

Cosmos and consciousness: Intersection of Science and Human Emotions in Samantha Harvey's *Orbital*

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Abstract

Samantha Harvey's *Orbital* explores the intersection of scientific exploration, human consciousness, and emotional experience through the lives of astronauts aboard the International Space Station (ISS). Rather than functioning as a conventional work of science fiction, the novel uses the unique perspective of space to examine humanity's relationship with Earth, identity, and existence. This article investigates how Harvey presents science and human emotions not as opposing forces but as interconnected dimensions of human experience. Drawing on qualitative textual analysis, the study examines how space serves as both a physical setting and a philosophical metaphor for exploring emotions such as love, nostalgia, fear, wonder, and belonging. Although physically detached from Earth, the astronauts develop a heightened emotional awareness of humanity and the interconnectedness of all living beings, revealing the vulnerability and fragility of human life. The analysis further argues that the journey through the cosmos parallels an inward journey of self-discovery, encouraging reflection on morality, identity, belonging, and collective human experience. The study concludes that *Orbital* presents the cosmos and human consciousness as inseparable, positioning the novel as a bridge between scientific inquiry, literary imagination, and the emotional dimensions of human existence.

Keywords- Orbital, Science and Literature, Human Consciousness, Space Exploration, International Space Station, Cosmos, Ecocriticism, Planetary Fiction, Emotional Attachment, Existentialism

Introduction:-

The cosmos and human consciousness are deeply intertwined, occupying a central position in history, literature, and science since antiquity. Through the lens of scientific investigation, scholars have continued to explore the physical structure and functioning of the universe. Literature, however, approaches the cosmos differently, as it is not limited to the practical dimensions of life but also explores human emotions and the ethical and existential implications of humanity's place within the universe. In the twenty-first century, the boundaries between scientific knowledge and humanistic inquiry have become increasingly blurred. Science and the humanities have become increasingly interconnected in the works of contemporary authors. Contemporary literary works no longer treat scientific progress merely as a backdrop; rather, writers use scientific inquiry to explore questions concerning identity, memory, mortality, ecological responsibility, and emotional resilience.

The engagement with identity, belonging, and emotional experience through scientific journeys into the cosmos has paved the way for the renowned contemporary author Samantha Harvey's novel *Orbital*. The

novel portrays the experiences of six astronauts and cosmonauts during a twenty-four-hour period, comprising sixteen orbital revolutions around the Earth. This extraordinary journey around the Earth is transformed into a philosophical meditation on existence. The novel has received widespread acclaim, particularly for its fusion of scientific realism with literary aesthetics, and was awarded the Booker Prize in 2024.

Samantha Harvey's *Orbital*, a work of science fiction, provides a narrative account of six astronauts who are deeply engaged in a scientific mission while remaining profoundly connected to the lived experiences and emotional realities of life on Earth. Their perspective from the ISS (International Space Station) not only reveals the interconnectedness of the Earth's systems but also destabilizes the divisions that separate humans from other forms of life. In contemporary critical discourse, the term "orbit" emerges as an "ambivalent signifier," a complex and elusive concept encompassing the known and the unknown, the visible and the imperceptible (Leonard 28). As Philip Leonard observes in *Orbital Poetics: Literature, Theory, World*, orbit can be understood as a concept that challenges conventional boundaries between different forms of knowledge and experience (28).

Through their daily life in the orbit, Harvey brings out questions of how we value life on the Earth and the possibility of human unity. The ISS itself has both historical and practical meaning. also explores the psychological experiences of the astronauts who miss their loved ones. Different critics approach *Orbital* from different perspectives. Some critics examine the novel as a form of planetary fiction, in which scientific observation becomes a means of understanding the Earth through ethical and emotional perspectives. Qi Xue and Yuan Yuan (2026), for instance, argue that Harvey establishes an "orbital gaze" in the novel that transcends geopolitical boundaries and explores an eco-cosmopolitan consciousness. Their study also emphasizes how the astronauts' scientific perspectives on the world transcend nationalism, encouraging readers to perceive the Earth as a shared ecological home rather than as a collection of competing nation-states. This planetary perspective provides an important foundation for interpreting the novel's synthesis of science and emotion.

Furthermore, Xue and Yuan argue that the ISS functions as a miniature symbol of a global community. The story takes place over only twenty-four hours, following six astronauts and cosmonauts as they carry out their daily activities in orbit. Through their experiences in space, Harvey raises questions about how human beings value life on Earth and considers the possibility of human unity. The ISS itself carries both historical and practical significance, as it represents an unprecedented form of international scientific cooperation while simultaneously serving as a confined space in which individuals from different national and cultural backgrounds live and work together.

Harvey's *Orbital* offers a meditation on the Earth from a planetary perspective. Viewed from space, the outlines of political borders disappear, and planet Earth emerges as a "rolling indivisible globe" with "no possibility of separation" (Harvey, *Orbital* 72).

Beyond portraying the astronauts' heartfelt connections that transcend nationality and identity, the novel also illuminates their empathy and enduring ties to the living world below. Even removed from Earth, they recall with longing the presence of animals—a "curious dog, a startled rabbit, a leaping sudden deer," along with "gibbons," "horse," "jay," "spider," "pike," "shrew," "hare," and "scarab beetle"—as well as their memories of trees.

Critics frequently note that Harvey reinterprets the International Space Station in the novel as a space for philosophical inquiry rather than dramatic action. James Wood, for instance, describes *Orbital* as "barely a novel" in the traditional sense, suggesting that its greatest accomplishment lies not in its plot but in its

ability to articulate the unique perspective of observing Earth from orbit. Instead of foregrounding conflict or conventional narrative progression, Harvey crafts a meditative work in which scientific observation and emotional reflection are deeply intertwined, transforming the astronauts' experience into a broader contemplation of humanity and the planet.

According to Stephanie Merritt, Harvey's fiction has always been concerned with altered consciousness, memory, and existence, and *Orbital* extends these concerns into cosmic space, in parallel with life on Earth. Furthermore, Merritt argues that the distance from Earth paradoxically signifies the astronauts' emotional attachment to humanity and everyday life on Earth. The novel thus reimagines outer space not as a domain of scientific conquest but as a reflective realm in which the fragility of human existence is brought into sharper focus.

The novel also engages with the broader traditions of literature and science. Gillian Beer, in *Open Fields: Science in Cultural Encounter* (1996), critically examines how scientific ideas do not merely provide factual knowledge but fundamentally reshape literary imagination and cultural understanding. Beer's framework provides a useful lens through which to understand Samantha Harvey's use of astronomy, orbital mechanics, and planetary science as literary structures through which emotional experience is not explained through scientific knowledge but reimagined. In *Orbital*, scientific observation is closely connected with human consciousness, as the astronauts' view of Earth from space evokes profound emotions of love, loss, morality, conflict, and humanity's complex relationship with the planet.

The novel also resonates with Timothy Morton's concept of ecological interconnectedness. In *Hyperobjects* (2013), Morton argues that environmental crises exceed ordinary human perception and therefore require new modes of thinking. Samantha Harvey explores this challenge by positioning her characters in orbit, where scientific distance paradoxically enables greater emotional intimacy with Earth and a deeper awareness of its ecological vulnerabilities.

Research Gap

Despite the growing critical interest in Samantha Harvey's *Orbital*, relatively little attention has been given to the specific intersection of science and human emotions in the novel. Most critics have studied the novel through the perspectives of ecocriticism and planetary fiction, often treating scientific knowledge primarily as a subject or thematic background. Few researchers have systematically investigated how Harvey integrates astrophysics, orbital science, environmental science, and astronautical experience with human emotions such as grief, love, loneliness, memory, hope, and ethical consciousness. Furthermore, insufficient attention has been given to the novel's integration and fusion of scientific experience with human consciousness. This study addresses this gap by demonstrating that *Orbital* does not merely juxtapose science and emotion but presents them as mutually interconnected ways of understanding both the cosmos and human existence. The study further argues that Harvey's fusion of scientific realism with affective experience functions as a distinctive narrative strategy through which space exploration becomes a means of examining human emotions, consciousness, identity, belonging, mortality, and humanity's relationship with Earth.

Research Objectives

The present study, **"Between Cosmos and Consciousness: Intersection of Science and Human Emotions in Samantha Harvey's *Orbital*"**, seeks to achieve the following objectives:

1. To examine scientific realities of space exploration with the emotional and psychological experiences of the astronauts in *Orbital*.
2. To explore the connection that built constant relationship between the vastness of the cosmos and the formation of human consciousness in the novel.
3. To analyses the representation of technological environment oriented international space station is still filled with human emotions such as loneliness, nostalgia, love, fear.
4. To explain the special connection between science and emotion in *Orbital* that are not contradictory to each other but complementary for understanding human experience.

Samantha Harvey's *Orbital* presents space exploration not merely as a scientific achievement but as a distinctive condition through which human experience can be reconsidered. The novel follows six astronauts—Anton, Pietro, Roman, Shaun, Chie, and Nell—aboard the International Space Station as they complete sixteen orbits around the Earth during a single day. This unusual temporal and spatial structure allow Harvey to bring scientific realities such as orbital movement, gravity, rotation, velocity, distance, and planetary observation into direct contact with human thought and emotion. The astronauts perform ordinary scientific and maintenance activities, yet their physical location continuously transforms these routine activities into opportunities for reflection. The novel therefore refuses to separate scientific observation from philosophical consciousness. The opening description is particularly significant because the astronauts are simultaneously “together” and “alone” as they orbit the Earth, establishing from the beginning a relationship between physical isolation and collective human experience.

Harvey's treatment of orbital science is especially significant because the orbit becomes more than a technical movement around a planet; it becomes a metaphor for the repetitive yet constantly changing nature of human existence. The astronauts continually return to the same planet, but each orbit offers a different visual, emotional, and intellectual experience. Their repetitive movement also disrupts conventional perceptions of time. The astronauts experience numerous sunrises and sunsets within a single terrestrial day, and consequently, the familiar human divisions of morning, afternoon, evening, and night lose their stability. The novel's chapter structure follows this orbital movement, demonstrating how scientific principles can become principles of literary form. As one critical discussion of the novel observes, the sixteen orbits create a structure in which the ordinary twenty-four-hour experience of time is disrupted by the astronauts' experience of space. Thus, Harvey transforms orbital mechanics into a narrative mechanism through which the reader experiences the astronauts' altered consciousness. Science, therefore, is not simply represented in *Orbital*; it shapes the very way in which the story is told.

vastness of the cosmos profoundly alters the astronauts' consciousness because it transforms their perception of the Earth and their own position within the universe. From the International Space Station, the astronauts are physically removed from the ordinary human environment; yet, this distance makes them more intensely aware of Earth. Harvey repeatedly presents the Earth as an object of fascination, affection, and contemplation. The novel portrays the Earth as an answer to the questions raised by the astronauts' presence in space and compares their relationship with the planet to that of lovers observing one another. This metaphor is crucial because it transforms the seemingly scientific act of planetary observation into an emotional encounter. The astronauts do not merely collect information about Earth; they develop an intimate relationship with the planet they observe.

The cosmic perspective also challenges the limitations of ordinary human consciousness. On Earth, individuals experience their lives through local spaces, frame and consequently blurs distinctions between borders, time zones, and individual stories.

The cosmic perspective also challenges the limitations of ordinary human consciousness. On Earth, individuals experience their lives through local spaces, national identities, cultural boundaries, and personal histories. From orbit, however, these distinctions become difficult to maintain. The astronauts see a single planet rather than a collection of separate political territories. The Booker Prize judges similarly emphasize that the novel places the entire planet within a single narrative frame, consequently blurring distinctions between borders, time zones, and individual stories. This cosmic perspective encourages a shift from fragmented, Earth-bound perceptions toward a more interconnected understanding of human existence.

They have their own dream, which is in practical unfinished dream which comes towards as wild in his thoughts. The view they are watching from the orbit is something which is apart from the whole world where they are making themselves to coming out of his sleeping bag and goes to the gallery of reminiscence with the cup of coffee with the look upon the various sight of northerly point of Oman of the Persian gulf, dust clouds over the navy Arabian sea, the great Indus Estuary- known as Karachi, but its invisible now a days, but at night it looks fabulous from the Orbit.

“They look down and they understand why it’s called Mother Earth. They all feel it from time to time. They all make an association between the earth and a mother, and this in turn makes them feel like children.”

The astronauts have their own dreams, which are often practical yet unfinished and emerge as imaginative or even wild thoughts. The view they experience from orbit is something entirely apart from the world they have left behind. Their position in space allows them to momentarily escape their ordinary surroundings and enter a “gallery of reminiscence,” where memories and reflections emerge alongside everyday routines. For instance, an astronaut may leave the sleeping bag with a cup of coffee and gaze upon the various sights below, including the northern point of Oman on the Persian Gulf, dust clouds over the northern Arabian Sea, and the great Indus Estuary, near Karachi. Although the estuary may be difficult to see during the day, it appears particularly beautiful and striking at night from orbit. These observations transform geographical features into emotionally significant images through which the astronauts reconnect with Earth.

This perspective also evokes a powerful maternal association. As Harvey writes, “They look down and they understand why it’s called Mother Earth. They all feel it from time to time. They all make an association between the earth and a mother, and this in turn makes them feel like children.” The image of Earth as a mother emphasizes the astronauts’ emotional dependence on the planet despite their physical distance from it. Their position in orbit therefore does not diminish their connection with Earth; instead, it intensifies their sense of belonging and vulnerability as human beings.

Chie, who has recently lost her mother, begins to associate the Earth with her mother, recognizing that the planet itself is now the only “mother” she has. When she tells Shaun about her mother in a sorrowful voice, Shaun is so deeply affected that he accidentally lets go of his packet of noodles, causing it to float above the table. Harvey writes:

“Since the news, they find themselves looking down at earth as they circle their way around it. There’s that word: mother mother mother mother. Chie’s only mother now is that rolling, glowing ball that throws itself involuntarily around the sun once a year. That ball is the only thing she can point to now that has given her life. There’s no life without it. Without that planet there’s no life.” (p. 8)

The passage establishes a profound connection between personal grief and planetary existence. Chie’s loss of her biological mother leads her to perceive the Earth as a larger maternal presence—the source and

sustainer of all life. Her grief therefore becomes inseparable from her awareness of the planet's significance. This connection is reinforced by another passage:

“Without that earth we are all finished. We couldn't survive a second without its grace, we are sailors on a ship on a deep, dark unswimable sea.” (p. 9)

The metaphor of human beings as sailors on a vast, dark, and unswimmable sea emphasizes humanity's dependence on Earth. The planet becomes not merely a geographical object observed from space but a life-sustaining presence upon which human existence depends. Chie's personal experience of mourning thus expands into a broader meditation on mortality, dependence, and humanity's relationship with the Earth.

Chie's family expects her to return home in time to participate in her mother's funeral rites, but she is unable to return immediately because of her responsibilities aboard the International Space Station. The physical distance between Chie and her family intensifies her grief and places her personal loss within the larger context of her experience in orbit. Even though she cannot physically be present for the funeral, her view of Earth continually reminds her of her mother and of the fundamental relationship between motherhood, life, and the planet.

“she will be there to scattered the ashes later in the

Chie also remembers one of the cheerful moments she shared with her mother. In a moment of excitement, her mother called out, “Chie-Chan! Chie-Chan!” meaning, “I am here, I am up here.” This memory allows Chie to reconnect emotionally with her mother despite the physical distance between them. Her memories therefore become an important means through which she maintains a connection with her mother and processes her grief. The experience also strengthens the novel's association between memory, consciousness, and the perception of Earth from space.

Anton is fascinated by the dream of landing on the Moon, and he imagines “all the things, of all damned American things,” including the famous photograph taken by Michael Collins during the Apollo 11 mission in 1969. The photograph depicts the lunar module returning from the Moon's surface, with the Earth visible in the distance (p. 42). However, the person who took the photograph is absent from the image. As Harvey observes:

“Every single person currently in existence, to mankind's knowledge, is contained in that image: only one is missing, he who made the image.” (p. 43)

The absence of the photographer becomes significant because it draws attention to the relationship between the observer and the observed. Anton recognizes that the person who takes the photograph occupies a unique position: he is responsible for creating the image but cannot appear within it. This paradox makes the photograph a powerful symbol of isolation, perspective, and human presence.

Anton's imagination is also deeply shaped by the stories told to him by his father. His father recounts stories about Russian Moon landings, describing them through elaborate, detailed, and extravagant tales that often resemble fables. Although many of these stories never actually happened, they have a profound influence on Anton's imagination. They encourage him to imagine possibilities beyond the limits of ordinary experience. Anton therefore wants to become part of the kind of story that his father once created through imagination—to transform an imagined world into a lived reality. His desire to participate in space exploration is consequently connected not only to scientific ambition but also to memory, storytelling, family influence, and the human desire to turn imagination into reality.

The artificiality of the ISS and the reality of life on Earth sometimes create a sense of confusion for the astronauts. Shaun, for instance, remembers an incident on Earth in which she encountered an artificial tree

placed among real trees. The artificial tree appeared sufficiently realistic to create uncertainty in her mind about the distinction between the natural and the artificial. This memory becomes particularly significant in the context of the astronauts' present situation aboard the International Space Station. Although they are physically separated from Earth and observing it from orbit, the ISS itself contains various artificial elements that recreate aspects of terrestrial life. Their experience in space therefore produces a continuous tension between the real and the artificial.

The astronauts' shared experience of living aboard the ISS also creates a sense of belonging that transcends conventional geographical and cultural boundaries. They are, in a sense, travelling together in the same "boat," united by their unusual journey into space. Harvey writes:

"If we have any single thing in common it's our acceptance of belonging nowhere and everywhere in order to reach this near-mythical craft." (p. 63)

The statement captures the paradoxical condition of the astronauts. They are physically separated from Earth and temporarily belong to no particular place, yet they simultaneously experience a sense of belonging to the whole planet. Their shared presence aboard the ISS creates a temporary community that transcends national borders and individual identities.

As they observe the Earth from orbit, the astronauts are particularly fascinated by the lights scattered across its surface. The sparkling lights of cities and settlements become visually captivating from their distant perspective. What appears ordinary from the surface becomes extraordinary when viewed from space. The lights therefore transform the Earth into a luminous and interconnected presence, reinforcing the astronauts' emotional attraction to the planet and their growing awareness of humanity as part of a single global environment.

Harvey's description of the Earth at the boundary between light and darkness presents the planet as both beautiful and fragile:

"At the brink of a continent the light is fading. The sea is flat and copper with reflected sun and the shadows of the clouds are long on the water. Asia comes and goes. Australia a dark featureless shape against this last breath of light, which has now turned platinum. Everything is dimming. The earth's horizon, which cracked open with light at so recent a dawn, is being erased. Darkness eats at the sharpness of its line as if the earth is dissolving and the planet turned purple and appears to blur, a watercolour washing away." (p. 67)

The changing light observed from orbit transforms the Earth into an almost artistic image. The colours of the sea, continents, clouds, and horizon constantly change as the ISS moves through space. The image of the Earth "dissolving" and becoming like "a watercolour washing away" suggests both the beauty and the impermanence of the planet. From above, familiar geographical boundaries lose their solidity, while the Earth appears as a single, delicate object suspended in the vastness of space. Harvey therefore transforms a scientific observation of the planet into an aesthetic and philosophical experience.

The experience of spacewalking further intensifies this altered perception. Although the astronauts can observe space through the windows of the ISS, stepping outside the spacecraft creates an entirely different relationship with the surrounding environment. Nell's experience of the spacewalk demonstrates this transformation:

"Once you've been on a spacewalk, looking at space through a window is never the same. It's like looking through bars at an animal you once ran with. At first, on her spacewalk last week, she felt that she was falling. For a moment it was terrible. When the hatch is released, when you emerge into it from the airlock

and struggle free, when you let go, there are two objects you can see in the universe—the space station and the earth.”

Nell’s comparison of looking through the ISS window to “looking through bars at an animal you once ran with” emphasizes the difference between observing space and physically experiencing it. During the spacewalk, she initially experiences a frightening sensation of falling because the absence of ordinary terrestrial references radically alters her perception of movement and orientation. Once outside, however, her visual field is reduced to two significant objects: the space station and the Earth. This experience emphasizes the astronauts’ profound isolation while simultaneously strengthening their awareness of Earth as their only natural home. The spacewalk therefore becomes not merely a technological achievement but an experience that transforms consciousness and intensifies the emotional relationship between the astronauts and the planet.

During the spacewalk, the astronauts are instructed to follow one essential rule: not to look down, but to remain focused on their hands and the task at hand until they become accustomed to the experience. However, for Nell, the Earth is impossible to ignore because it is the place to which she belongs. Despite the fear and uncertainty of floating in space, she cannot resist looking down at the planet:

“The earth was tumbling beneath her at speed. The naked startling earth. From out there it doesn’t have the appearance of a solid thing, its surface is fluid and lustrous.”

The description presents the Earth as a dynamic and almost living presence. From the perspective of space, its surface no longer appears solid or fixed but “fluid and lustrous.” This altered perception challenges the familiar understanding of Earth as a stable physical environment. Nell’s inability to look away from the planet also reveals her emotional attachment to it. Although she is physically farther from Earth than she has ever been, the distance intensifies her awareness of belonging to it.

Roman’s experience of floating in space is similarly associated with a profound transformation of consciousness. His sensation evokes a memory or feeling that precedes ordinary human experience:

“Perhaps it was caused by untapped memories of being in the womb. Being not born.”

The comparison between floating in space and being in the womb suggests a state of existence before birth, in which the boundaries between the individual and the surrounding environment have not yet been established. Roman’s experience therefore becomes both physically disorienting and psychologically profound. The absence of gravity, the sensation of floating, and the vastness of space create an experience that challenges ordinary perceptions of the body, identity, and existence.

The astronauts consequently encounter numerous physical and psychological difficulties during their time in space. Their experiences of isolation, weightlessness, altered orientation, and separation from Earth continuously challenge their familiar understanding of reality. Harvey uses these difficulties not simply to represent the technical challenges of space travel but to explore how unfamiliar environments can transform human consciousness and reveal deeper connections between the individual, the Earth, and existence itself.

Pietro’s experience in orbit reveals the profound physical and psychological effects of prolonged space travel. After spending almost six months aboard the ISS, with three more months remaining, he begins to feel that his body is gradually changing. Harvey writes:

“He’s been here now almost six months and has three months more. He thinks he’s becoming tadpole, all head and no body. With the atrophying of the body life doesn’t tug at him so much. He feels hungry so he eats, and the sinuses are so blocked that the food has no taste: but anyway there’s no real appetite, not really. He sleeps because on earth. Everything in his body seems to lack commitment to the cause of its

animal life, as if there's a cooling of systems, an efficient running down of superfluous parts. In the slowing and cooling he hears his thoughts more, they're distant bells chiming one at a time in his head."

The image of Pietro becoming a "tadpole, all head and no body" represents the physical transformation caused by life in microgravity. As his body begins to atrophy, he feels increasingly detached from ordinary bodily experiences such as hunger, taste, and physical activity. At the same time, this physical weakening produces an unusual intensification of his inner consciousness. As his bodily systems appear to slow down, Pietro becomes more aware of his thoughts, which he experiences as "distant bells chiming one at a time in his head." Harvey therefore presents space as an environment in which physical reduction and psychological introspection occur simultaneously.

Despite their extraordinary location in space, the astronauts must continue performing ordinary domestic and maintenance tasks. Shaun collects the rubbish bags each morning, while Roman cleans the Russian toilet and Pietro cleans the US toilet. Anton is responsible for cleaning the air-purification system. Chie wipes and disinfects surfaces, while Nell vacuums the air vents, where she discovers a pencil, a bolt, a screwdriver, some hair, and nail clippings. These mundane objects are significant because they connect the astronauts' extraordinary experience of space travel with the ordinary routines of human life. The ISS consequently becomes a space where scientific exploration exists alongside repetitive domestic labour. Chie's emotional connection to Earth becomes particularly intense when she thinks about Japan and her mother while looking through the window. She realizes that the ISS is at its greatest distance from Japan and that she will have to wait before seeing it again:

"Their orbit is as far away from Japan as it can ever get; it'll be another hour or so before they pass it again. Everything that's left of my mother is there, and soon it will be burned and gone." (p. 91)

The passage brings together geographical distance and personal grief. Although Chie is able to observe Earth from orbit, she remains emotionally attached to a specific place—Japan—and, more importantly, to her mother. The knowledge that her mother's funeral is taking place in her absence intensifies her sense of helplessness and separation. The Earth viewed from space is therefore not an abstract planet for Chie; it contains her memories, her homeland, and the final remains of her relationship with her mother. Harvey uses Chie's experience to demonstrate how cosmic distance can paradoxically deepen emotional attachment to particular places and people on Earth.

"In its bareness, the thought brings them some relief from the anguishes of space- the loneliness of being here and the apprehension of leaving here." (P-95) Their own thought, emotions and what their belief on earth has some spiritual connection makes it possible to the earth.

The sleeping bag in which they have to during this time. It's also mysterious thought when they have first time seen and experienced about it.

"It's true that they hung, and most of us don't even fasten them with bungees to the wall, we hang freely and sail about, and it's very comforting. But my first night here I remember seeing my sleeping bag, and may be at first sight you might be-what?- crestfallen, Crestfallen to think this is your bed for several months, but then you see something and it makes you smile. I saw that it didn't quite hang, it isn't just hanging, you know- there's no gravity to make it, what's the word, heavy or lifeless or limp." (p-101)

They compared the situation in the sleeping bags with the situation of burial in the caffeine.

The dream they are watching all the time is to only became an astronaut.

"I decided to be an astronaut when I was in the womb, Roman's saying to a roomful of people. Before I was born, when I was taking in oxygen through an umbilical cord, when I was swimming weightless,

when I knew infinity because I'd recently come from it, that's when I decided to become an astronaut.” (p-120) `

Ultimately, Samantha Harvey's *Orbital* explains that science and emotions of human are not human are not separated or contradicted domain from each other. The journey of astronaut's and consonants in space is both combined with philosophical, emotional and spiritual experiences. Their gradual emotional, philosophical and scientific and spiritual experiences they feel love, loneliness, memory, mortality, wonder vulnerability and their sense of belongings. The distance from the earth to the space is very long but it is just abstract distant. Their emotional connection with the earth and with humanity have not any space between them. They are combined emotionality and that distance is only scientific distance. Harvey pick up even opportunity in novel to reflect to reflect the life, relationship, loss of the fragile interconnect Ness of existence on the planet. The novel itself gives the means of science as watching and understanding the universe, while emotions give meaning to what is seen.

Conclusion:-

Samantha Harvey's *Orbital* presents a profound interpretation of the interconnection between scientific knowledge and human emotional experience. The novel demonstrates that science and emotion are not opposing forces but interdependent dimensions of human experience that enable the astronauts to understand and emotionally experience Earth from space. Although the astronauts are surrounded by scientific instruments, calculations, orbital movements, and technological systems, their experience of space remains deeply human.

The scientific concepts employed by Samantha Harvey, particularly those related to astronomy, orbital movement, gravity, and planetary observation, are presented as factual elements that contribute to the astronauts' changing consciousness and their understanding of Earth. Thus, science becomes not simply the subject of the novel but also a narrative method through which human consciousness is altered and expanded. Scientific observation allows the astronauts to see Earth from a perspective that is impossible from its surface, encouraging them to reconsider their relationship with the planet and with humanity.

The astronauts' emotional attachment to Earth is also evident through their memories of life on the planet. Their memories of family, home, relationships, loss, and ordinary experiences continually accompany them in orbit. Physical distance from Earth therefore does not weaken their emotional connection to it; instead, it makes them more conscious of its importance. Through this relationship between scientific observation and emotional memory, Harvey presents space not merely as a setting for technological exploration but as a reflective environment in which the astronauts develop a deeper understanding of themselves, humanity, and the fragile interconnectedness of life on Earth.

The image of Earth is repeatedly associated with the idea of "Mother Earth" for the astronauts. The term itself creates an intimate emotional experience, as it connects the planet with ideas of motherhood, care, origin, and belonging. The astronauts' memories of home demonstrate that scientific discoveries and technological advancement cannot completely separate human consciousness from the ecological and environmental world from which human beings originate. Even when they are physically removed from Earth, their emotional and psychological connections to the planet remain deeply rooted in their memories and experiences.

The novel's vast cosmic viewpoint further develops the relationship between science and human emotion. When the astronauts observe Earth from orbit, national boundaries become almost invisible, and the planet appears before them as a single, interconnected system. Although the astronauts come from different countries and cultural backgrounds, their experience aboard the ISS brings them together. Their physical

distance from Earth places them outside the conventional boundaries of nations, allowing them to share a common experience of living and working in space. In this sense, the astronauts are metaphorically “sailing the same boat,” united by their shared dependence on Earth and their collective experience of space.

The scientific act of observing Earth consequently becomes an ethical act because it reveals the fragility of the environment and the interconnectedness of life. The astronauts’ emotional responses to oceans, clouds, forests, animals, cities, and changing patterns of light demonstrate that Earth is not merely an astronomical object to be observed and studied. Instead, it is a living home whose survival is inseparable from human survival. Harvey therefore transforms the scientific perspective of space exploration into a broader reflection on environmental responsibility, human interdependence, and the fragile relationship between humanity and the planet.

for self-discovery. Thus, the study confirms that the central significance of the novel lies in its rejection of a rigid division between scientific and humanistic modes of knowledge. Harvey’s distinctive contribution lies in demonstrating how scientific perception itself generates emotional and philosophical consciousness. The novel does not simply place science alongside emotion; rather, it shows that the two continually interact with, produce, and reshape one another. The astronauts understand Earth differently because they observe it scientifically from space, while they experience that scientific vision emotionally because they remain human beings connected to memories, relationships, and life on Earth.

Finally, *Orbital* represents the cosmos as a reflection of humanity and its existence. The space in which the astronauts orbit does not diminish the significance of human life; instead, it makes the interconnectedness and fragility of human existence more visible. The novel moves between scientific discovery and emotional and spiritual realization, as well as between individual experience and a broader cosmic perspective. Its central argument is that understanding the cosmos cannot be limited to scientific knowledge alone. It also requires imagination, dreams, empathy, memory, wonder, and ethical perception. Therefore, *Orbital* demonstrates the significance of a productive dialogue between science and literature, in which the cosmos provides a distinctive perspective on human existence while human emotions give meaning to our understanding of the universe. Through this synthesis, Harvey transforms spaceflight into a meditation on the meaning of human life, the significance of belonging to Earth, and humanity’s place within the vastness of the cosmos. The novel ultimately suggests that looking outward into space can also become a way of looking inward—toward questions of identity, mortality, belonging, responsibility, and the future of human life.

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