many challenges to both teachers and learners. The development of effective teaching and learning environments using media such as videoconferencing rely more on student centred approaches to learning. Teleconferencing overcomes the "access to the expert" gap by providing opportunities for face-to-face interaction on a regular basis. This provides a wealth of opportunities for both professional development for the staff and skills development for the students complementary to their knowledge acquisition. The staffs are able to explore the most effective means of using videoconferencing technology to achieve positive learning outcomes. The experience of using technology enables the staff to develop a sound understanding of ways in which the technology could be best utilised which results in moving away from a didactic teacher centred model to a more interactive student centred model. The group work approach encourages the sharing of knowledge and peer support in a productive, positive environment. This approach also encourages the development of both critical thinking and problem solving skills as well as encourages learners towards

more independent learning strategies. It is believed that there needs to be a more pronounced shift to a learner centred model of teaching and learning with students developing skills and confidence to share ideas, challenge opinions, and propose solutions in a positive and supportive environment. This approach also highlights the need for student development for new teaching and learning environments. It is felt that more extensive student awareness and preparation programs will not only form an essential part of future developments using teleconferencing technologies but also provide skills for students to become independent learners.

Teleconferencing has become an essential tool in maintaining course offerings to multi-campus institutions or for dispersed groups of students; and has the potential to promote more interactive and effective teaching and learning process. The following are the main advantages of Teleconferencing:

- Training programmes can be easily organised through teleconferencing.
- The satellite based technology of teleconferencing makes it possible to train all the teachers simultaneously which is a massive task as they are not only large in numbers but also scattered throughout the country.
- The participants actively and reasonably ask questions. It improves participants' keen observations, sharp thinking and further improves their listening comprehension and speaking skills.
- Low cost of communication compared to travel and other costs.
- Uniform instructions.
- Easy scheduling of group discussions and conferencing by telephones.
- Immediate feedback from all the concerned.
- Quick remedial actions.

The use of innovative teaching methods help to sustain student's interest and make the learning process more productive and interesting. The techniques that can be adopted are: computer-assisted learning (CD-ROMs), web-based learning, virtual laboratories, case studies, group discussion, brainstorming, audio-visual presentation, assignments, seminars, quiz and assigning project works. The faculty can also prepare worksheets, manuals and audio-visual aids to supplement these noble teaching strategies. Students can be given two types of learning materials before their actual course material, viz. one on computer literacy class and the other one focusing on Internet and Web skills for searching, retrieving,

locating and downloading the information. For better understanding by the students, the mixed-model approach of combining satellite teleconferencing with hands-on activity sessions can also be conducted. It is suggested that innovative assessment approaches like presentation, posters about learned material, diagrams, student displays and project fairs with test papers can be used to know the progress of the students. It has been observed that problem-based learning helps the students in actively solving the problem and enables them to confront successfully with a real-world situation.

To conclude, there has been a paradigm shift in the field of education all over the world as a result of which awakening has come in the teaching-learning process. The onus is now on the learner, and the teacher is looked upon as a facilitator. Understanding that the traditional chalk and talk method can no longer enthuse the students, a continuous attempt is

made to introduce innovative methods that will sustain their interest and make the learning process more productive and interesting. Innovative teaching can take many forms. Educators must learn to change with the times and adopt the methods offered for instructing students. These changes will ultimately benefit the students as well as the education system. The ability to adapt to these changes is one of the most important attributes for today's educators. Thus, Teleconferencing is more beneficial to teachers in that there is more scope for learning through multiple varieties such as self-showing interactions and demonstrations with immediate response to question and group work. It is useful in disseminating the skills from a distance. New technologies in education are used primarily for individualization, no doubt, that this particular technology which is comparatively less expensive will reach out the massive teaching folk of the country, if only it is put into use at the right time and in the right manners.

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## THE PORTRAYAL OF CHILDHOOD IN THE NOVELS OF CHARLES DICKENS AND MULK RAJ ANAND

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According to William Wordsworth "Child is the Father of Man" which signifies that childhood life is very much important to shape the future of children. Childhood shows the man as morning shows the day. Naturally what a child learns and assimilates will be reflected in his words and works in his later life. For example, if a person forms good habits right from his childhood, he will live a life of discipline. His life will be full of happiness. He will be an asset to the nation. Reversely, a boy who forms bad habits will harm the society at large. Childhood is a stage of life, associated with chronological age, located between infancy and youth and including adolescence. The word child has been utilized as a part of numerous social orders to show a kinrelationship additionally to demonstrate a condition of subjugation.. Sigmund Freud, the father of psychology, is of the idea that childhood is of key noteworthiness in the modification of the personality.

Charles Dickens wrote his novels by giving immense scope and significance to childhood. Charles Dickens is a writer who is very sympathetic for his child characters. Dickens inherited this Romantic view of the importance of childhood perception, but dramatized it within the social world of the early nineteenth century. "He is personally aware of the exploitation to which the children are subjected because of his own history of workhouse incarceration, which parallels Oliver's workhouse experience" ( James89).

This explains the pathos in his novels, surrounding the uneducated and deprived orphans whose loss of childhood is echoed through their physical exploitation. Dickens' childhood experience, which included such episodes as the time he spent in the blacking factory, his life alone while his father was in debtor's prison and the neglect of his education, made him very aware of the vulnerability of childhood. He often created children, like Oliver Twist and David Copperfield who were at the mercy of cruel and scheming adults. He was very conscious of the stigma that society places on children, often at birth (as with the orphan Oliver). Dickens also noted that, by the demands of society and family circumstance, children were often forced into adulthood much too early: his

novels are full of children who either have to take care of their parents or must fend for themselves in the absence of their parents. Dickens' novels ultimately petition society to protect these assailed juveniles. Dickens also placed much value on the perceptions of children, and although his two first-person narratives, *David Copperfield* (1849-50) and *Great Expectations* (1860-1), are recollected by their narrators in adulthood, he accepts the validity of his characters' childhood perceptions. However, the Victorian society is paradoxical because it perceived childhood as essential, yet most of its juveniles are not given the chance to safely experience growth and transition into adulthood. Deborah Gorham states,

Childhood had great symbolic importance, but many Victorians suffered from an uncertainty about the nature of childhood and the proper relationship of children to the structure of the family and the wider society. In the late - Victorian period, many people who were concerned about the welfare of children also found themselves uncertain about how the boundaries of childhood should be defined.(355)

Like the Victorian novelist Charles Dickens, Mulk Raj Anand's enthusiastic advocacy for the poor downtrodden 'underdog' is quite patent on the very surface. Mulk Raj Anand has painted *Untouchable* and *Coolie* with the colors of social realism. These two novels are hard core reality of the Indian society of early decades of twentieth century. These two novels describe the sufferings of the protagonists, and record the miseries felt by them. *Untouchable* and *Coolie* give a voice to the predicament of the mute humanity in vicious circumstances. The suffering is not caused by fate but by fellow human and the social surroundings from which the sufferers still have great and immortal hopes for betterment of life. *Untouchable* and *Coolie* are the sagas of suffering of the protagonists - Bakha and Munoo. Anand is considered a reformer; he does so because it is one of his aims to disturb his readers' complacency to shock them out of conventional attitudes, and encourage

them to make a fresh approach to experience. In *Untouchable* it is that of a progressive revolutionary, of a humanist who is all compassion for the working, downtrodden classes, and the social outcasts. Being a realist whose social realism has an unmistakable streak of Marxism in it, he carries his readers along, wins their confidence and establishes a close, harmonious relationship with them as well as with his characters. The titles of his various novels are a clear pointer to the various types of exploited classes whose miseries and disabilities are highlighted in his novels. He uses all his skill in painting a more realistic, faithful and 'true to life' pictures of these various 'miserable' of Indian society. He brings out the pathos and poignancy of the feelings and thoughts of his heroes and heroines, who are poor, socially, economically and people of the lowest rung of Indian society. These heroes are touched by the spirit of modern discontent and they try to revolt against the existing order. They feel pain and suffer consequences under the dead weight of useless conventions and outmoded themselves breaking down under it, bringing to the surface all the anguish and agony of their life and expressing the fury of the novelist against the unjust social, economic, political and religious order of the day. The theme of childhood is predominant in the novels of Charles Dickens and Mulk Raj Anand. Dickens always cherishes the memories of his childhood. And childhood always chains him, enchants him, and holds him in its magic spell. Not a single impression is left out, not a single memory is forgotten. Everything appears fresh and lively. Hence, the actuality and poignancy of these pictures of childhood always impresses upon the readers.

Charles Dickens is thoughtful and compassionate towards the children of London. Dickens depicts with unbounded sensitivity the misfortune and sufferings of real life in fiction. He is fundamentally inspired by introducing the distresses, sufferings and privations endured by his children in his novels. The hardships borne by David Copperfield, under the overbearing mastery of Mr. Murdstone and Miss Murdstone are acquired out a touchingly delicate way. The perusers are slanted to shed tears for the parcel of little David as he washes jugs and endures the throbs of penury. A comparable destiny falls on *Oliver Twist*, who again wins our sensitivity for the pitiless treatment distributed to him by the area directors and tutors of workhouses. At the point when Oliver requests more nourishment and is condemned by the allocator, one can feel sensitivity for the poor child. The parcel of Pip in *Great Expectations* in the prior sections is similarly touching and moves the perusers to sensitivity for him. Dickens' characters are

representations of the actual world as Rosenberg remarks : "...the best Dickens' characters are examples of **verisimilitudinous** representation" (147). Dickens' characters are not only representations of the world, but also reflections of existent beings, "...and assumed, by virtually all readers, to be representations of people" (148). Therefore, his child characters represent real children with actual experiences and backgrounds such as poverty, orphanage, neglect and deprivation of education. Firstly, Dickens' children characters are normally stranded or their parentage is indistinct, for instance Pip in *Great Expectations*, Esther in *Bleak House*, Oliver in *Oliver Twist*, Estella in *Great Expectations* and Sissy Jupe in *Hard Times*. Estella and Esther are at first presented as vagrants; however the pursuer later finds that they are really surrendered children as is Sissy Jupe. All the three characters are embraced, for instance Estella is received by Miss Havisham, while Esther is embraced by John Jarndyce and ultimately, Sissy is received by Mr. Thomas Gradgrind. Dickens' conviction is that the lower class' reliance on the white collar class is unavoidable. To a bigger degree, he is likewise recommending that it is the white collar class who can change the situation of the lower class and, in this way it is their obligation to kill neediness. Dickens' novel *Great Expectations* appears to stick more to reality than those by the dominant part of his Romantic counterparts. Fantasy has traditionally been a theater where the demands of the superego can be circumvented and one's shadow be allowed to triumph. Yet Dickens' fiction is more than fantasy. The characters are more lifelike. It is almost as if there is a real possibility that Pip, or someone like him, actually existed. "Dickens appeals to the common experience of the reader" (Andrews 43).

Like Dostoevsky's *The Idiot*, Charles Dickens' *David Copperfield* and *Great Expectations*, Premchand's *Godan*, Mulk Raj Anand has created a unique protagonist Bakha in *Untouchable* and Munoo in *Coolie*. In *Untouchable* and *Coolie*, Mulk Raj Anand presents the Indian downtrodden and laborers with their problems – social rejection, poverty, starvation, poor health, misery, death and humiliation. Anand's immortal creation of the protagonist Bakha and Munoo represent Indian society. One finds that in Bakha's life at each stage, tragedy deepens and intensifies, without any respite. Bakha is a poor untouchable, tradition-follower who is an idealist and cannot think of going against society, religion, beliefs and the 'agents' of religious institutions. Anand has taken the theme of his novels from real life and so his novel is nothing but social realism. He brought to fictional life Bakha, his

boyhood companion, the untouchable sweeper boy, in *Untouchable*. Anand's mother abused Bakha for 'polluting' her son when Bakha

carried home a bleeding Anand, hurt by a stone. Bakha is reviled by caste Hindus as he cleans latrines; but Anand captures Bakha's pride in his work: he tackles his odious job with a conscientiousness that invests his movement with beauty. The novel was not only a powerful social tract, but a remarkable technical feat as in a single days' action the author builds round his hero a spiritual crisis broad enough to embrace the whole of India. Anand continued his interest in social themes with his next few novels dealing with the destiny of the working class in India. *Coolie* centered on

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Munoo, an orphan boy dying of tuberculosis brought on by malnutrition. It exposes the whole system through its victim's tale of exploitation. Even in the dreariest of surroundings, the little hero retains his qualities of warm-heartedness, love, comradeship and curiosity.

Both Charles Dickens and Mulk Raj Anand follow the life of children by blending their childhood in their separate books, having children as prime characters. Despite the fact that concentration of Charles Dickens is all kind of children, Mulk Raj hand administers to the oppressed alone. The children in Charles Dickens' books are orphans, vagrants, and left outs yet Mulk Raj Anand's children in his books are untouchable, oppressed and downtrodden.



## LAUGHTER THAN RIDICULE: OSCAR WILDE'S 'THE IMPORTANCE OF BEING EARNEST'

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### Introduction

English dramatic writing was at the cross-roads when Oscar Wilde emerged on the scene. It was an age of powerful writing, spectacular fictional output and great poetic activity. Social conditions posed exceptional difficulties in the way of growth of plays. In the turbulent ideological debates involving basic issues concerning culture, art and society, Oscar Wilde surprised everyone by his out-of-the-way ideas and proclamations that promoted 'Aestheticism' strongly. Though he wrote stories and essays, his plays contributed a lot in reviving interest in theatrical activities and restoring playwrighting to its formal appeal. For a man given to various activities which diffused his creative energies over a large area, Wilde's plays remain numbered and few. Nevertheless those three or four plays proved decisive enough to create historic impact in the world of literature and society's perception of moral issues at large. He became the eye of the storm and paid a heavy price for pioneering a revolutionary change in aesthetic taste, through his *avant-gardist* principles. In the process, however he had carved for himself an enduring niche in the history of English literature which makes it inevitable for any student to know Wilde s/he wants to get acquainted with English literature.

"A Priest of Beauty Slain before his Time"

The famous Irish writer and dramatist Oscar Fingal O'Flahertie Wills Wilde was born in Dublin's Westland Row on October 16, 1854. His parents were unconventional in their own ways : father Sir William Wildre was a reputed specialist in the disease of the eye and ear who established a hospital in Dublin a little before Oscar was born. His work gained for him the honorary appointment of Surgeon Occulist in Ordinary to the Queen. He had gathered so much reputation in medical profession that he was knighted in 1864. However, his interests also lay antiquarian field and writing. Besides, he had also drawn a great deal of public attention for his amorous affairs and is reputed to have fathered a number of illegitimate children, a fact that his wife decided to ignore for the sake of preserving their marriage. A

man of diverse activities, ostensibly unconventional, Sir William was also known for personal uncleanliness as 'dirty oldman'. He married a very talented woman, Jane Frances Elgee, a writer who had adopted the pen name 'Speranza', was active in women's rights movement. She gave up writings after marriage and social work to give full attention to domestic life which was continuously enlivened by her husband's distinguished friends, visitors and guests. A little later the remarkable couple moved to the more fashionable locality, the Merrion Square in Dublin and was the toast of high society.

Few writers have generated such intense controversy as Oscar Wilde, and enjoyed doing so. Fewer writers perhaps had more hostile critics than admirers in his time as well as after death. Born in an age which was aware of the radical changes it was undergoing, both in its socio-political life and attitudinal stand, Wilde found the soil just about suitable for the cultivation of exotic flowers of strange colours and fragrances which no one expected to see, but when they saw, the impact was shockingly overwhelming. His source of popularity was this uneasy relation he had with society whose moral and aesthetic air he found too blasé and effete. He laughed at it. He ridiculed its promoters. He pointed out its utter hollowness. When the modernists arose in the early twentieth-century, they shocked the world with their iconoclastic pursuit; Wilde almost single-handedly tried to turn the tables by proclaiming himself the symbol of a new aesthetic energy. Similar forces of detablisng movement were released by such great writers as Charles Dickens, Jonathan Swift, D.H. Lawrence and, in a different way, Rabindranath Tagore also. But Wildre diverged from them in not just professing his credo, but loving it, exemplifying through his art what he believed. His message was not confined to mere words; early in his student years his room was found to be cluttered with odd objects 'peacock's feathers, sunflowers, dodos and blue china'. He decked his person in all matter of extraordinary things like velveteen breeches and long hair for which he earned plenty of ridicule from a society which was unusually self-conscious about prudery and moral values of its creation. Frontline journals

like Punch led the frontal attack by caricaturing him, mainly conceptualized by such major personages as du Maurier and F.C. Bernand. In the 14 Feb. 1880 issue of Punch appeared a cartoon entitled 'Nincompoopiana'; 'The Mutual Admiration Society' and Wilde was sketched as 'Jellaby Postlethwaite, the Great Poet'. The same year in July appeared the celebrated cartoon 'of a young Esthete contemplating a Lily in lieu of luncheon'. The slanderous assaults gathered greater force over years; but at the same time there was a steady increase in the number of his admirers too.

"In matters of grave importance, style, not sincerity, is the vital thing"

Oscar Wilde was essentially a dramatist. Something intrinsically dramatic was unrelentingly active impelling him to adopt postures and stances which drew others' attention. Intensely socially consciously, he was aware of the need to change the prevalent habits of literary taste and aesthetic appreciation introducing new yardsticks, not by way of studied scholarly modes, but through a means that were thoroughly shocking. He used a highly charged dramatic method to spread his ideas of aestheticism among a world deeply rooted in traditional moral and artistic ethos which had become too resistant and inflexible to be easily influenced. In Wilde we see a complete transformation of a man of profound intelligence and creativity into a loud, sloganizing and aggressive propagandist seeking to conquer a world by means of casting him charm and spell of personality. His clothes, his cruze for collecting odds and bits, his language loaded with semantic inversions dramatically delivered epigrams and the entire force of theatricality burned through the hard crust of the lat Victorian sensibility. He evoked the response he wished to generate, creating waves of both shock and admiration on a scale that happened only with Charles Dickens earlier and perhaps on a lesser level with e.e. cummings, The world was ready to welcome him, listen to him and enjoy his talks for their sheer novelty. The world was also outraged iconoclastic energy, whose idiom and ideas were totally unfamiliar and incomprehensible.

Oscar Wilde was one of the few writers so completely surrounded by controversies in his time, and years after his death. A lapse of more than a century after his death has done little to dim the image which he created of himself and which his detractors sharpened continually. Had he been alive today, he would be pleased to see that those who disliked him and created a whole theory on the objections raised by them continue to grow with each year. He aimed at shocking people, he did everything to provoke adverse comments and outrage gentle

sensibility. Oscar Wilde became synonymous with this kind of attitudinizing. His success lies in cracking the established, almost institutionalized moulds and categories of aesthetic appreciation. He arrived on literary scene as a public figure, not as a quiet recluse, given to ivory tower creativity. His personal energy like that of Charles Dickens, the great Victorian novelist, was irrepensible, needing a wider arena for displaying the full range of potential. He made triviality into a cult and refused to be taken seriously. He was an extremely gifted writer, exceptionally talented with deep perceptive sense and imagination. His mind registered all that it saw and thrived on the dazzling exterior of social life and personalities. As has been pointed out elsewhere, his greatest contribution has been toward building up an aesthetic theory that treated things in their reverse images. What the critics objected to was his deliberate refusal to dive beneath the veneer to contemplate the constants of life and individual character. It was planned posture, a premeditated stance, on which he built his aestheticism, the philosophy of art for art's sake.

It is easy to point out the playwright's weaknesses, critics have been busy doing so over decades. Wilde's limitations were of his own making, he was aware of it. What puts him apart is, however, his exceptional genius for transforming these limitations into memorable creations, those enviable masterpieces whose shine has remained undimmed over all these years. The Importance of Being Earnest is considered to be Wilde's best work. It combines in it the great entertaining value, supreme literary quality and the subtle sarcastic criticism of the decadent aristocratic life. All these three elements achieve a perfect balance in this work. As John Drinkwater opined, "The Importance of Being Earnest really forms a class in English drama by itself. It is in mere simplicity that one says that it seems to be the only one of Wilde's works that really has its roots in passion. Every device of gaiety and even seeming nonsense is employed to keep the passion for back out of sight, and, if it were otherwise, the play would not be the masterpiece it is. But the passion is there. That is to say, the play is directly an expression of that part of Wilde's own experience which was least uncontaminated and in which he could take most delight. And this meant that all his great gifts as a craftsman were for once employed in work where, with sincerity almost as the theme, there was more sincerity than in anything else he did."

Oscar Wilde put into this play all the artistic potentials at his disposal with his social vision wide open. Among the great masters of satire in English

literature such as Jonathan Swift, George Bernard Shaw, George Orwell, etc. Oscar Wilde stands in a special slot; his position as a foremost 'aestheticist' lending his writings the strong flavor of both aesthetic exquisiteness and interpretative insight into the social dimensions of human behaviour. Wilde took up a stand quite early in his literary career, being guided by an understanding of realities of life which diverged rather ostensibly in more points of disagreement with the general established opinion than agreement. He was a close observer of the surface life deriving deep interest in the oddities of characters and foibles of individuals. The complex and highly glittering life of upper class families held deep attraction for him for its sheer contradictory character emanating numerous ironical situations which the author readily captured in his memory. He found that trivia ruled the attudinizing life in the world where serious aspects of thought and life came in direct clash with the frivolous. Wilde discovered a great potential in these situations; for the characters appeared less well-rounded full-blooded men and women but reductions from that state. Everyone feels disconcerted by the acts and behavior of everyone else, the element of discomfort keeps enlivening the air by a series of awkward situations. Comedy chiefly arises out of these situations offering the author interesting opportunities to compose satirical portrayals and verbal duels. Very close to the spirit of Restoration comedy is Wilde's world of witty repartees where overstatements create funny tangles to block vision of those involved making it quite difficult for them to find their way out. This is what William Hazlitt said about charm and appeal of a heroine like Millamant,

*"The springs of nature, passion or imagination are but feebly touched. The impressions appealed to... are habitual, external, and conventional advantages; the ideas of birth, of fortune, of connections of dress, accomplishment, fashion... continually come into play ... it is these that support the goddess of our idolatry..."*

It is Lady Bracknell who comes closest to the above description; but the airs and affectations, are there on display all over his play. His character's power of fascination depends upon their easy circumstances.

His satire does not aim to break this fragile exterior, rather it strikes in the degree that would generate enough humour and amusement.

Unlike other satirists, Wilde appears to be least interested in acting a kind of 'moral policeman restraining the righteous but helpless against the wicked' (Pollard :2). His works expose the follies, but do not appear to expose hypocrisy or make a frontal attack on the vicious as we find in Pope or Dickens.

*Tremble and turn pale*

*When Satire Wiields her might flail !*

Satirists with social mission or anti-institutional anger seek to demolish the target because, as Arthur Pollard remarks, "Satire... is essentially a social mode; it has nothing in it of the transcendental" Wilde's canvas too is social, its personages, their ambitions and hopes and interactions are all rooted in the social world, but he does not wish to go beyond the surface life, he does not intend to explore the sociological or psychological roots of those aberrations which become infinitely fascinating material for him. Irony and satire become in his hands tools of creating intense dramatic energy, for his predominant concern appears to be evocation of interest in the dramatic situations of life.

Aphorisms containing the reversal of the conventional wisdom serves two purposes : (a) it generates a degree of shock, for the accepted assumptions are dislodged; (b) it creates pure humour; one may also add a third factor of gaining a better vision into the truth of the fact which is generally kept wrapped in fine sentiments for display. Here the fact that romance is far more cherishable and desirable than the termination of it in marriage, spurns the socially accepted fact that all romantic ventures culminate in matrimonial union. This is precisely what made Wilde so popular with one and all. In the utterance closely following upon this can be read this expression-'Divorces are made in Heaven!' The pursuit of excitement and thrill which mark those who move in 'upper crust' appears to be railed at by the author in this statement Algernon. Thus the play provokes laughter than it ridicules over the follies of the contemporaries.

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## HEMINGWAY'S PHILOSOPHY OF LIFE IN REGARD TO MEN AND WOMEN

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A literary work of an artist is the expression of his understanding of life as he feels. The life of a man is guided by his passions, reason, environment etc. He is made good or bad, gentle or wicked by their influences. Dispositions of a writer are best reflected in his characters as characters are the brain children of a writer. They are portrayed to embody his philosophy of life. Both the criticism of life and writer's philosophical approach to it are interrelated to each other. The moment that writer becomes more concerned about the problems of life, he formulates certain principles and gradually propounds his own philosophy. Certainly this is the case with earnest hemingway. He is an artist having his own individual approach and attitude to life. He sought to explore the mystery of life which is reflected in the actions of his protagonists. He has his own design to resolve and reconcile the complex phomene of life.

As a matter of fact, in the work of every modern writer. There is an attempt to fight against the process of dehumanization (going on all around us) an attempt to be human and to realise himself by asserting humanness. Hence search for identity becomes a project, process that lasts as long as there is life. One is fully born at the moments of one's death.

There can be no two opinions in this regard. A man is what he doses. A lover is a lover only in the act of loving as a writer is a writer to the extent he has written. An author, like every other individual, is a being inter related with his world and if he is to seek identity he must enter into meaningful relationship with the world of which his writings are the witness. Green D, Wyrick regarding Hemingway's search for values as the aim of life remarks. Throughout the work of Hemingway, there is an evident search toward a workable philosophy of life. Born in a materialistic and pragmatic world, his first reaction was one of the violent rebellion. He denounced his native land ..... in a continuous search for values that would make life a rewarding experience."<sup>1</sup>

The work of a creative artist is nothing but the projection of his personality into them. Acquaintance with certain facts of life of an artist is , therefore,

very necessary to understand and to appreciate the literary works. It becomes all the more important to know the circumstances and environment responsible for making up of Hemingway's mind. Rebert P weeks rightly remarks in this connection. "To an extra ordinary degree. Hemingway and what he has written exist in a synergetic relationships re enforcing and fulfilling each other, he has created a personal legend which reserves as an ambience in which we read him."<sup>2</sup>

Hemingway personally fought the battle of life on the real front of war. He sought to discover the mystery of life and death and also that of the world through self recognition and self discipline. War had a great impact on the psychology of the writer. Some critics under rating the impact of war held sociological and domestic factors responsible for making up the mind of the writer. The critics like T. Mccarthy, Maxwell, Geismer are included among those who undermine the impact of war on Hemingway's life and works. T. MC Carthy remarks. "Nothing in Hemingway first exposure to war embittered or disillusioned him. The terrible vision that come in the night during the first stage of recovery were, by the evidence of his short stories, sympathetic psychic trauma, visions of his mother's neurasthenic autocracy, her symbolic castration of her husband and her efforts to extend her dominion to the rebellious Ernest .....As his short stories would soon demonstrate for from operating as a catalyst of the horros of the war, the wound was linked to traumatic childhood moments out of which grew his hostile, contemptuous feelings for his parents and the kind of social life. The embodied."<sup>3</sup> Similarly Maxwell Geismar is of the opinion that "It is our belief, however that to remain content with the interpretation of Hemingway as the war- novelist is somewhat limited. We intend to show that in terms of his own personality. Hemingway's rebellion against society is more complex than this deeper and antecedent to the war itself, and that the sociological factors conditioning the rebellion are also more profound."<sup>4</sup> These critics seem to have failed to understand the writer in true perspective. They present only one sided picture of Hemingway as a man. The other school of the critics points out

that the horrors of war penetrated into his very nature, seriously affecting his psyche and coloured his writing. He was seriously injured in the first world war and was disillusioned and disenchanting. He lost faith in personal immortality. The grim sights of violence and death remained deep in his conscience. To quote Arther Waldhorn, what made his war experience invaluable was more than the splendid recording in a Farewell to Arms and several short stories of the social, emotional, ethical implications of war, it burned into his psyche a vision of man's fate that afterwards seared almost everything he wrote. The fragmenting trench mortar became a synecdoche for the destruction force of a violent world and Hemingway and his protagonists symbols of wounded mankind searching for some way to survive. He was already ready to translate that sense of life into literature."<sup>5</sup>

The fact in that life is a rich store-house of a number of experiences that a man gains. A writer's attitude is determined by the events which affect his conscience deeply. In fact, no single factor can be held responsible for making up of Hemingway's mind. The truth is that influence of war on Hemingway's life and work cannot be ignored. What happened to Hemingway is very clear. His vision of an ideal integrated womanhood and a perfectly balanced conjugal relationship seems to have suffered an early and enduring jolt. It is because of his mother's vindictive, rough and obstinate temperament, as is evident from his letter to his friend, A.E. Hotchner Don't disobey me, "She said,"Or you will regret in all your life as your father did"<sup>6</sup> Hemingway with broken heart left his parental house at an early age of twenty one. This breach with his family and emotional separation from his mother played such a vital role as to change his attitude towards women. He grew a little tired of them, but not to the extent of a misogynist. Bitter experience of early childhood at the hand of his mother whom he called "American bitch" made him react to those women who try to dominate male. His exile from home resulted in the association of the

feelings of hatred with the image of women in his mind. The discovery that indulgence in sex had a degrading effect on men which led to decay and ruin of his creative talents, added another dimension to this hate complex because it was again women who appeared to him to be responsible for this unmanly influence on him. Further he hated women all the more for their insistent and unstable lustful demands. All this conditioned his mind to the creation of two types of women characters in his fiction. One type comprises domineering, justful and ruinous women whom he contemptuously calls birches. He hated the women, who were spoiled, petulant, over dependent, over assertive, over intellectual....."<sup>7</sup> The other type of women comprises loving and self effecting girls and type of women that he yearns for an which he does not find in real life. But it does not mean that he was a misogynist. Actually he developed a feeling of hatred against certain types of women, prof. Carlos Baker calls Hemingway a man's man but he is more appropriately a woman's man he enjoyed the company of women, the more, the merrier, to them he was a hero, apart from his four wives, each one of whom he had passionately loved and doted on successfully he made a lasting friendship with many other women famous and obscure.

The two most famous women who occupied a special space in his affection were Mariene Pletrich and Ava Gardner both famous film stars of the past years, with Mariene Hemingway had a very special type of friendship, a sort of platonic love affair lasting his life time. Hemingway is irresistibly fascinated by such women, as Carlos Baker puts forward: "..... The women he preferred were not invariably beautiful or even pretty, but he admired those who were doers ..... He was especially conscious of women's hair. Its length, its texture, its arrangements, its care and treatment. He disliked the use of cold cream, anointments, salves, most perfumes, excessive make up girdles and false bosom builders. He admired courage and endurance in women....."<sup>8</sup>.

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## STUDY OF FOREIGN DIRECT INVESTMENT IN INDIA

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**Introduction:** Foreign Direct Investment is an important factor in globalization as it intensifies the interaction between states, reasons and firms. Growing International flows of portfolio and direct investment International trade, information and migration are all part of this process. The large increase in volume of FDI during the past three decades.

**Definition of FDI:** Generally FDI refers to capital flow from abroad that invest in production capacity of economy and are usually preferred over other forms of external finance because they are not debt creating non - volatile and their returns depend on the performance of projects financed by investors. FDI also facilitates international trade and transfer of knowledge, skill and technology. **Components of FDI:** The concept of FDI includes

- 1- Equity Capital- It consists the value of Multinational National Company's investment in shares of an enterprises in foreign country.
- 2- Reinvested Earnings- It consists the sum of direct investment share of earnings not distributed as a dividend.
- 3- Other Direct Investment Capital – They are also known as Inter - company debt transactions.

### Types of FDI:

- 1- Inward Foreign Direct Investment- this refers a long term capital inflow in the country other than aid, portfolio investment or a repayable debt.
- 2- Outward Foreign Direct Investment- this refers a long term capital outflow in the country other than aid, portfolio investment or a repayable debt.
- 3- Horizontal Foreign Direct Investment – This refers a Multi plant firm producing the same line of goods from plants located in different countries.
- 4- Vertical Foreign Direct Investment –

- 5- Greenfield Foreign Direct Investment -form of investment where the MNC's constructs a new facilities in host country.
- 6- Brownfield Foreign Direct Investment-It implies that a MNC's or an affiliate of the MNC merge with acquires an already existing firm in the host country resulting in a new MNC affiliate.

### Objectives of the study:

- 1- To study present scenario of FDI in India.
- 2- To study the pattern of Originating and destination country of Indian FDI flow.
- 3- To study the regional distribution of inward FDI in India.

### Research Methodology:

#### Data Collection –

Secondary data: Major components of situational analysis will include

- Collection and review of literature related to FDI in Maharashtra.
- Data related to background of FDI will be collect mostly from annual reports, previous study documents.

#### Scope of the study:

- By considering the geographical and economical factor Maharashtra state has been chosen for the study and the period of the study is financial year 2006-2015.
- This study is focused only on the progress of FDI in Maharashtra state and industry groups with their investment of FDI.

#### Limitations:

The Study suffers from the following limitations –

- i. The study is limited to the FDI in Maharashtra state only.
- ii. The study is limited only for the study period.

### FDI INFLOWS DATA

Table No. 1

Sr. No.	Year	FDI Flows into India		Amount of FDI Inflows		% age growth over previous year (in US\$ terms)
		Total FDI Flows	% age growth over previous year (in US\$ terms)	In Rs. (crores )	In US\$ million	
1	2005 - 06	8961	+ 48	24584	5540	72
2	2006 - 07	22826	+ 155	56390	12492	125
3	2007 - 08	34843	+ 53	98642	24575	97
4	2008 - 09	41887	+ 20	142829	31396	28
5	2009 – 10 (p)	37745	(-) 10	123120	25834	18
6	2010 -11 (p)	34847	(-) 08	97320	21383	17
7	2011-12 (p)	46556	+ 34	165146	35121	64
8	2012-13 (p)	34298	(-) 26	121907	22423	36
9	2013-14 (p)	36046	+ 5	147518	24299	8
10	2014-15 (p)	44887	+ 24	189107	30931	27

Source: RBIs' Bulletin, May 2015, dated 11.05.2015 Table No. 34 Foreign Investment Inflows

Statement on Top ten Country wise FDI Equity inflows  
From April 2006 – March 2015

Table No. 2

Sr. No.	Name of the Country	Amount of FDI Inflows		% age with Inflows
		In Rs. (crores )	In US\$ million	
1	Mauritius	425657.13	87554.99	35.23
2	Singapore	167157.07	32187.73	12.95
3	United Kingdom	109654.32	22210.3	8.94
4	Japan	936395.86	18352.28	7.38
5	Netherlands	77257.90	14671.10	5.9
6	U.S.A.	66879.76	13751.06	5.53
7	Cyprus	39363.34	8044.02	3.24
8	Germany	38509.42	7643.58	3.08
9	France	22587.77	4513.00	1.82
10	U. A. E.	15119.77	30444	1.23

Source : RBI Report.

#### Conclusions:

- 1- Share of Mauritius in FDI Equity Inflows is the highest that is 35 % of the total.
- 2- Amount of FDI Inflows increased from Rs. 24584 crores to 189107 crores.

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WOMAN SELFHOOD AND NATURE- A STUDY OF NINETEENTH CENTURY  
AMERICAN WOMEN WITH REFERENCE TO  
KATE CHOPIN'S *THE AWAKENING*

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*"The voice of the sea is seductive; never ceasing, whispering, clamouring, murmuring, inviting the soul to wander for a spell in abysses of solitude to lose in masses of inward contemplation.*

*The voice of the sea speaks to the soul. The touch of the sea is sensuous, enfolding the body in its soft, close embrace."*<sup>1</sup>

Nature appears as the best possible alternative to Edna Pontellier when she decides to break herself from all bondages and plunge in the "abysses of solitude" i.e. frees from all bondage and paradoxically feels a sense of awakening. Kate Chopin as a woman writer of the late nineteenth century America could express the isolation, solitude and suppressed selfhood of a woman in her writings and for the expression of the feminist impulse she takes recourse to nature. Many women writers in literary tradition had tried to express their forte through various generic modes and incentives but attempts have been made to offer critical perspective on Chopin's work in terms of its engagement with 'New Woman Fiction', romanticism and anticipation of feminism and transcendentalism. In this paper i would be engaging on a brief analysis of Chopin's vibrant and sophisticating engagement with the element of nature as reflected in her candid work, *The Awakening* where the protagonist Edna Pontellier as a woman constantly tries to re-assert her individuality losing her subjectivity in a world reigned by patriarchy. The manner Edna gradually redefines those set boundaries by opening herself and her consciousness is profound and as the novel progresses we encounter "her inward flame and outspoken revolt against the ways of Nature". Ann Hailmann in her essay entitled "*The Awakening* and New Woman Fiction" deals with this idea of how a

woman's desire for a "separate identity and bodily autonomy" was a sort of re-awakening of feminist impulse. And the case becomes more problematic in the context of a cosmopolitan urban woman of two children. It is not in the arena of a social awareness that Edna Pontellier is seeking her own self identity rather in taking recourse to nature's call.

Until the nineteenth century, women bound by patriarchy seldom got chance to accentuate their individuality and this universal phenomenon persisted even amongst the privileged section of American society where women were considered more as a valuable asset embodying all the fame, glory, beauty, purity of the family heirloom and pivoting the subservient roles of a wife and mother only in restricted terms. The sense of marginalisation in multiple terms completely jostles the consciousness of a woman and it is this profound 'lack' that is beautifully articulated by the narrator of *The Awakening*. The re-awakening of Edna Pontellier on real terms occurs not when she was confined with the dual responsibilities of a wife and motherhood but escapes from the pressures of real life to the calling of nature.

"Sea" in this particular novel appears constantly as an important metaphor of infinite expansion; and as a seductive entity enclosing Edna at the end. Her body and soul connotes the passage from social to natural to outstand the sense of despondency that she had been experiencing. Sea gives her a sense of fulfilment and a strong appeal to submit to its eternal contours when all her strength to sustain fails. Edna's perceptions, sensibility and apparent sensuousness gets derailed against the materialistic, broker Mr Pontellier and his constant reproaches and voice of regret and atonement. The conjugal and patriarchal eccentricity sternly guarded by her husband is shown by Chopin to be in complete contrast with Edna's sensible and feminine nature. Constantly buried in his own capitalist interests, we witness him from the

<sup>1</sup> Chopin, Kate. *The Awakening*. London: Harper Collins, 2011.

Print. Ch 6. 21-22

All the references from novel in this paper are from this edition.

beginning of the novel itself judging “his wife as one looks at a valuable piece of personal property which has suffered some damage” (pg 3). We get glimpse of Leonce’s monetary concerns and extravaganzas several times in Chopin’s narration, sense of ecstasy he gains “in walking around the house...pleasure from contemplating a painting, statuette, a rare lace curtain...” (78) desiring to maintain set standards. It is this desire to outstand in society and reserve his prestigious position even at the cost of Edna’s confronting dualities and despondency which is shown as an element of conflict. At the same time, her infatuation for Robert Lebrun and “his being, his existence dominating her thoughts” makes her a recluse. Robert, despite his iconoclastic lifestyle was well aware that he can’t match Edna’s recklessness; and ostensibly leaves for Mexico.

Initial responses to Chopin’s *Edna* was defined as “deliberate feminist fatalism of presenting the portrayal of Edna as the victim of oppression” while radicals acknowledged the protagonist “as a solitary, defiant soul standing against the limitations that both nature and society had placed upon her”. What was most reprehensible to its readers and unacceptable by critics was Edna’s suicide. The novel was severely condemned and critical reception henceforth has been varied and witnessed radical transformations. Chopin’s portrayal of a well to do woman like Edna experiencing and self questioning her righteousness was unheard of and this led to its negative reception.

We can assume the end of Edna as a nature’s call and restoration of her self-identity as a woman but merely judging the end as unconvincing would not be proper. The contemporary historical and social connotations are a strong factor that contributed to such a creation of literary text but we also do not get the hint of a psychoanalytical or naturalistic approach to the text as expected from a novel with woman’s awakened consciousness.

As a liberal and free thinker, our writer was perhaps only against the conventional norms and strategies that pose as a sort of untelling barrier to a woman and her identity. In Chapter 22, we witness this stirring of feminist impulse in Edna being provocatively remarked by her husband to the doctor in a conversation, “She’s got some sort of notion in her head concerning the eternal rights of women...” (103) And Mr. Pontellier never cares to restore the fragile relationship but constantly ponders over the effect it might create on his name. Edna’s adulterous affair and abandonment of her husband’s apartment to stay in ‘pigeon house’ alone were also not enough reasons to divert his attention from the financial integrities he prioritized above everything else. Surprisingly, from

alternative readings of this novel, we also do not get any glimpse of threatening environmental conditions conducive for the protagonist to rebel but entirely set on calm locations like New Orleans and partly in serene Grand Isle. Perhaps the novelist did not feel at ease to set her sensible heroine in a socially active location that might have reduced the desired space of solitude which was a necessary pre- condition for inward contemplation.

Irrespective of all these varied perceptions to the natural and social conditions around the writer and the protagonist’s world, what appears as considerable is the truthful projection of the complexities of thought in which a female mind is mostly indulged. And as a writer inspired by Naturalism and writing in a realist mode, Chopin still seems to discard the social and cultural transformations witnessed by Louisiana in America during 1890s.

Another crucial persona in the novel that awakens Edna’s lost soul is Mademoiselle Reisz, whose playing of the pianist instills a new light in her fading heart, and who helped her “to realize her position in the universe as a human being”. She prophesized that “the artist must possess the courageous soul that dares and defies” thereby encouraging her to defy while Adelle Ratignolle as a woman of completely different ideology urges Edna to comply and look after her children. Both Mademoiselle and Adelle Ratignolle, as two important poles in Edna’s life, seem to convey two different approaches to Edna’s predicament. Mademoiselle’s music unleashes the contours of Edna’s soul and propels her into action; while Ratignolle’s presence in the novel constantly shown as a pregnant woman sewing lends a shoulder to Edna’s solitariness and bestowed her with sisterly affection. She reprimanded Edna’s negligence towards her children herself being an embodiment of mother- woman. As both these women serve as role model, trying to instigate, interrogate and challenge her actions and inward contemplation, Edna as noticed in the later part of the novel decides not to lead a life of hostage any longer.

However, Edna’s act of giving herself unto the water leaves many questions unanswered. It withdraws the reader’s mind from the dual world of Edna who “apprehended instinctively the dual life- that outward life, which conforms, the inward life which questions.”

Edna can also be perceived symbolically, as a lost soul, retaining faint hopes throughout the novel to restore the restless, solitary and unbalanced life through Robert Lebrun’s return. However, we encounter Edna’s marital state and Robert’s willing surrender to his incapability as a prime factor for

termination of their relationship. Thus, the story evolves from a mere reflection of awakening of a woman's sensibilities to "a woman's quest for knowledge and fulfilment" and we get a reflection of the whole condition of woman in American society at Chopin's time; current critical approach attributes the narrator's vision to be far- ahead of the times when woman were not even completely aware of their right to certain privileges. Certain critics abide by the text's xenophobic and exclusive framework seeking to re-establish the author's idea of a social statement and as a ground-breaking novel that intimidates the feminist impulses. At the same time, considering the mode of representation that Chopin had adopted to circumvent on the interests of female self-hood we must also be cautious to its limitation as Edna Pontellier cannot be considered as representative of universal 'female awakening'. The narrator also seeks to remain indifferent to the kind of restrictions, financial and social constrains and oppression that a woman of upper class and background is not meant to suffer. Robert Treu in his analysis of *The Awakening* rightfully says that "Kate Chopin seems to have known there would be determined attempts to place a strictly ideological cast upon any resolution of Edna's predicament. By ending the novel at a moment of artistic opening rather than dialectic closure, she declines the privileged position of the author and allows the reader to contemplate possibilities rather than make final judgments...and doing she anticipates the change of attitude toward texts celebrated by Roland Barthes' idea of the death of the Author". Hence, we can presume the text to be selective in foregrounding a sense of awakening that slowly engulfs Edna who is unable to accept the angst and lack of freedom and immediately protest or emulate the privileges she had been enjoying. Ultimately she decide to surrender to the sea to silent the sense of despondency and as "a bird with a broken wing...beating in the air above" (182) she too walks out towards the sea. The wounded bird being symbolic of Edna's own wounded consciousness, we

find her shedding clothes and for the first time in her life standing "naked in the open air, at the mercy of the sun..." rejecting and repudiating all sorts of external conventionalities. She lets the water of the sea possess her body and soul instead of the people and the conventions.

The wide horizons and infinite expansion of sea gave Edna a sense of anonymity and realization of her essential solitary nature. She realizes she is not important to anybody thereby taking passage from the social to natural and it is this transitional shift in viewpoint that the novel shines as a unique masterpiece. *The Awakening*, as a novel with a different framework of woman's predicament and approach to life is canonical because of this questioning the newly evolving feminist impulse. In an interview with Ross Guberman, Julia Kristeva once also addressed the female experience varying as per geographical location. The American experience, politically speaking, has been to "establish the separation of the sexes: women are clearly set aside because of their 'difference,' but this difference is limited to sensibility or motherhood and does not strive for shared social participation". Thus, Kate Chopin's *The Awakening* is not a novel with pre-occupation of race, gender and class resurfacing in the contemporary period and henceforth, we need to acknowledge that all women are oppressed, does not mean to indicate they are oppressed in the same way.

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## EXPERIENCE AS A MEANS TO INNER AWAKENING IN ARUN JOSHI'S *THE FOREIGNER*

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**Abstract:** Arun Joshi is often seen as a novelist with existentialist philosophical propositions. One of the remarkable characteristics of Arun Joshi's philosophy is that he tries to connect western existential philosophy with ancient Indian spiritualism and philosophy. Hindu spiritualism is seen with a different perspective by Arun Joshi in the wake of existentialism. He finds spiritualism as the study of human psychology represented metaphorically through mythical characters for general welfare of common people. Seemingly meaninglessness of life can get the meaning through harsh experiences of life. The way to peace goes through traumatic sufferings. One can be attached to the world and detached from the world when one is able to understand one's inner soul. Arun Joshi tries to establish the notion of significance of life experiences to understand the life and meaning of life through his novels.

The present study intends to understand Joshi's philosophy in the *Foreigner* through the character of his protagonist, Sindi Oberoi.

Key Words: *existentialism, spiritualism, meaninglessness, inner awakening.*

*The Foreigner* enjoys a significant place in his literary contour because of its socio-cultural dimensions and moral preoccupations. It is a seminal novel having vast intercontinental area for its geographical expansion. It is an emotionally charged narrative account of the protagonist, Sindi Oberoi's search for identity. He is an existential everyman of our time. The novel takes us to the hidden depth of human internal suffering and the inferno of existential agony. It is about his loneliness and the feelings of anguish in the wake of his estrangements from his environment, tradition and from his true self. It is about the problem of involvement and detachment, it is also problem of his identity and the lack of courage to face the hazards and the realities of life. The novel is about the lack of commitment and ability to accept the responsibility of one's action. It is the portrayal of the suffering of an individual who is cut off from his financial, social and cultural ties and is lost in the intricate labyrinth of life. *The Foreigner*, according to Singh "is the product of crossroads of the East and the West" (89).

The story of the novel describes Sindi's sense of metaphysical anguish at the meaninglessness of life and his search for meaning. The novel is the dimension of an authentic record of the extrinsic and intricacies of the human existence generated by a deep-rooted quest for self-knowledge. Sindi is a character, who is in search of identity. He is rootless, restless and luckless in a mad, bad and absurd world. He is an up-rooted hero who is away from his home grounds and regards his past as absolutely meaningless. For him life has no hopes in the future and he feels that it will be as bleak as the past.

Sindi is a typical Sartrean hero, the hunted anguished creature of Sartre who is absolutely free and alone, creating himself a personal way of life out of the void of nothingness all around him. He has some similarity with Scovie, the Police Commissioner of Gold Coast in Graham Greene's *The Heart of Matter*. Also he resembles Roquentin, Sartre's hero of *Nausea* who reflects the absurdity of life. Sindi's journey from West to East symbolizes his spiritual quest as well as his search for meaning. Like Meursault of Albert Camus' *The Outsider* Sindi believes that there is no end to suffering, no end to the struggle between good and evil. He feels that life is purposeless. He is in the predicament of outsider. Like Meursault he is devoid of emotion having no respect for society or religion. Unlike many existential characters in the West, he shows a tremendous capacity for transcendence. He comes out of the impasse after intense suffering and anguished soul-searching. His life is a saga of rootlessness, geographical as well as emotional and of his search for an anchor in a parentless world.

Sindi is presented as a confused man, a product of diverse culture. His mixed parental blood and up-bringing in an alien country instills in him a sense of rootlessness. Devoid of a spiritual and cultural anchorage and being brought up in a loveless world, he harbors in him a deep sense of insecurity and unreality. He is overwhelmed by a nagging sense of loneliness and the chaos of being. His dissatisfaction with the mechanical apparatus of life leads him to

search for meaning in life. His personality makes him something like an existential being, alienated from the superficial reality of life. He is tossed up in his life of indecision and rootlessness. As Prufrock is archetypal everyman, the creation of Sindi is an evidence of Arun Joshi's contemporary sensibility etching out the inner wasteland of the archetypal modern everyman.

*The Foreigner* presents how Sindi an immigrant Indian suffers towards the discovery of meaning and purpose of life. His alienation from the world seems to be similar to the one that many existentialist heroes in the West suffer from. To Sindi life is absurd as it holds no meaning and purpose for him. It is a reflection of the failure of his individual perception, his inability to see the reality in its proper perspective. The absurdity of his life and sense of alienation do not result from any metaphysical loops of established order or a shock to the traditional mode of thinking, but from his ignorance, illusion, failure to adjust his emotional difficulties as well as his lack of proper adjustment of conduct. Life becomes a devitalized affair for him and he wanders aimlessly through the mazes of his existence to find peace identity and purpose. His is a journey without maps along the roads of life, it endless labyrinthine ways. His search for meaning and purpose of life doesn't end in a miasma of despair.

The novel records Sindi's movement from illusion to reality, from darkness to light and from death's twilight kingdom to the new shores of life. It describes his experience as a student of mechanical engineering in the American university at Boston and later as an employee in the firm of Mr. Khemka, a wealthy industrialist in Delhi. He presents himself as an uprooted young man living in the latter half of the twentieth century who is in the search of meaning, purpose of his life. It seems to be a step in the right direction. He is an Indian by origin, born to an English mother and Kenyan-Indian father, and educated in London and America. He seems to be a foreigner to the world wherever he goes and at times even he becomes a stranger to himself. He thinks that somebody has begotten him without a purpose and so far he had lived without a purpose. He thinks that he has existed only for dying; he has wasted twenty-five years in search of the wrong things. He considers life just meaningless and useless so he tries to commit suicide. Hari Mohan Prasad rightly remarks, "His life in Kenya, London or Boston and the varied experiences he undergoes illustrate his predicament of anomie and its further deepening into ontological uncertainty" (1).

The loss of personal history, culture and national identity catapults him, as it were into the role of a detached observer or narrator of the whole drama of existence. The death of his parents, his past experience of the loneliness in his life makes him totally pessimistic and lost. He is unable to find out his roots anywhere in the world. The problem he faces is that of finding a meaning in the absurdity around him. He thinks that man is merely a toy, a puppet in the hands of time, and life is full of agony and pain, he lives helplessly, nothing is in his hand, everything is imposed on him and he has to wait till the time decides the future. To him life is a mocking zero, a labyrinth and becomes conscious of life's hollowness or vagueness.

The death of Babu and June brings realization in Sindi. He comes to know that suffering is inescapable or inevitable. In the frustrated mood he comes to India and accepts a job as a personal assistant of Mr. Khemka. There he observes Mr. Khemka's epicurean and materialistic world as well as the exploitation of the poor workers. He gets an opportunity to practice what he has learnt out of his long quest-action without detachment. He offers to do something meaningful. It is a step in the right direction. His sympathies with the poor workers are a result of his realization of the poor worker's life. He is fed-up of their exploitation by Mr. Khemka. After an income tax raid Mr. Khemka tries to influence him which shocks him very much and he resolves to move away. Muthu requests him to take over the charge of office and to save the poor workers from the starvation. He observes the heroic struggle of Muthu to provide food to his and his brother's family. This act reveals in Sindi the real meaning of life and he cancels his decision and resolves to work for the poor workers. He plunges into the battle of survival which the factory workers could not have won without his help, co-operation and guidance. He surrenders to the cause of poor workers; he calls himself 'Surrender Oberoi'.

The novel ends with Sindi's concentrating on a decisive action. This is the result of his getting meaning. He turns to his duty not with a selfish mind but with the self-knowledge. His illusions are shattered, his doubts are cleared. He commits himself whole heartedly to a cause. For the first time he is doing something selflessly, something in which he is not interested personally. He feels a new strength to go through with difficult task ahead. The strength comes from within, from Sindi's readiness to rise above him for the sake of other. He had surrendered his will to the will of God and learnt to work for the larger interest of the people.

*The Foreigner* records the spiritual odyssey of a confused individual from a withdrawal from life to a return to life made possible only by his search for meaning. So long as Sindi is lost in ignorance and besieged by doubt and cowardice, he could not see him in his inner mirror and consequently, suffers from a sense of alienation from his true self. He could not come to grips with the world. But with the fuller perception of the self and the world that comes in the wake of Babu and June's death, he feels reintegrated and achieves a new kind of relatedness to the world. His earlier delusions are destroyed and he finds his identity in spontaneity of love and unselfish act. Bhatnagar quotes, "What happened to him as an individual did not matter now. It only mattered what happened to his people" (37).

The withdrawal from the world is only a part of his quest. It is followed by return. It is like a conversation a new way of living, a matter of becoming a new man. This revelation of the value of living as against Sindi's initial obsession with sickness, morbidity and death comes with the stock of conversation. This new orientation to the value of life is something achieved by him through desperate struggle and intense suffering while seeking meaning. The basis of this transformation is his companionship with the suffering mass of humanity and his willingness exits as a conscious, responsibility of his identity. Dwivedi, comments, "Mr. Sindi Oberoi, a man totally alienated from his surroundings and society and even from his love, turns out to be the savior of the factory- workers" (55).

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The protagonists in Arun Joshi's novels are bound to face multiple problems with varied colours and different shades. Question of life, existence, involvement and detachment perpetually provide Sindi with self-torment. His efforts and struggle are suggestive of the existential quest which modern society presents us with because of its pretentious sophisticated, barren and peace crushing nature, imposing a heap of problems about one's identity and existence. The futility of Sindi's efforts is foregrounded when he endeavors to find meaning in the absurdity of life. This is the gift of post-modern world of uncertainties that has imposed a heap of diverse problems onto an individual pertaining to identity and existence.

The meaning of human existence is to be found in the existence itself. There is no other way to find it. Sindi finally realizes that life becomes meaningful when understood it from within. He understands that life has a meaning only when he understands the purpose of his life which he identifies with the lives of hundreds of poor factory workers and decides to work for them without caring for anything else. Sindi's ultimate understanding of life is not the result of some divine experience but of his traumatic experiences he goes through for a long time since his stay in America and in India as well. His inner awakening is the result of all the experiences he goes through in his life.

## THE ECONOMIST R. C. DUTT: A GREAT TRANSLATOR OF HINDU EPICS & LITERARY WORKS

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### Introduction

Fortunate as he was in the time of his birth in the year 1848, when Bengal was showing signs of spiritual and intellectual awakening after the torpor that had settled over the whole country during the 19<sup>th</sup> century, Romesh Chunder Dutt-poet, historian, scholar and patriot-nevertheless worked above all things to revive the national pride and interest in India's artistic and literary past.

The R. C. Dutt family of Bengal was well known for the interest it displayed in the more serious aspects of life, and Romesh Chunder the second son of Isan Chunder, a Deputy Collector, inherited from his father not only his love for rural life in Bengal, but his interest in poetry and education as well. But when he was scarcely thirteen years old his father was drowned. The care of young Romesh and his brother devolved on their uncle, Soshee Chunder Dutt, a scholar and an author. It was his unswerving independence and strength of characters that exercised a far-reaching influence on the thoughts of his nephew.

### Ran Away From Home

Social reforms were in the air, educational institutions on Western lines had sprung up all over the town of Calcutta. It was natural, therefore, that a bright man like R. C. Dutt should aspire to pass into the Indian Civil Service which had just been thrown open to all Indians in 1868 he run away from home and sailed for England in the company of his two friends, Surendranath Banerjea, the future Indian nationalist leader, and Bhari Lal Gupta, "Staking" in his own words 'his future, staking all on success in an undertaking which past experience had proved to be more than difficult.'

During the probationary period, after passing the competitive ICS Examination, R. C. Dutt travelled around the continent and took an appreciative measure of social and political problems in England, but then as ever his main interest lay in India and "in its ancient and noble civilization," although of course

he admitted that she had much to learn from modern civilization, and he seemed to have a prophetic vision of her "future advancement when she would take her place among the nations of the world."

During the next sixteen years (1881-1897) R. C. Dutt made his mark as a distinguished public worker, first in his capacity as Junior Officer in the Indian Civil Service in Bengal and subsequently as District Officer of such turbulent districts as Backerganj. Mymensing where the Ilbert Bill agitation had embittered public feeling a great deal, and finally as Commissioner and political Agent of Orissa. He was the first Indian to hold these posts in the British service and his judicious administration amply proved the fitness of Indians to do so. He did a great deal for the Indian peasant and by his wise suggestions paved the way towards the Bengal Tenancy Act of 1885.

### His First Love

But an official career had always been his second love only, "other ambitions literary and national, had always exercised far stronger attraction for him," and he retired from the Indian Civil Service in 1897. The next seven years of his life he spent in England, pursuing these aims, and trying to win the support of influential persons in favour of Indian Political advancement. His return found him serving as Dewan of Baroda State. In 1899, too he had presided over the 15<sup>th</sup> session of the Indian National Congress. Whilst in 1907 he was the only Indian member to be appointed to serve on the Royal Commission. His health had been manifold activities, and he died on November 30<sup>th</sup> 1909 surrounded by his family.

### His Literary Works and Contribution

In spite of active administrative and political activities, R.C. Dutt established a reputation as a litterateur, economic historian and polemist. His works can be classified under four headings – travelogue, literature, social and economic history. The first, travelogue and published work of R.C. Dutt are "Three Years in Europe," (1872), in which he

describes the socio-political fervour of the continent. As a traveller (Europe from 1869 to 1872), his predominating idea was the study of the existing political and social institutions of the most advanced nations of the world but his scholarly mind revelled not less fondly in the breath and memory of great historical scenes and episodes of the past. Of contemporary criticisms and quote the opinion of the Friend of India, of 11th July, 1872, "These notes are marked by English thought, a through appreciation of English literature, knowledge of English history, and sympathy with English civilization."

R.C. Dutt's first characteristic work was "The Peasantry of Bengal" which came out in 1875. In fact it is one of the first serious contributions from the pen of a native of India to the discussion of economic and agrarian problems of the country. Several of the articles opinion and criticism of the work appeared in the Bengal Magazine, Hindu Patriot, The Examiner of the 25th September, 1875 had critique on the book, "So completely indeed, has R.C. Dutt mastered his Queen's English, that one cannot help wondering what new developments our language may undergo when it has spread more widely in India, and become the chief medium of expression for the subtle activity of the Hindu brain - the organ of new veins of humour, fancy, imagination, and eloquence.

R.C. Dutt is perhaps the most notable performance of the little book on the "Literature of Bengal" in 1877. R. C. Dutt in English during the period of his apprenticeship, and to trace as far a possible the history of the people, as reflected in the literature of Bengal. Sir, William Hunter freely from it in his standard on the "Indian Empire" and Englishman and Times the publication of this book a very appreciative in the columns, "R. C. Dutt springs himself from a distinguished literary family, and he has well maintained its reputation both in prose and verse." R.C. Dutt translated historical novels originally written in Bengali. They were "Benga Bijeta" (Conqueror of Bengal) and "Madhavi Kankan" (Bracelet of flowers) in 1879, related to Akbar's conquest of Bengal, and, Noren and Surendra Nath, two scions of noble families in Bengal. Of great beauty and wide human interest is also the scene in the "Madhavi Kankan" afterwards translated by him into English as "The Slave Girl of Agra", where Noren meets the woman he has loved all his life. "Maharashtra Jiban Prabhat/Sandhya" (The Evening of Maharashtrian Life) in 1879, depicts the rise of the Mahratta power under Shivaji, unquestionably the greatest military genius that India has produced within historical times. "Rajput Jivan Prabhat/Sandhya" (The Evening of Rajput Life) in

1879. In this context, the Hindu Patriot of the 11th August 1879, comments that R.C. Dutt is an English writer of no ordinary merit, but because he visited England he does not consider it a disgrace to cultivate his mother tongue. The Scotsman of the 3rd May 1879, "the great Akbar (Mr. Dutt) was building up a rich and prosperous empire in the East." The Liverpool Daily Post and Western Morning (News Plymouth), says, "It is only as we have sympathy with India that we can hope to keep her love and loyalty."

Here, as in his historical social novels, R.C. Dutt was writing with a distinctly national object, two social novels, "Sansar" (World) and its sequel "Samaj" in 1873, was translated into English as "The Lake of Palms". The two together present an admirable picture of the everyday life of present day Bengal. As the extracts show by the English Press, Spectator (17 May 1902) Pall Mall Gazette (13 May 1902) and Dundee Advertiser (4 April 1902). A social novel in Bengali styled Sansar and the Bengali translation of "Rig Veda" were the fruits of his literary labours after he went on furlough in 1885. The translation of the Rig Veda belongs to an entirely different sphere of his literary activity. Mr. Natesan writes in the short biography of R.C. Dutt, from which he has already quoted: Bengal had seldom witnessed such a violent literary controversy since the days when the venerable Vidyasagar had stood up for the marriage of Hindu widows and abolition of polygamy. The Bengalee of the 12th March 1887 from the verses of the "Rig Veda." The Rishis of the "Rig Veda" in their last slokas enjoin upon the priests and upon the worshipers perfect unity of heart, soul, and spirit.

Translation of classics in English verse - The "Lays of Ancient India" composed chiefly during R.C. Dutt furlough in 1893, appeared in 1894. The Times observed: R.C. Dutt's graceful translations prove their author to possess no small skill at metrical English composition. The Statesman observed: R.C. Dutt motive, his sound learning and his poetical skill, strong exception must be taken to the title he has given to his volume. "Lays of Ancient India" is obviously suggested by Macaulay's "Lays of Ancient Rome".

It was during the years 1888-90, when Mr. R.C. Dutt was in charge of the heavy and responsible district of Mymensingh, that he undertook and completed the gigantic task of writing a "History of Civilization in Ancient India" in 1893. This was perhaps the most ambitious effort of his life, and it is the one English work along with his translations of the Epics. Dr. Kern recommends R.C. Dutt's book "to

those who, having made no particular study of Ancient India, nevertheless desire to obtain an insight, not altogether superficial, into the general development of the civilization of India. Max Muller, in acknowledging the books, said, "I have read both the volumes with great pleasure they exhibit the history of the Indian mind in a delightful panorama passing before our eyes. Dr. Winternitz, published a review in Trubner's Record, And though the author professes to write for the general reader only without any intention to make any new discoveries. Several opinions of the press Gottinger Anzeiger Athenaeum, The Glasgow Herald, Morning Post Hindu and Hindoo Patriot Statesman, and Prof. Buhler of the oriental Institute Vienna; Prof. J. Jolly of Wurzburg, Prof. A. Waber, of Berlin; Dr. Grierson, and other etc.

### **Translations of Hindu Epics: Mahabharata & Ramayana**

Literature was indeed to R.C. Dutt a means for revivifying the national mind of India and restoring to her sons their lost faith in her past: "and there could be no better and more poetic introduction in the English language to what is something truly national than his condensed translation of the great Indian epics the "Mahabharata" (1898) and the "Ramayana" (1899) - "the Iliad and the Odyssey of India." Which present as perhaps in R. C. Dutt's words, with the most life-like picture of the civilization and culture of ancient India?"

In 4000 couplets, presenting the main incidents of the epic, linked of course by short notes we have that great historical war between the five Pandavas and the hundred Kauravas that enveloped all the races of Northern India. The book opens with the great tourney between Arjun, the bravest of the Pandavas and Karna the peerless are her brought forward by the Kauravas. Side by side with the shouts of joy people uttered as by some sudden is pulse." We have, of course, the pathetic wait of the blind old monarch Dhritarashtra.

*"Sightless roll these orbs of visions, dark to me is the world of light,*

*Happier men will mark the tourney and the peerless princes' fight."*

Then we have the gorgeous bridal of Draupadi, the princess of Panchala. Who chooses the disguised Arjun as her husband from among the kings and warriors assembled in her Father's court?

*"And her golden bridal garland cast on her graceful arm softly sweetly, stepped Draupadi"*

And the equally gorgeous crowning of Yudishtir, the eldest Pandava. But, alas, Yudishtir has the fatal weakness of gambling and as he stakes and loses his kingdom to his cousin and rival Duryodhan his brothers are all silent. It is Draupadi, who with anger within her bosom and tears in her eyes lashes them to action.

*"Wherefore are you mute and voiceless councillors of mighty fame."*

Duryodhan are replies with great determination to Krishna who appeals to him her to fight, in the heated debated in the council; "Town nor village apart nor hamlet, help up righteous Gods in heaven. Spot that needles' point can cover shall not unto them be given."

Each scene of the war of 18 days stands out by itself-the death of pointed thorns, the vow of vengeance taken by Arjun, the final contest between Arjun and Karna, the heroes of the epic and the fall of Karna. Midnight closes in around, bringing in its train the slaughter of Duryodhan and the lament of his noble, widow, 'queenly in her youth,' and the Mahabharata of R. C. Dutt comes to a close with Yudishtir's triumph, the Horse sacrifice and the final injunction.

*"Let thy strength by kindly acts, gentle speech be shown to sons of men."*

But as R. C. Dutt himself said: -"As a heroic poem the Mahabharata stands on a higher levels as a poem depicting the softer emotions of our everyday life the Ramayana, which grew out of the recollections of the golden age of the Kosalas and the Videyas, sends its roots deeper into the hearts and minds of the million in India. It embodies the domestic and religious life of ancient India with all its tenderness and sweetness, its endurance and devotion."

The bridal of Sita, the daughter of the King of Vidheya to the ideal prince Ram the brave and accomplished son of the King of Kosala is common place indeed, compared to the bustle and tumult of the bridal of Draupadi. But the next scene of the epic which narrates the dark scheme by which the prince was at last torn from the heart and home of his dying father is pathetic indeed. The old nurse's dark insinuating work on the mind of the stepmother, 'like a slow but deadly poison worked the ancient nurse's tears and a wife's undying impulse mingled with a mother's tears" (for her son Bharat).

### **Fourteen Years Exile**

Ram is banished through her influence but the father dies in agony for his son accepting his suffering as fruit of his past misdeeds. 'Deeds we do in life, Kausalya, are they bitter, are they sweet bringing their fruit and retribution, rich reward or suffering meet. Then follows the 14 years of exile for Ram and the many trials that are a part of a Hindu's ideal of a man's life. Sita, too, with her womanly faith that has fascinated the Hindu world follows him:-

*"For my mother often taught me and my father often spake  
That her home the wedded woman doth beside her husband make  
As the shadow to the substance to her lord is faithful wife  
And she parts not from her consort till she parts with fleeting life"*

### Ram-Ravan Yudha

Stirring incidents follows:-Ravan king of Ceylon, thirsting for vengeance, for a pretended slight to his sister, carries off the unprotected Sita. And Ram has to cross over with his army to Ceylon. All the day the battle lasted till at last the fatal weapon.

*"Pierced the iron heart of Ravan lain the lifeless hero low,  
...Voice of blessing from the bright sky fell on Raghu's valiant son.  
'Champion of the true and righteous, now thy noble task is done' "*

And the epic exults with Rama's happy return to Ayodhya and his consecration. 'And the nation lived rejoicing in the old ancestral toil.' Not only did Dutt make the poet himself tell the story but he wisely chose the Locksley Hall metre for his couplets of rhymed English verse. Suffused with a colouring of the imagination in this description.

*"Mark the rain and tempest, Rama to his brother  
said*

*Lurid lightings glint and sparkle, pealing thunders  
shake and sky"*

Simile after simile follows as to the Mahabharata, the poet describes the pathos of Abhimanyu's death.

*"Like a mountain shaking tempest,  
Spent in force and hushed and still  
Like the red resplendent day God  
Setting on the Western Hill,  
Lifeless slumbered Abhimanyu when  
The softened starlit fell."*

The ancient epics live indeed in the language of Shakespeare!

### Translations from Ancient Poetry

The scholarship and good taste too of the poet may be seen in that carefully prepared book of translations from the entire range of ancient Indian Poetry. "The lays of ancient India"! The freshness and simplicity

of the Vedic hymns to India, the rain giver to Varuna the god of righteousness and mournful song to the dead:

*"Haste thee on thy unseen wings.  
Flee to your great king;  
Meet our fathers who have gone  
Keep the virtues you have won."*

Offer a direct contrast to the lofty thought of the Upanishads.

*"This universe is Brahma's self  
A part of Him these creatures c  
In Him their Birth they live in Him,  
And unto Him Thy end withal"*

In this bird's eye view of Indian poetry we have too stirring passages from the Buddhist Scriptures and from the Edicts of Asoka and finally from the incomparably rich later Sanskrit poetry shown at the best in the great Kalidas's poems.

But if each special period of poetry had its distinctive features so did the civilized life of each age and R.C. Dutt's 'History of civilization in ancient India' was the first attempt in the English language to give a clear and connected estimate of the origin, growth and philosophy. As the author says himself in one of his chapters on the robust civilization of Vedic age. 'I feel warm appreciation for the manly freedom of ancient Hindu civilization and life', and in his description of later ages he does not hesitate to point out "how much is lacking in all that is healthy free, unrestricted in ancient Hindu institutions and social rulers." He pleads to Indians to turn "towards that unpolluted stream of religion and knowledge which was the glory of their ancestors.'

Lastly, in the year 1894, Rajya Binay Krishna of Sobhabazar wrote to Mr. R.C. Dutt, and requested him to become the president of the Bangya Sahitya Parishad, the Academy of Bengali Literature, an offer which he gladly accept. He soon infused new life and vigour into this assembly and much useful work was done under his guidance. The society has since published many old works and collected numerous valuable manuscripts. The well-known poet Babu Rabindra Chandra Sen was the first vice-president, and Babu Rabindra Nath Tagor, the foremost literary man of Bengal of the present day, was the second vice-president. Most of the leading men of Bengal soon joined the society. R.C. Dutt was made an Honorary Life Member in 1898. The society still continues to be the only important literary society in Bengal.

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## COMPARATIVE ANALYSIS OF HYDROLOGICAL PARAMETERS: A FLUID MECHANICS AND ENVIRONMENTAL PHYSICS APPROACH

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### Abstract

Water movement within the Earth system is governed by complex interactions between physical laws and environmental conditions. The present study focuses on a comparative analysis of key hydrological parameters—precipitation, runoff, infiltration, and evapotranspiration—through the integrated perspectives of fluid mechanics and environmental physics. These parameters are examined as interrelated components of the hydrological cycle rather than as independent processes. The study adopts a hypothesis-driven analytical approach based on representative data derived from established hydrological patterns. Variations in the selected parameters are examined under different environmental conditions to understand their behavior and interdependence. The analysis supports the research hypotheses that hydrological parameters exhibit significant variation, are strongly influenced by fluid mechanics principles, and are affected by environmental factors such as temperature and energy exchange. The findings highlight that precipitation acts as the primary input, while runoff and infiltration govern water distribution, and evapotranspiration regulates water loss from the system. The study concludes that an integrated and comparative approach provides a more comprehensive understanding of hydrological processes and is essential for effective water resource management and environmental sustainability.

**Keywords:** Hydrology; Fluid Mechanics; Environmental Physics; Runoff; Infiltration; Evapotranspiration

### 1. Introduction

Water is essential for sustaining life and maintaining ecological balance. Its continuous movement across the Earth's surface and subsurface forms the basis of hydrological processes. These processes are influenced by a complex interaction of climatic,

geological, and physical factors, making hydrology a vital area of scientific study (Bonan).

In recent years, increasing demand for water resources, coupled with climate variability and land-use changes, has intensified the need for a deeper understanding of hydrological systems. Parameters such as precipitation, runoff, infiltration, and evapotranspiration play a crucial role in determining water availability and distribution (Blöschl & Montanari, 2010). Fluid mechanics provides the theoretical basis for understanding the movement of water in natural systems. It explains how water flows over surfaces, through channels, and within porous media under the influence of forces such as gravity and pressure gradients (Beven, 2012). On the other hand, environmental physics focuses on energy exchanges, including heat transfer and phase changes, which directly influence processes such as evaporation and transpiration (Shuttleworth, 2012).

Despite extensive research, many studies focus on individual hydrological parameters rather than analyzing their comparative behavior within an integrated framework. This creates a gap in understanding how these parameters interact under varying environmental conditions. The present study addresses this gap by examining hydrological parameters through a combined fluid mechanics and environmental physics approach.

The objectives of this paper are:

- To analyze major hydrological parameters: precipitation, runoff, infiltration, and evapotranspiration
- To compare their variation under different environmental conditions
- To examine the role of fluid mechanics in water movement
- To understand the influence of environmental physics on hydrological processes

- To develop an integrated perspective of hydrological behavior

### Hypotheses of the Study

#### Hypotheses (H<sub>1</sub>)

The study is guided by the following research hypotheses:

- **H<sub>11</sub>:** Significant differences exist among hydrological parameters under varying environmental conditions
- **H<sub>12</sub>:** Fluid mechanics principles significantly influence hydrological behavior
- **H<sub>13</sub>:** Environmental factors significantly affect hydrological processes

#### Review of Literature

Hydrological research consistently emphasizes the dynamic and interconnected nature of water systems, highlighting their strong dependence on climatic and physical conditions. Studies on the global water cycle demonstrate that components such as precipitation, runoff, infiltration, and evapotranspiration function as an integrated system rather than isolated processes (Oki & Kanae, 2006). This perspective underscores the need to examine hydrological parameters within a holistic framework.

A significant body of research has focused on rainfall–runoff modeling to understand the transformation of precipitation into surface flow. These studies highlight the critical role of catchment characteristics, land surface conditions, and flow dynamics in determining runoff patterns. The underlying processes are largely governed by principles of fluid mechanics, which explain the movement of water under varying physical conditions (Beven, 2012).

Hydrometeorological studies further extend this understanding by examining energy exchange processes within the Earth–atmosphere system. Evapotranspiration, as a key component, is influenced by temperature, solar radiation, and atmospheric conditions. Such processes reflect the application of environmental physics in explaining water loss and energy-driven transformations within the hydrological cycle (Shuttleworth, 2012). In recent years, the use of remote sensing and Geographic Information Systems (GIS) has enhanced the estimation and monitoring of hydrological parameters, particularly at regional and watershed levels. These technological approaches enable more accurate assessment of spatial and temporal variations in hydrological behavior. Despite these advancements, much of the existing literature tends to examine individual hydrological parameters

independently. There remains a limited focus on their comparative behavior within an integrated framework that combines hydrology, fluid mechanics, and environmental physics. This gap highlights the need for studies that adopt a comprehensive approach to understanding the interdependence and variability of hydrological processes.

#### Theoretical Framework

The present study is grounded in an integrated framework that combines principles of hydrology, fluid mechanics, and environmental physics. This approach allows for a comprehensive understanding of both the movement of water and the energy interactions that influence hydrological processes.

The hydrological cycle forms the conceptual basis of the study, representing the continuous circulation of water between the Earth's surface and the atmosphere. It includes key processes such as precipitation, runoff, infiltration, and evapotranspiration, all of which are interdependent and influenced by climatic variability (Oki & Kanae, 2006). Precipitation acts as the primary input, while runoff and infiltration determine how water is distributed across and beneath the land surface. Evapotranspiration returns water to the atmosphere, thereby maintaining the dynamic equilibrium of the system. Fluid mechanics provides the physical explanation for the movement of water within this cycle. The behavior of water, whether flowing over land surfaces or through soil, is governed by principles such as continuity, pressure gradients, and resistance (Beven, 2012). Surface runoff is influenced by slope and flow velocity, while infiltration is controlled by soil permeability and hydraulic conductivity. These principles help in understanding how water responds to varying physical conditions.

Environmental physics complements this understanding by focusing on the role of energy in hydrological processes. Factors such as temperature, solar radiation, and atmospheric conditions significantly influence evaporation and transpiration (Shuttleworth, 2012). The exchange of heat and moisture between the land surface and the atmosphere determines evapotranspiration rates, which in turn affect soil moisture and overall water availability. By integrating these perspectives, the study moves beyond a fragmented view of hydrological parameters and instead adopts a holistic approach. Hydrology explains the pathways of water movement, fluid mechanics describes the governing physical laws, and environmental physics accounts for energy-driven transformations. Together, they provide a unified framework for analyzing the variability and interdependence of hydrological parameters.

**Methodology**

The present study adopts a comparative and analytical approach to examine the behavior of key hydrological parameters under varying environmental conditions. The methodology is primarily theoretical in nature and is supported by secondary data and established scientific principles. The study is designed as a hypothesis-driven analysis, focusing on the interrelationship among precipitation, runoff, infiltration, and evapotranspiration. Instead of treating these parameters independently, the approach emphasizes their comparative behavior within a unified framework. Data used in the study are derived from standard hydrological literature, research articles, and institutional reports. These sources provide a reliable basis for understanding typical variations in hydrological parameters across different environmental conditions. The dataset constructed for analysis represents generalized conditions such as variations in rainfall intensity, temperature, and soil saturation. The dataset used in the study is representative in nature and constructed based on established hydrological trends reported in literature. The analytical procedure involves comparing the selected parameters across these varying conditions to identify patterns, differences, and interdependencies. The interpretation is guided by fundamental principles of fluid mechanics, including flow behavior and permeability, as well as environmental physics concepts related to energy exchange and temperature influence.

**Hydrological Parameters**

The analysis in the present study is based on four key hydrological parameters that represent the major components of the hydrological cycle. These parameters are selected due to their fundamental role in controlling water distribution and movement within natural systems.

**Precipitation** is the primary input of water into the hydrological system. It occurs in various forms such as rainfall and snowfall and determines the overall availability of water in a given region. Variations in precipitation directly influence other hydrological processes and act as the driving force of the cycle (Oki & Kanae, 2006).

**Runoff** refers to the portion of precipitation that flows over the land surface towards streams and rivers. It is influenced by factors such as rainfall intensity, land slope, soil saturation, and vegetation cover. Runoff plays a significant role in flood generation and surface water availability (Beven, 2012).

**Infiltration** is the process by which water enters the soil surface and moves downward. It depends largely

on soil properties such as texture, structure, and permeability. Higher infiltration rates contribute to groundwater recharge, whereas lower rates result in increased surface runoff.

**Evapotranspiration** is the combined process of evaporation from land and water surfaces and transpiration from plants. It represents a major pathway of water loss from the hydrological system and is strongly influenced by temperature, solar radiation, and atmospheric conditions (Shuttleworth, 2012).

Together, these parameters provide a comprehensive basis for analyzing the movement, distribution, and transformation of water within the environment. Their comparative evaluation helps in understanding the dynamic nature of hydrological systems.

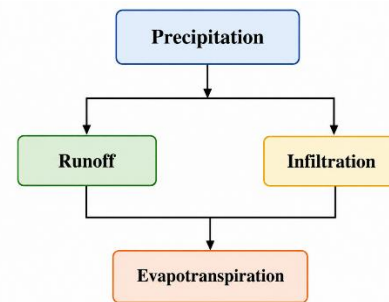


Figure 1: Hydrological Parameters

**Data Analysis and Interpretation**

The analysis of hydrological parameters is carried out using the constructed dataset under varying environmental conditions. The interpretation is presented hypothesis-wise to examine the validity of the proposed assumptions.

**Research Hypothesis H<sub>11</sub>**

**H<sub>11</sub>:** Significant differences exist among hydrological parameters under varying environmental conditions.

**Table 1: Variation of Parameters under Different Conditions**

Condition	Precipitation (mm)	Runoff (mm)	Infiltration (mm)	Evapotranspiration (mm)
C1	50	10	25	15
C2	100	35	40	25
C3	200	90	60	50
C4	120	30	35	55
C5	150	80	30	40

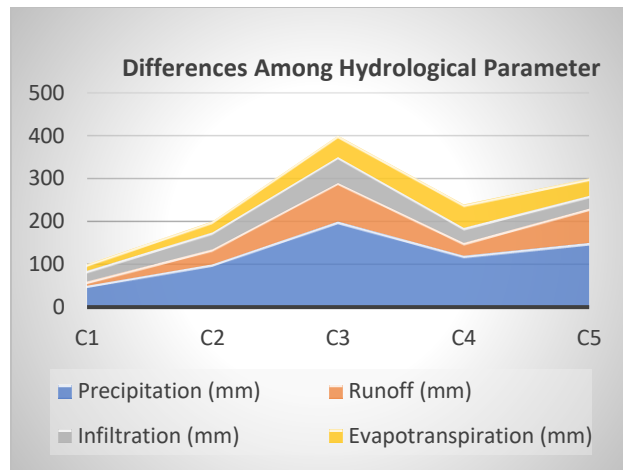


Figure 2: differences exist among hydrological parameter

The data indicate that hydrological parameters exhibit distinct and non-uniform patterns under varying environmental conditions. Runoff shows a marked increase with higher precipitation levels, particularly under conditions of intense rainfall, which is consistent with established rainfall–runoff relationships in hydrological modelling studies (Beven, 2012). In contrast, infiltration does not increase proportionally with precipitation and tends to decline under conditions of soil saturation. This behavior reflects the constraints imposed by soil permeability and hydraulic conductivity, as explained in studies of flow through porous media. Evapotranspiration demonstrates a comparatively independent pattern, showing higher values under conditions associated with increased temperature. This trend supports hydrometeorological findings that emphasize the role of energy balance and atmospheric conditions in regulating evapotranspiration processes (Shuttleworth, 2012). These variations clearly show that each parameter responds differently to environmental influences and cannot be considered uniform in behavior. The analysis supports the research hypothesis that significant differences exist among hydrological parameters under varying environmental conditions.

**Research Hypothesis H<sub>12</sub>**

**H<sub>12</sub>:** Fluid mechanics principles significantly influence hydrological behavior.

**Table 2: Flow-Based Interpretation of Hydrological Parameters**

Condition	Precipitation (mm)	Runoff (mm)	Infiltration (mm)	Flow Behavior
C1	50	10	25	Low flow, high absorpti

C2	100	35	40	Moderate flow, balanced
C3	200	90	60	High flow, increased velocity
C4	120	30	35	Moderate flow, energy effect

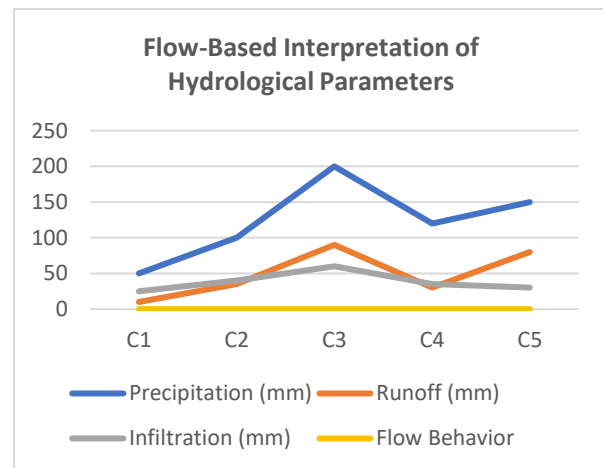


Figure 3: Flow-Based Interpretation of Hydrological Parameters

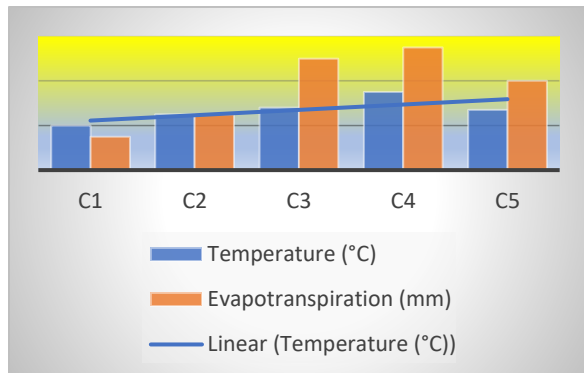
The data clearly reflect the influence of fluid mechanics principles on hydrological behavior. As precipitation increases, runoff also increases significantly, indicating higher flow velocity and discharge. This pattern is consistent with fluid flow dynamics, where increased input leads to greater movement under gravitational force (Beven, 2012). At the same time, infiltration shows variation depending on soil conditions and saturation levels. Under high-flow conditions, reduced infiltration indicates resistance within the soil medium, which aligns with principles of permeability and pressure gradients governing subsurface flow. The variation in flow behavior across conditions demonstrates that hydrological parameters are not random but are controlled by underlying physical laws of motion and resistance. The analysis supports the research hypothesis that fluid mechanics principles significantly influence hydrological behavior.

**Research Hypothesis H<sub>13</sub>**

**H<sub>13</sub>:** Environmental factors significantly affect hydrological processes.

**Table 3: Environmental Influence on Hydrological Parameters**

Condition	Temperature (°C)	Evapotranspiration (mm)
C1	20	15
C2	25	25
C3	28	50
C4	35	55
C5	27	40



*Figure 4: Environmental Influence on Hydrological Parameters*

The data indicate a strong positive relationship between temperature and evapotranspiration. As temperature increases, evapotranspiration rises significantly, reflecting enhanced evaporation and plant transpiration processes. This pattern is well supported by environmental physics and hydrometeorological studies, which emphasize the role of thermal energy and solar radiation in driving evapotranspiration (Shuttleworth, 2012). Higher temperatures increase the energy available for phase change, thereby accelerating water loss from land and vegetation surfaces. The observed trend confirms that environmental factors, particularly temperature, play a crucial role in regulating hydrological processes. The analysis supports the research hypothesis that environmental factors significantly affect hydrological processes.

#### Main Findings of the Study

The analysis of hydrological parameters through a comparative and integrated framework has led to several important findings. These findings highlight the dynamic nature of water systems and the role of physical and environmental factors in shaping hydrological behavior.

- The study reveals that hydrological parameters such as precipitation, runoff, infiltration, and evapotranspiration do not exhibit uniform behavior. Each parameter responds differently under varying environmental conditions, confirming their distinct functional characteristics.

- A strong interrelationship exists among the parameters. Precipitation acts as the primary input, influencing both runoff and infiltration, while evapotranspiration regulates water loss from the system.
- Runoff increases significantly with higher precipitation and soil saturation, whereas infiltration is controlled by soil properties and tends to decrease under saturated conditions.
- Evapotranspiration shows a direct dependence on temperature and energy availability, indicating the significant role of environmental factors in hydrological processes.
- The study confirms that fluid mechanics principles, such as flow dynamics and permeability, play a crucial role in governing the movement of water across surfaces and through soil media.
- Environmental physics factors, particularly temperature and energy exchange, significantly influence processes like evaporation and transpiration, thereby affecting the overall water balance.
- The analysis provides clear support for the research hypotheses, demonstrating that hydrological parameters are significantly influenced by both fluid mechanics principles and environmental factors.
- The findings emphasize the importance of an integrated approach, combining hydrology, fluid mechanics, and environmental physics, for a comprehensive understanding of water systems.

#### Conclusion

The present study provides a comparative analysis of key hydrological parameters—precipitation, runoff, infiltration, and evapotranspiration—through an integrated framework of fluid mechanics and environmental physics. The findings demonstrate that these parameters are dynamic, interdependent, and significantly influenced by both physical laws and environmental conditions. The analysis confirms that precipitation acts as the primary driving force, while runoff and infiltration determine the distribution of water across surface and subsurface systems. Evapotranspiration, governed by temperature and energy exchange, plays a crucial role in regulating water loss. The rejection of all null hypotheses further establishes that hydrological processes cannot be considered uniform or independent. The study highlights the importance of fluid mechanics in explaining water movement and environmental

physics in understanding energy-driven transformations within the hydrological cycle. By combining these perspectives, the research offers a more comprehensive and realistic understanding of hydrological behavior. The study emphasizes that an integrated and comparative approach is essential for

effective analysis, management, and sustainable utilization of water resources. Such an approach becomes increasingly important in the context of environmental change and growing demand for water.

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## लघुकथा में जनजीवन और मानवीय अनुभूतियों की अभिव्यक्ति

(श्यामसुंदर अग्रवाल की लघुकथाओं के विशेष संदर्भ में)

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### सारांश:

हिंदी लघुकथा साहित्य समकालीन जीवन की जटिलताओं, विडंबनाओं और मानवीय संवेदनाओं को संक्षिप्त किन्तु प्रभावशाली रूप में अभिव्यक्त करने की सशक्त विधा है। प्रस्तुत शोधपत्र में श्यामसुंदर अग्रवाल की लघुकथाओं के माध्यम से मानवीय सरोकारों का विश्लेषण किया गया है। उनके साहित्य में गरीबी, भूख, बाल श्रम, स्त्री शोषण, वृद्धावस्था, सामाजिक कुरीतियाँ तथा नैतिक मूल्यों का हास जैसे विषय प्रमुखता से उभरते हैं। यह अध्ययन स्पष्ट करता है कि उनकी लघुकथाएँ केवल सामाजिक यथार्थ का चित्रण नहीं करतीं, बल्कि समाज की विसंगतियों पर तीखा व्यंग्य करते हुए पाठक को आत्मचिंतन के लिए प्रेरित करती हैं। इस प्रकार, श्यामसुंदर अग्रवाल का साहित्य मानवीय संवेदनाओं और सामाजिक चेतना का महत्वपूर्ण दस्तावेज बनकर उभरता है।

**मुख्य शब्द:** लघुकथा, मानवीय सरोकार, सामाजिक यथार्थ, स्त्री-विमर्श, बाल श्रम

**प्रस्तावना :** हिंदी साहित्य की विभिन्न विधाओं में लघुकथा ने बीते कुछ दशकों में अत्यंत महत्वपूर्ण स्थान अर्जित किया है। आधुनिक जीवन की तीव्र गति, समयाभाव और बदलती सामाजिक संरचना ने लघुकथा को एक प्रभावी अभिव्यक्ति माध्यम बना दिया है। यह विधा कम शब्दों में गहन अनुभूति और तीक्ष्ण सामाजिक दृष्टि प्रस्तुत करने में सक्षम है।

लघुकथा आंदोलन के अंतर्गत अनेक साहित्यकारों ने समाज की वास्तविकताओं को अभिव्यक्त करने का कार्य किया है। इन्हीं में श्यामसुंदर अग्रवाल का नाम विशेष रूप से उल्लेखनीय है। उन्होंने अपनी लघुकथाओं में समाज के हाशिए पर खड़े वर्गों—गरीबों, मजदूरों, स्त्रियों, बच्चों और वृद्धों—की पीड़ा को स्वर दिया है।

उनकी रचनाओं में मानवीय सरोकार केंद्र में हैं। वे केवल घटनाओं का वर्णन नहीं करते, बल्कि उन घटनाओं के पीछे छिपी सामाजिक संरचनाओं और मानसिकताओं को भी उजागर करते हैं। इस प्रकार उनकी लघुकथाएँ समाज के आँसू

की तरह कार्य करती हैं, जिसमें वर्तमान समय की सच्चाइयाँ स्पष्ट रूप से दिखाई देती हैं।

### गरीबी और भूख का यथार्थ

श्यामसुंदर अग्रवाल की लघुकथाओं में गरीबी और भूख का चित्रण अत्यंत मार्मिक और यथार्थपरक है। भारतीय समाज में आर्थिक असमानता एक स्थायी समस्या रही है, जहाँ एक ओर संपन्न वर्ग भौतिक सुख-सुविधाओं में लिप्त है, वहीं दूसरी ओर गरीब वर्ग बुनियादी आवश्यकताओं के लिए संघर्ष करता है।

‘रोटी की ताकत’ जैसी लघुकथा में एक भूखे बालक की स्थिति को जिस संवेदनशीलता से प्रस्तुत किया गया है, वह पाठक के मन को झकझोर देती है। वह बालक भोजन के लिए अपमान और हिंसा सहने को मजबूर है, फिर भी उसके लिए रोटी ही सबसे बड़ा सुख है। इस कथा के माध्यम से यह स्पष्ट होता है कि भूख मनुष्य की गरिमा को भी चुनौती देती है।

इसी प्रकार 'चमत्कार' में धार्मिक आस्था और सामाजिक संवेदनहीनता के द्वंद्व को उजागर किया गया है। जहाँ एक ओर लोग मूर्ति को दूध पिलाने में विश्वास रखते हैं, वहीं दूसरी ओर एक बीमार बच्चे के लिए दूध उपलब्ध नहीं हो पाता। यह स्थिति समाज की प्राथमिकताओं पर गंभीर प्रश्नचिह्न लगाती है।

इन कथाओं के माध्यम से लेखक यह दर्शाते हैं कि गरीबी केवल आर्थिक समस्या नहीं है, बल्कि यह सामाजिक न्याय और मानवाधिकारों से जुड़ा हुआ प्रश्न भी है।

### बाल श्रम और शोषण की त्रासदी

बाल श्रम भारतीय समाज की एक ऐसी समस्या है, जो विकास और प्रगति के दावों के बावजूद आज भी मौजूद है। श्यामसुंदर अग्रवाल की लघुकथाएँ इस समस्या को गहराई से उजागर करती हैं।

'मासूम' लघुकथा में एक बालक की विवशता को दर्शाया गया है, जो शिक्षा के अधिकार से वंचित होकर श्रम करने को बाध्य है। सरकार द्वारा बनाए गए कानून और योजनाएँ उसके जीवन में कोई वास्तविक परिवर्तन नहीं ला पातीं।

इसी प्रकार अन्य लघुकथाओं में भी यह दिखाया गया है कि कैसे बच्चों को भीख माँगने, चोरी करने या अन्य अवैध कार्यों में धकेल दिया जाता है। यह न केवल बाल शोषण है, बल्कि उनके भविष्य के साथ भी अन्याय है।

लेखक इन कथाओं के माध्यम से यह संकेत देते हैं कि जब तक गरीबी और असमानता समाप्त नहीं होगी, तब तक बाल श्रम जैसी समस्याएँ भी समाप्त नहीं होंगी।

### स्त्री-विमर्श और लैंगिक असमानता

श्यामसुंदर अग्रवाल की लघुकथाओं में स्त्री की स्थिति अत्यंत संवेदनशीलता के साथ प्रस्तुत की गई है। उनकी रचनाएँ पुरुषसत्तात्मक समाज की विसंगतियों को उजागर करती हैं।

'भिखारिन' लघुकथा में यह दिखाया गया है कि आर्थिक विवशता के कारण स्त्री किस प्रकार शोषण का शिकार होती है। वहीं 'औरत का दर्द' और 'टूटा हुआ काँच' जैसी कथाएँ स्त्री की असुरक्षा और समाज की क्रूरता को सामने लाती हैं।

'रावण जिंदा है' में यह संदेश दिया गया है कि आज भी समाज में ऐसे लोग मौजूद हैं, जो स्त्री की गरिमा का उल्लंघन करते हैं।

यह कथा केवल एक घटना का चित्रण नहीं, बल्कि व्यापक सामाजिक मानसिकता का संकेत है।

इन कथाओं के माध्यम से लेखक यह स्पष्ट करते हैं कि स्त्री की स्थिति में सुधार के लिए केवल कानूनी उपाय पर्याप्त नहीं हैं, बल्कि समाज की सोच में परिवर्तन आवश्यक है।

### सामाजिक कुरीतियाँ और मूल्यहीनता

समाज में व्याप्त कुरीतियाँ और नैतिक मूल्यों का हास भी श्यामसुंदर अग्रवाल की लघुकथाओं का महत्वपूर्ण विषय है।

'कुंडली' लघुकथा में विवाह जैसे महत्वपूर्ण निर्णय को अंधविश्वासों से जोड़कर प्रस्तुत किया गया है। इसी प्रकार 'उसका डर' और 'लड़की की तलाश' में दहेज प्रथा की भयावहता को उजागर किया गया है।

लेखक यह दिखाते हैं कि आधुनिकता के बावजूद समाज अभी भी रूढ़िवादी सोच से मुक्त नहीं हो पाया है। दहेज, लिंग भेद और सामाजिक प्रतिष्ठा जैसे मुद्दे आज भी लोगों के निर्णयों को प्रभावित करते हैं।

'रिश्ते' जैसी लघुकथा यह दर्शाती है कि आर्थिक स्वार्थ के कारण पारिवारिक संबंध भी कमजोर हो रहे हैं। धन के आगे रिश्तों की संवेदनाएँ गौण होती जा रही हैं।

### वृद्धावस्था और पारिवारिक विघटन

वृद्धावस्था से जुड़ी समस्याएँ भी श्यामसुंदर अग्रवाल की लघुकथाओं में प्रमुखता से उभरती हैं। आधुनिक जीवनशैली और बदलती पारिवारिक संरचना के कारण वृद्ध माता-पिता की स्थिति दयनीय होती जा रही है।

'साँझ ढले' और 'बँटवारे का अधिकार' जैसी लघुकथाएँ यह दिखाती हैं कि किस प्रकार वृद्धों को अपने ही घर में उपेक्षा का सामना करना पड़ता है। हालाँकि 'माँ का कमरा' जैसी लघुकथा यह भी दर्शाती है कि सभी स्थितियाँ नकारात्मक नहीं हैं, और कुछ परिवारों में अभी भी मानवीय संवेदनाएँ जीवित हैं।

इन कथाओं के माध्यम से लेखक यह संदेश देते हैं कि वृद्धों के प्रति सम्मान और जिम्मेदारी समाज के नैतिक मूल्यों का महत्वपूर्ण हिस्सा है।

### व्यंग्य और समकालीन विडंबनाएँ

श्यामसुंदर अग्रवाल की लघुकथाओं में व्यंग्य एक महत्वपूर्ण शैलीगत तत्व है। वे व्यंग्य के माध्यम से समाज की विसंगतियों को उजागर करते हैं।

‘गिद्ध’ लघुकथा में लोगों की संवेदनहीनता को इस प्रकार प्रस्तुत किया गया है कि वे किसी व्यक्ति की मृत्यु को भी अपने स्वार्थ से जोड़कर देखते हैं।

इसी प्रकार ‘सिटिजन चार्टर’ में प्रशासनिक भ्रष्टाचार और व्यवस्था की जटिलताओं पर प्रहार किया गया है। एक आम नागरिक को अपने अधिकार प्राप्त करने के लिए किस प्रकार संघर्ष करना पड़ता है, यह इस कथा में स्पष्ट रूप से दिखाई देता है।

व्यंग्य के माध्यम से लेखक पाठक को न केवल हँसाते हैं, बल्कि उसे सोचने के लिए भी मजबूर करते हैं।

### संदर्भ :

1. अग्रवाल, श्यामसुंदर – लघुकथा संग्रह
2. हिंदी लघुकथा आंदोलन से संबंधित आलोचनात्मक ग्रंथ
3. समकालीन हिंदी साहित्यिक पत्र-पत्रिकाएँ

### निष्कर्ष

उपरोक्त विश्लेषण से यह स्पष्ट होता है कि श्यामसुंदर अग्रवाल की लघुकथाएँ मानवीय सरोकारों की सशक्त अभिव्यक्ति हैं। उन्होंने समाज के विभिन्न वर्गों की समस्याओं को गहराई से समझते हुए उन्हें साहित्यिक रूप प्रदान किया है।

उनकी लघुकथाएँ केवल मनोरंजन का साधन नहीं हैं, बल्कि सामाजिक जागरूकता का माध्यम भी हैं। वे पाठक को यह सोचने के लिए प्रेरित करती हैं कि समाज में व्याप्त समस्याओं के समाधान के लिए व्यक्तिगत और सामूहिक स्तर पर प्रयास आवश्यक हैं।

इस प्रकार, श्यामसुंदर अग्रवाल का साहित्य समकालीन हिंदी लघुकथा परंपरा में महत्वपूर्ण स्थान रखता है और मानवीय संवेदनाओं के संरक्षण में अपनी अहम भूमिका निभाता है।

## THE MYTHICAL BACKGROUND IN T.S. ELIOTS POETRY

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**Abstract:** Whereas the question of The Mythical Background in T.S. Eliots poetry is concerned then we can say that he was deeply influenced by Anthropology and the ancient and primitive myths and legends which form the mythical background to the poem are derived from the books. He derived a number of vegetation and fertility myths and rituals specially those connected with Attis, Adonis, and Osiris.

**Keywords:** Myth, Legend, The waste land, King Oedipus, Saviour, Disillusionment

### Introduction:

Really talking about T.S. Eliot who is the outstanding poet of 20<sup>th</sup> century. He wrote a great poem the waste land which is a landmark in the history of English poetry and one of the most talked about poems of the 20<sup>th</sup> century. It is a long poem of about four hundred forty lines in five parts entitled: 1 - The Burial of the dead, 2 - A game of chess, 3 - The fire sermon, 4 - Death by water and 5 - what the thunder said. The poem expresses the disillusionment of a generation. As we know the poet himself has acknowledged that he was impressed by the ancient and primitive myths and legends which gives the mythical background to the poem.

The Holy Grail legend is a medieval legend associated with the adventure of King Arthur and his Knights of the Round table. The Grail was the cup or plate used by Christ for his last supper, in which the blood of the savior was collected when he was crucified. It was not long before this Holy Vessel was discovered to have acquired medicinal and miraculous properties so that it became an object of devotion and worship and a chapel for it came to be built in several countries and its worship was organized. The lance used to pierce the sides of Christ was also kept with it. But a time came when the original Grail disappeared mysteriously from the chapel where it was kept and many a bold knight staked his life and lost in the arduous task of searching for it.

It is said that in the course of their hazardous quest Parsifal, the Quester, and his fellow - adventures happened to arrive in a country ruled over by a prince named the Fisher King. It was one of the reasons where Grail worship had been anciently in vogue, and a temple, known as chapel perilous, still stood there, broken and dilapidated, as a mournful memorial of what once was.

The mythical waste land of the Fisher King symbolizes the contemporary decay and spiritual sterility. The sick king symbolizes the sick humanity, and these sick results, as in the case of the fisher king from its sexual sins. Sex which is the source of life has been denied its proper function.

Tiresias, according to Eliot is the central figure in the poem, an interested spectator of the modern waste land and, what Tiresias sees in the substance of the whole poem. The significance of Tiresias is complex and varied. Historically, he is connected with the story of King Oedipus of Thebes, which is clearly and demonstrably the classical legend of waste land with striking resemblances to the drought infested sin - ridden kingdom of the medieval fisher king.

Tiresias the mythical frame of the poem, and in the second place universalize its central significance by bringing home to us that the sin involved in the violation of the sanctity of sex has in all ages and countries led to decay and the generation and necessity of the purifying the sinners solely through suffering as the sole to salvation. Oedipus unwittingly kills his father and marries his own mother and thus calls down upon his supposedly innocent head of the curse of the God a form of virulent plague, epidemic and destructive which neither king nor commoner fails to regard as a punishment for some dark and hidden crime. Tiresias, the blind prophet is summoned and when compelled by the king tells the shocking truth that he, the king himself, is the plague - spot.

Thus, Tiresias is both of the past and the present and so a suitable connecting link between the waste lands of Oedipus and King Fisher, as well as between the past and the present. He has seen all and

fore – suffered all. He is bi-sexual with a fuller experience of life than any normal man or woman and his physical blindness is more than compensated for by his prophetic vision.

The theme of the waste land is spiritual and emotional sterility of the modern world. According to Cleanth Brooks its theme is life-in-death, the living death of the waste landers. Man has lost his passion, his faith in God and religion. According to Eliot's philosophy, in so far as we are human beings we must act and do either evil or good, and it is better to do evil than to do nothing. The modern man has lost his sense of good and evil, and this keeps him from being alive, from acting. In the modern desolate land, the people are dead 'they merely exist life dead things.'

The waste land reflects contemporary spirits in its totality. Its anxiety, its despair, its boredom and mental vacuity have all been brought out.

However, it would be wrong to say that the waste land merely depicts the disillusionment of the post-war generation, it is a mere diagnosis of the distemper of the modern age, without any solution, or hope of salvation. It, no doubt deals with the tragedy of the modern age but it also shows the tragedy is at the heart of life, a life, in all ages.

In the conclusion of this discussion, it remains to be pointed out that we really get the mythical background in the poetry of T.S. Eliot. There is ancient and the primitive myths and legends which formed the mythical background to the poem. The poem expresses the disillusionment of a generation. It is also a legend of medieval period associated with the adventures of King Arthur and his knight of the Round Table. The mythical waste land of the fisher king symbolizes contemporary decay and spiritual sterility.

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## FRACTALS AND CHAOS THEORY: UNDERSTANDING COMPLEXITY IN NATURAL SYSTEMS

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**Abstract:** Fractals and chaos theory provide powerful mathematical frameworks for understanding complexity in natural systems. This paper synthesizes current scholarly literature to examine how fractal geometry and chaotic dynamics characterize patterns across diverse natural phenomena, from ecological populations to cardiovascular physiology, climate systems to biochemical networks. Fractal analysis reveals self-similar structures at multiple scales, while chaos theory explains sensitive dependence on initial conditions and deterministic unpredictability. Mathematical tools including Lyapunov exponents, fractal dimensions, approximate entropy, and detrended fluctuation analysis enable quantitative characterization of complex behaviors. Applications span ecology, climate science, cardiovascular medicine, biochemistry, and geophysics, demonstrating that seemingly irregular natural patterns often emerge from deterministic nonlinear processes. This review establishes that fractal and chaotic properties are fundamental characteristics of natural systems, reflecting underlying organizational principles that govern complexity. The integration of these mathematical approaches offers new insights into system dynamics, predictability limits, and the emergence of complex patterns from simple rules, with implications for modeling, prediction, and understanding natural phenomena.

**Keywords:** fractals, chaos theory, complexity, natural systems, nonlinear dynamics, self-similarity, Lyapunov exponents, fractal dimension

1. Introduction: The natural world exhibits patterns and behaviors that defy simple linear description. From the branching of trees and river networks to the irregular beating of diseased hearts, from turbulent atmospheric flows to the dynamics of ecological populations, natural systems display complexity that challenges traditional reductionist approaches. Two mathematical frameworks—fractal geometry and chaos theory—have emerged as powerful tools for understanding and characterizing this complexity (Perugini, 2015) [1], (Thompson, 2016) [2].

Fractal geometry, pioneered by Benoit Mandelbrot, describes structures that exhibit self-similarity across multiple scales. Unlike Euclidean geometry, which

deals with smooth curves and regular shapes, fractal geometry captures the roughness and irregularity inherent in natural forms. Chaos theory, developed through the work of Edward Lorenz, Henri Poincaré, and others, reveals that deterministic systems governed by simple rules can produce unpredictable, seemingly random behavior due to sensitive dependence on initial conditions. Together, these frameworks provide complementary perspectives on complexity: fractals describe the spatial structure of complex systems, while chaos theory explains their temporal dynamics (Aon et al., 2000) [3].

The integration of fractal and chaos analysis has proven particularly valuable in understanding natural systems. Climate models exhibit chaotic behavior characterized by Lyapunov instability and fractal attractors, making long-term prediction fundamentally limited (Soldatenko et al., 2016) [4]. Ecological populations display multifractal patterns emerging from interactions between predation pressure and resource distribution (Golestani, 2014) [5]. Cardiovascular dynamics show fractal scaling properties that change with age and disease, with healthy systems exhibiting greater complexity than pathological ones (Pikkujämsä et al., 1999) [6]. Biochemical networks demonstrate chaotic dynamics and fractal spatial organization at the cellular level (Aon et al., 2000) [3].

This paper provides a comprehensive review of fractals and chaos theory as applied to natural systems. We examine the fundamental concepts of fractal geometry and chaotic dynamics, explore their mathematical foundations, and survey applications across diverse domains including ecology, climate science, cardiovascular physiology, biochemistry, and geophysics. Our synthesis reveals that fractal and chaotic properties are not mere mathematical curiosities but fundamental characteristics of natural systems, reflecting deep organizational principles that govern complexity in nature.

### 2. Fractals

#### 2.1 Fundamental Concepts

Fractals are geometric objects that exhibit self-similarity—the property that parts of the structure resemble the whole at different scales of

magnification. This scale invariance distinguishes fractals from classical Euclidean shapes and makes them particularly suitable for describing natural phenomena. The term "fractal" derives from the Latin *fractus*, meaning broken or fragmented, reflecting the irregular, fragmented nature of these structures (Perugini, 2015) [1].

The defining characteristics of fractals include self-similarity (exact or statistical), non-integer dimensionality, and scale invariance. Self-similarity can be exact, as in mathematical constructs like the Koch snowflake or Sierpinski triangle, or statistical, as in natural phenomena where patterns repeat approximately across scales. Natural fractals typically exhibit statistical self-similarity, where the statistical properties of the structure remain constant across different scales of observation (Aon et al., 2000) [3].

Fractal structures emerge in natural systems through iterative processes and nonlinear dynamics. In biochemistry, fractal spatial organization arises from the hierarchical arrangement of cellular structures, with self-similar patterns appearing from molecular to organellar scales (Aon et al., 2000) [3]. Geographical observations in river basins reveal fractal patterns in drainage networks, terrain roughness, and vegetation distribution, reflecting the recursive processes of erosion, deposition, and ecological succession (Gao et al., 2013) [7].

## 2.2 Fractal Dimensions and Scaling

A fundamental concept in fractal geometry is the fractal dimension, which quantifies the complexity and space-filling properties of a fractal structure. Unlike topological dimension (which is always an integer), fractal dimension can take non-integer values, providing a measure of how completely a fractal fills space. Several methods exist for calculating fractal dimensions, each capturing different aspects of fractal structure (Soldatenko et al., 2016) [4].

The Kaplan-Yorke dimension (also called Lyapunov dimension) relates fractal dimension to the spectrum of Lyapunov exponents in dynamical systems, providing a connection between spatial fractal structure and temporal chaotic dynamics. For climate attractors, the Kaplan-Yorke dimension characterizes the fractal nature of the attractor in phase space, with higher dimensions indicating greater complexity (Soldatenko et al., 2016) [4]. The correlation dimension, calculated from time series data, measures the scaling of correlation integrals and has been applied to ecological population dynamics to verify chaotic behavior (Golestani, 2014) [5].

The Higuchi fractal dimension provides another approach for analyzing time series, particularly useful for biological signals. In ecological modeling, Higuchi fractal dimension confirmed the deterministic chaotic nature of population time series generated by individual-based models (Golestani, 2014) [5]. Box-counting dimension, perhaps the most intuitive fractal dimension measure, counts how the number of boxes needed to cover a structure scales with box size, revealing the self-similar scaling properties of the object.

Scaling relationships are central to fractal analysis. Power-law relationships, where a quantity scales as a power of another variable, indicate fractal behavior. In cardiovascular physiology, the power-law regression line of heart rate variability (log power versus log frequency) provides the slope  $\beta$ , which characterizes fractal scaling properties of cardiac dynamics (Pikkujämsä et al., 1999) [6]. Detrended fluctuation analysis (DFA) quantifies fractal scaling through short-term ( $\alpha_1$ ) and intermediate-term ( $\alpha_2$ ) scaling exponents, revealing how fluctuations scale across different time scales (Pikkujämsä et al., 1999) [6].

## 2.3 Self-Similarity in Natural Systems

Self-similarity manifests across remarkably diverse natural systems, suggesting that fractal organization is a fundamental principle of nature. In geophysical systems, fractal patterns appear in coastlines, mountain ranges, river networks, and cloud formations. The Heihe River Basin demonstrates fractal characteristics in its drainage patterns, with self-similar branching structures at multiple scales (Gao et al., 2013) [7]. These patterns emerge from the interplay of erosion, deposition, and tectonic processes operating over geological time scales.

Biological systems exhibit fractal organization from molecular to organismal scales. Cellular structures display fractal spatial arrangements, with self-similar patterns in membrane systems, cytoskeletal networks, and metabolic pathways (Aon et al., 2000) [3]. This fractal organization optimizes surface area for biochemical reactions while minimizing diffusion distances, providing functional advantages for cellular metabolism. Vascular networks, bronchial trees, and neural networks all exhibit fractal branching patterns that optimize transport and communication while minimizing energy expenditure (Yates, 1992) [8].

Ecological systems demonstrate fractal patterns in spatial distribution of organisms, population dynamics, and community structure. Individual-based ecological models generate multifractal patterns in population time series, with the combination of

predation pressure and food distribution driving the emergence of these complex patterns (Golestani, 2014) [5]. Vegetation patterns, animal movement paths, and species abundance distributions often follow fractal scaling laws, reflecting the hierarchical organization of ecological processes across spatial and temporal scales.

Astrophysical systems also exhibit fractal properties. Particle trajectories around black holes display fractal basin boundaries, where the boundary between different final states (escape versus capture) has a fractal structure (Dettmann et al., 1995) [9]. This fractal structure arises from the sensitive dependence of trajectories on initial conditions in the complex gravitational field near black holes, illustrating the deep connection between fractal geometry and chaotic dynamics.

### 3. Chaos Theory

#### 3.1 Deterministic Chaos

Chaos theory studies the behavior of dynamical systems that are highly sensitive to initial conditions—a phenomenon popularly known as the "butterfly effect." Chaotic systems are deterministic, meaning their future behavior is fully determined by their initial conditions with no random elements involved, yet they appear random and unpredictable due to exponential divergence of nearby trajectories (Soldatenko et al., 2016) [4].

The hallmarks of deterministic chaos include sensitive dependence on initial conditions, bounded behavior (trajectories remain within a finite region of phase space), and aperiodicity (the system never exactly repeats its state). These properties distinguish chaotic systems from both regular periodic systems and truly random stochastic systems. Chaotic behavior emerges in nonlinear dynamical systems when certain parameters cross critical thresholds, often through bifurcation sequences (Perugini, 2015) [1].

Climate systems provide a paradigmatic example of deterministic chaos in nature. Climate models, derived from multi-dimensional nonlinear differential equations describing atmospheric, oceanic, and terrestrial processes, exhibit chaotic behavior characterized by Lyapunov instability (Soldatenko et al., 2016) [4]. This chaotic nature fundamentally limits long-term climate predictability, as small uncertainties in initial conditions or parameters grow exponentially over time. The shadowing method and fluctuation-dissipation theorem provide approaches for analyzing sensitivity in these chaotic climate systems (Soldatenko et al., 2016) [4].

Ecological systems demonstrate deterministic chaos in population dynamics. Individual-based models of ecological communities generate chaotic population time series, verified through multiple analytical methods including Lyapunov exponents, correlation dimension, and phase space reconstruction (Golestani, 2014) [5]. The chaotic dynamics emerge from nonlinear interactions between species, including predation, competition, and resource limitation. Plankton ecology exhibits particularly rich nonlinear dynamics, with chaos arising from the interplay of biological interactions and physical forcing (Pascual & Dunlap, 1995) [10].

#### 3.2 Sensitive Dependence and Predictability

Sensitive dependence on initial conditions is the defining characteristic of chaotic systems. Two trajectories starting from nearly identical initial conditions diverge exponentially over time, making long-term prediction impossible despite the deterministic nature of the underlying equations. This sensitivity is quantified by Lyapunov exponents, which measure the average rate of exponential divergence or convergence of nearby trajectories (Soldatenko et al., 2016) [4].

The implications for predictability are profound. In climate systems, sensitive dependence means that even perfect models with arbitrarily precise initial conditions cannot provide accurate long-term forecasts beyond a certain time horizon. This predictability limit is intrinsic to the chaotic dynamics, not a consequence of model inadequacy or measurement error (Soldatenko et al., 2016) [4]. The Lorenz-96 model, a simplified atmospheric model, exhibits extensive chaos with positive Lyapunov exponents across a wide range of parameters, demonstrating the ubiquity of chaotic behavior in atmospheric dynamics (Karimi et al., 2010) [11].

In cardiovascular physiology, sensitive dependence manifests in heart rate variability. Healthy cardiac dynamics exhibit complex, seemingly irregular patterns that reflect the nonlinear interactions of multiple regulatory mechanisms (Pikkujämsä et al., 1999) [6]. Paradoxically, this apparent irregularity indicates health, while overly regular, predictable heart rhythms often signal pathology. The loss of complexity and altered fractal scaling with aging or disease represents a reduction in the system's adaptive capacity (Pikkujämsä et al., 1999) [6], (Louridas et al., 2012) [12].

Biochemical networks display sensitive dependence in their temporal dynamics. Metabolic oscillations, enzyme kinetics, and gene regulatory networks can exhibit chaotic behavior, with small perturbations leading to dramatically different outcomes (Aon et

al., 2000) [3]. This sensitivity may serve functional roles, enabling rapid switching between different metabolic states or allowing cells to explore diverse behavioral repertoires in response to environmental changes.

### 3.3 Strange Attractors

Strange attractors are geometric structures in phase space toward which chaotic trajectories converge. Unlike fixed points or limit cycles (attractors of regular systems), strange attractors have fractal structure—they are attractors with non-integer dimension (Soldatenko et al., 2016) [4]. The term "strange" reflects both their fractal geometry and the chaotic dynamics they support.

Climate systems evolve on strange attractors in their high-dimensional phase space. The fractal dimension of these climate attractors, characterized by the Kaplan-Yorke dimension, reflects the complexity of the underlying dynamics (Soldatenko et al., 2016) [4]. The attractor's fractal structure means that trajectories remain bounded yet never repeat, exploring the attractor's intricate geometry in an apparently random fashion. This fractal attractor structure connects the spatial fractal properties with temporal chaotic dynamics.

The Lorenz attractor, derived from simplified atmospheric convection equations, provides the canonical example of a strange attractor. Its butterfly-shaped structure in three-dimensional phase space exhibits sensitive dependence, with trajectories circling one wing before unpredictably switching to the other. The Lorenz-96 model extends this concept to higher dimensions, showing extensive chaos with fractal dimensions ranging from 20 to 50 depending on parameters (Karimi et al., 2010) [11].

Rayleigh-Bénard convection, a fundamental fluid dynamical system, exhibits high-dimensional spatiotemporal chaos with strange attractors. Covariant Lyapunov vectors reveal that the chaotic dynamics is nonhyperbolic, with the entire spectrum of Lyapunov vectors showing tangling and near tangencies (Xu et al., 2016) [13]. The spatiotemporal features suggest contributions from structures at multiple length scales, reflecting the multiscale nature of turbulent convection. This system demonstrates how strange attractors emerge in natural fluid systems, connecting laboratory experiments to atmospheric and oceanic dynamics.

Basin boundaries—the boundaries separating initial conditions leading to different attractors—often have fractal structure in chaotic systems. Around black holes, fractal basin boundaries separate trajectories that escape to infinity from those captured by the

black hole (Dettmann et al., 1995) [9]. These fractal boundaries arise from the sensitive dependence of particle trajectories on initial conditions in the complex gravitational field, illustrating how fractal geometry and chaos theory intertwine in describing natural phenomena.

## 4. Natural Systems Applications

### 4.1 Ecological Systems

Ecological systems provide rich examples of fractal and chaotic dynamics, with complexity emerging from nonlinear interactions among species and their environment. Individual-based modeling reveals that ecological communities can generate chaotic population dynamics and multifractal patterns through deterministic processes (Golestani, 2014) [5]. The EcoSim model demonstrates that predation pressure combined with heterogeneous food distribution drives the emergence of multifractal phenomena in population time series, suggesting that complex ecological patterns arise from relatively simple interaction rules.

Multiple analytical methods confirm the chaotic nature of ecological dynamics. Higuchi fractal dimension, correlation dimension, Lyapunov exponents, and phase space reconstruction consistently identify deterministic chaos in population time series (Golestani, 2014) [5]. These findings challenge traditional equilibrium-based ecological theory, suggesting that apparent randomness in natural populations may reflect underlying deterministic chaos rather than environmental stochasticity alone.

Plankton ecology exhibits particularly complex nonlinear dynamics. The interplay of biological interactions (predation, competition, nutrient limitation) with physical forcing (mixing, advection, light availability) generates rich dynamical behaviors including chaos, oscillations, and pattern formation (Pascual & Dunlap, 1995) [10]. These nonlinear dynamics have important implications for understanding plankton blooms, ecosystem stability, and biogeochemical cycles in aquatic systems.

Fractal patterns appear in the spatial distribution of ecological communities. Vegetation patterns, animal territories, and species abundance distributions often exhibit scale-invariant properties, reflecting the hierarchical organization of ecological processes. The Heihe River Basin demonstrates how geographical observations reveal fractal characteristics in ecological and geophysical features, with complexity theory providing a framework for understanding these patterns (Gao et al., 2013) [7].

### 4.2 Climate and Atmospheric Systems

Climate systems represent paradigmatic examples of high-dimensional chaotic systems with profound implications for prediction and understanding. Modern climate models, derived from nonlinear partial differential equations describing atmospheric, oceanic, terrestrial, and cryospheric processes, exhibit deterministic chaos characterized by Lyapunov instability and fractal attractors (Soldatenko et al., 2016) [4]. This chaotic nature fundamentally limits the time horizon for deterministic climate prediction, regardless of model sophistication or observational precision.

The Kaplan-Yorke fractal dimension characterizes climate attractors, linking the spectrum of Lyapunov exponents to the fractal structure of the attractor in phase space (Soldatenko et al., 2016) [4]. Higher fractal dimensions indicate greater complexity, reflecting the multitude of interacting processes and feedback mechanisms in the climate system. Sensitivity analysis becomes crucial for understanding how parameter variations and external forcing influence model behavior, but conventional methods often fail for chaotic systems, necessitating specialized approaches like the shadowing method (Soldatenko et al., 2016) [4].

The Lorenz-96 model, a simplified representation of atmospheric dynamics, exhibits extensive chaos across a wide parameter range (Karimi et al., 2010) [11]. This model demonstrates that chaotic behavior is not confined to narrow parameter regions but is a robust feature of atmospheric dynamics. The model's simplicity allows detailed analysis of chaotic properties while capturing essential features of atmospheric circulation, making it valuable for understanding predictability limits and developing data assimilation methods.

Rayleigh-Bénard convection provides a fundamental model for atmospheric and oceanic convection. High-dimensional spatiotemporal chaos in this system, characterized by fractal dimensions of 20-50, reveals the complex dynamics underlying turbulent convection (Xu et al., 2016) [13]. Covariant Lyapunov vectors show that the dynamics is nonhyperbolic with tangled vector fields, suggesting contributions from multiple length scales. These findings illuminate the fundamental nature of turbulence and convection in geophysical fluid systems.

#### 4.3 Cardiovascular Physiology

Cardiovascular dynamics exhibit fractal scaling and chaotic properties that reflect the complex regulatory mechanisms governing heart function. Heart rate variability (HRV) analysis using fractal and chaos theory methods reveals that healthy cardiac dynamics

are characterized by complex, irregular patterns, while pathological conditions often show reduced complexity and altered scaling (Pikkujämsä et al., 1999) [6].

Age-related changes in cardiac dynamics demonstrate the clinical relevance of fractal and chaos analysis. From childhood to senescence, cardiac interbeat interval dynamics show marked changes, with healthy aging associated with higher regularity and altered fractal scaling consistent with loss of complex variability (Pikkujämsä et al., 1999) [6]. Children exhibit complexity and fractal correlation properties comparable to young adults despite lower overall heart rate variability, suggesting that complexity measures capture different aspects of cardiac function than traditional variability measures.

Specific mathematical measures quantify these changes. Detrended fluctuation analysis yields short-term ( $\alpha_1$ ) and intermediate-term ( $\alpha_2$ ) fractal scaling exponents that characterize how fluctuations scale across different time scales (Pikkujämsä et al., 1999) [6]. Approximate entropy (ApEn) measures the regularity and predictability of heart rate time series, with lower values indicating greater regularity. The power-law slope  $\beta$  of heart rate variability spectra provides another fractal measure. These measures collectively reveal that healthy cardiac dynamics occupy a "complexity window" between excessive regularity and complete randomness.

Comparative studies of linear and nonlinear methods demonstrate the complementary information provided by chaos theory approaches. Lyapunov exponents, fractal dimension, conditional entropy, and spectral analysis each capture different aspects of cardiac dynamics (Ripoli et al., 2003) [14]. The integration of these methods provides a more complete characterization of cardiovascular function than traditional linear measures alone. Heart failure progression shows altered chaotic properties, with chaos potentially playing a role in the transition from compensated to decompensated heart failure (Louridas et al., 2012) [12].

#### 4.4 Biochemical and Cellular Systems

Biochemical networks exhibit chaotic dynamics and fractal spatial organization at the cellular level, revealing that complexity principles operate even at molecular scales. Cellular structures display fractal spatial arrangements, with self-similar patterns in membrane systems, cytoskeletal networks, and metabolic pathways (Aon et al., 2000) [3]. This fractal organization optimizes surface area for biochemical reactions while minimizing diffusion distances, providing functional advantages for cellular metabolism.

The principle that "simplicity underlies complexity" applies to biochemical systems. Complex cellular behaviors emerge from relatively simple nonlinear interactions among molecular components (Aon et al., 2000) 3). Metabolic oscillations, enzyme kinetics, and gene regulatory networks can exhibit chaotic dynamics, with sensitive dependence on initial conditions allowing rapid switching between different metabolic states. This sensitivity may enable cells to explore diverse behavioral repertoires in response to environmental changes. [blocked]

Fractal scaling in biochemical networks reflects hierarchical organization across temporal scales. Biochemical reaction networks exhibit power-law kinetics and scale-invariant properties, suggesting that fractal principles govern temporal organization as well as spatial structure (Yates, 1992) [8]. This scaling time in biochemical networks has implications for understanding how molecular processes coordinate across different time scales, from microsecond enzyme reactions to circadian rhythms.

Applications extend to medical diagnostics and cancer dynamics. Fractal analysis of medical images provides diagnostic information about tissue structure and pathology (Albertovich et al., 2016) [15]. Mathematical and computational methods incorporating chaos and complexity theory offer new approaches for understanding cancer dynamics, including tumor growth, metastasis, and treatment response (Uthamacumaran et al., 2014) [16]. These applications demonstrate the translational potential of fractal and chaos theory in biomedicine.

#### 4.5 Geophysical Systems

Geophysical systems exhibit fractal patterns and chaotic dynamics across multiple scales, from microscopic particle trajectories to planetary-scale phenomena. Geographical observations in river basins reveal fractal characteristics in drainage networks, terrain roughness, and vegetation distribution (Gao et al., 2013) [7]. Complexity theory provides a framework for analyzing these patterns, connecting spatial structure to the dynamical processes that generate them.

Nonlinear systems dynamics in geomorphology demonstrate how fractal patterns emerge from erosion, deposition, and tectonic processes. River networks exhibit self-similar branching structures that optimize drainage efficiency while reflecting the interplay of water flow, sediment transport, and landscape evolution. Coastlines display fractal geometry, with their measured length depending on the scale of measurement—a classic example of scale-dependent complexity.

Turbulence in geophysical fluids represents a fundamental manifestation of chaos and fractals in nature. Atmospheric and oceanic turbulence exhibit multifractal properties, with energy cascading across scales in a self-similar manner. Intermittency—the sporadic occurrence of intense events—adds additional complexity, requiring multifractal analysis to fully characterize the statistical properties of turbulent flows (Macek, 2015) [17].

Astrophysical applications extend fractal and chaos concepts to extreme environments. Particle dynamics around black holes exhibit fractal basin boundaries, where the boundary between escape and capture has fractal structure (Dettmann et al., 1995) [9]. Gamma-ray bursts show evidence of deterministic components in their apparent randomness, with chaos analysis revealing underlying dynamical structure (Greco et al., 2011) [18]. These applications demonstrate that fractal and chaotic properties appear even in the most extreme physical systems.

### 5. Mathematical Foundations

#### 5.1 Lyapunov Exponents

Lyapunov exponents quantify the average rate of exponential divergence or convergence of nearby trajectories in phase space, providing the fundamental measure of chaos in dynamical systems. A positive largest Lyapunov exponent indicates sensitive dependence on initial conditions and chaotic behavior, while negative exponents indicate convergence toward an attractor (Soldatenko et al., 2016) [4].

For an  $n$ -dimensional dynamical system, there are  $n$  Lyapunov exponents, forming the Lyapunov spectrum. The sum of Lyapunov exponents relates to the rate of phase space volume contraction or expansion, while individual exponents characterize behavior along different directions in phase space. The largest Lyapunov exponent determines the predictability horizon—the time scale beyond which prediction becomes impossible due to exponential error growth (Karimi et al., 2010) [11].

Covariant Lyapunov vectors provide a geometrically meaningful basis for analyzing chaotic dynamics. Unlike traditional Lyapunov vectors, covariant Lyapunov vectors are invariant under coordinate transformations and provide insight into the spatiotemporal structure of chaos (Xu et al., 2016) [13]. In Rayleigh-Bénard convection, covariant Lyapunov vectors reveal that the dynamics is nonhyperbolic, with tangled vector fields indicating complex interactions across multiple length scales.

The Kaplan-Yorke dimension (Lyapunov dimension) connects Lyapunov exponents to fractal dimension,

providing a bridge between temporal chaos and spatial fractal structure. For climate attractors, the Kaplan-Yorke dimension characterizes the fractal nature of the attractor, with values ranging from tens to hundreds depending on model complexity (Soldatenko et al., 2016) [4]. This connection illustrates the deep relationship between chaotic dynamics and fractal geometry.

### 5.2 Fractal Dimension Measures

Multiple methods exist for calculating fractal dimensions, each capturing different aspects of fractal structure and suited to different types of data. The box-counting dimension, perhaps the most intuitive measure, counts how the number of boxes needed to cover a structure scales with box size. For a fractal with box-counting dimension  $D$ , the number of boxes  $N$  scales as  $N \propto (1/\varepsilon)^D$ , where  $\varepsilon$  is the box size (Perugini, 2015) [1].

The correlation dimension, calculated from time series data, measures the scaling of correlation integrals and provides information about the attractor dimension in phase space. In ecological systems, correlation dimension analysis confirms the chaotic nature of population dynamics, with non-integer dimensions indicating fractal attractor structure (Golestani, 2014) [5]. The correlation dimension is particularly useful for experimental data where the underlying equations are unknown.

The Higuchi fractal dimension provides a method specifically designed for time series analysis. This approach calculates the length of curves constructed from the time series at different time scales, revealing fractal scaling properties. In ecological modeling, Higuchi fractal dimension successfully identified deterministic chaos in population time series (Golestani, 2014) [5]. The method is robust to noise and requires relatively short time series, making it practical for experimental data.

The Kaplan-Yorke dimension relates fractal dimension to the Lyapunov spectrum, providing a theoretical connection between dynamical properties and geometric structure. For a system with Lyapunov exponents  $\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda_n$ , the Kaplan-Yorke dimension is defined as  $D_{KY} = j + (\lambda_1 + \dots + \lambda_j)/|\lambda_{j+1}|$ , where  $j$  is the largest integer such that  $\lambda_1 + \dots + \lambda_j \geq 0$  (Soldatenko et al., 2016) [4]. This dimension characterizes the fractal structure of strange attractors in chaotic systems.

### 5.3 Entropy and Complexity Measures

Entropy measures quantify the unpredictability and complexity of dynamical systems, complementing Lyapunov exponents and fractal dimensions. Approximate entropy (ApEn) measures the regularity

and predictability of time series, with lower values indicating greater regularity and higher values indicating greater complexity (Pikkujämsä et al., 1999) [6]. In cardiovascular physiology, ApEn distinguishes healthy complex dynamics from pathological regular patterns.

Sample entropy and multiscale entropy extend the entropy concept to capture complexity across multiple time scales. These measures avoid some limitations of approximate entropy, such as bias and dependence on record length. In heart rate variability analysis, entropy measures reveal that healthy cardiac dynamics exhibit optimal complexity—neither too regular nor too random (Sassi et al., 2015) [19].

Conditional entropy measures the information content of a system given knowledge of its past states. In cardiac dynamics, conditional entropy analysis distinguishes linear from nonlinear contributions to heart rate variability (Ripoli et al., 2003) [14]. This decomposition helps identify the relative importance of linear regulatory mechanisms versus nonlinear interactions in cardiovascular control.

Complexity measures based on chaos theory provide insights into system organization and adaptive capacity. The loss of complexity with aging or disease represents a reduction in the system's ability to respond adaptively to perturbations (Pikkujämsä et al., 1999) [6]. This "complexity-loss theory" of aging and disease suggests that maintaining complex dynamics is essential for health, with implications for clinical assessment and intervention strategies.

### 5.4 Bifurcation Analysis

Bifurcation analysis studies how the qualitative behavior of dynamical systems changes as parameters vary. Bifurcations mark transitions between different dynamical regimes—from fixed points to periodic oscillations to chaos. Understanding bifurcation sequences illuminates how complex behaviors emerge from simple systems as parameters cross critical thresholds (Perugini, 2015) [1].

The period-doubling route to chaos represents a common bifurcation sequence. As a parameter increases, a system undergoes a cascade of period-doubling bifurcations, with the period of oscillations doubling at each step, eventually leading to chaos. This route to chaos appears in diverse systems, from ecological models to fluid dynamics, suggesting universal principles governing the transition to chaos.

Predator-prey models exhibit rich bifurcation structures, with transitions from stable equilibria to limit cycles to chaotic dynamics as parameters

change (Saha et al., 2012) [20]. These bifurcations reflect the nonlinear interactions between species and have important implications for ecosystem stability and management. The modified coupled logistic type predator-prey model demonstrates how relatively simple ecological interactions can generate complex dynamical behaviors through bifurcation sequences.

Basin boundaries and their fractal structure emerge through bifurcations in systems with multiple attractors. As parameters vary, basin boundaries can undergo fractal bifurcations, where smooth boundaries become fractal, dramatically affecting the predictability of final states (Dettmann et al., 1995) [9]. Around black holes, these fractal basin boundaries separate trajectories with qualitatively different fates, illustrating how bifurcation analysis connects to fractal geometry in understanding complex systems.

## 6. Conclusion

Fractals and chaos theory provide essential mathematical frameworks for understanding complexity in natural systems. This review has demonstrated that fractal geometry and chaotic dynamics are not mere mathematical abstractions but fundamental characteristics of nature, appearing across scales from molecular to planetary and across domains from ecology to astrophysics.

Several key insights emerge from this synthesis. First, fractal patterns and chaotic dynamics are ubiquitous in natural systems, reflecting the nonlinear processes that govern natural phenomena. Self-similarity appears in spatial structures from river networks to cellular membranes, while sensitive dependence on initial conditions characterizes temporal dynamics from weather systems to cardiac rhythms. Second, fractal and chaotic properties are intimately connected—strange attractors exhibit fractal geometry, and the Kaplan-Yorke dimension links Lyapunov exponents to fractal dimension, revealing deep mathematical relationships between spatial structure and temporal dynamics (Soldatenko et al., 2016) [4].

Third, complexity in natural systems often emerges from relatively simple rules through nonlinear interactions. Individual-based ecological models generate multifractal population patterns from basic predation and resource distribution rules (Golestani, 2014) [5]. Biochemical networks exhibit complex dynamics arising from simple molecular interactions (Aon et al., 2000) [3]. This principle—that simplicity underlies complexity—suggests that understanding fundamental interaction rules may be more important than cataloging detailed system components.

Fourth, fractal and chaos analysis provides practical tools for characterizing and predicting natural systems. Lyapunov exponents quantify predictability limits in climate models (Soldatenko et al., 2016) [4]. Fractal scaling exponents and entropy measures distinguish healthy from pathological cardiac dynamics (Pikkujämsä et al., 1999) [6]. These mathematical tools translate theoretical insights into practical applications for prediction, diagnosis, and management.

Fifth, the loss of complexity often signals dysfunction or disease. Healthy systems exhibit complex, fractal dynamics with appropriate scaling properties, while pathological systems show reduced complexity and altered scaling (Pikkujämsä et al., 1999) [6], (Louridas et al., 2012) [12]. This complexity-loss paradigm has important implications for medicine, ecology, and other fields, suggesting that maintaining complex dynamics is essential for system health and resilience.

Important challenges remain. Distinguishing deterministic chaos from stochastic noise in experimental data requires careful analysis with multiple methods (Golestani, 2014) [5]. Sensitivity analysis in high-dimensional chaotic systems demands specialized techniques beyond conventional approaches (Soldatenko et al., 2016) [4]. Connecting microscale fractal structure to macroscale system behavior requires multiscale modeling frameworks. Translating theoretical insights into practical interventions for managing complex systems remains an ongoing challenge.

Future research directions include developing more sophisticated multiscale models that integrate fractal spatial structure with chaotic temporal dynamics, extending fractal and chaos analysis to new domains such as social systems and technological networks, and creating better methods for real-time complexity monitoring in clinical and environmental applications. The integration of machine learning with chaos theory may enable improved prediction in chaotic systems by learning optimal model structures and parameters from data (Favela et al., 2016) [21].

In conclusion, fractals and chaos theory have fundamentally transformed our understanding of complexity in natural systems. By revealing the mathematical principles underlying apparently irregular patterns and unpredictable behaviors, these frameworks provide both conceptual insights and practical tools for studying nature. The ubiquity of fractal and chaotic properties across diverse systems suggests that these are not special cases but general features of complex systems. As we continue to develop these mathematical approaches and apply

them to new domains, fractals and chaos theory will remain essential tools for understanding the

complexity that characterizes the natural world.

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