Power and Silence in Amitav Ghosh's *The Calcutta Chromosome: A Study*

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Abstract- ***The Calcutta Chromosome by Amitav Ghosh is a complex novel that explores logic, knowledge, and science, while also presenting counter-science as an opposition that cannot be understood through traditional logic. There are many things that can and cannot be defined by logic, reason, knowledge, and science. These unknown elements possess the power to blur points of weakness, challenge existing binaries, and break the cycle of suppression, ultimately helping to shape identities based on caste, religion, and nationality. Amitav Ghosh uses this novel to highlight postcolonial effects through the lens of science and technology. Additionally, the text incorporates India's own research and the true essence of Indian scientific knowledge. The novel encourages readers to deconstruct colonial agency and Western epistemology through spirituality, particularly reincarnation, as seen through the perspective of the "other" or the "subaltern," who are often considered non-human. Ghosh challenges the traditional views of the "other" held by Western-educated individuals and demonstrates the power of the subaltern through their silence and secrecy. This paper focuses on the study of the subaltern's unique epistemology.***

Keywords: Postcolonial, Deconstruction, Subaltern, Reincarnation, Epistemology, Science, Counter-Science.

I. INTRODUCTION

Amitav Ghosh's novels are often identified as postcolonial texts, but this novel is something more. The title itself—*The Calcutta Chromosome: A Novel of Fevers, Delirium & Discovery*— suggests that it holds something that makes it a great and unforgettable work of science fiction. This is a text centered on Ronald Ross's discovery of the malaria parasite. The novel is deeply connected to the theory of deconstruction, offering a new way to look at the story from a fresh angle, rather than merely as a postcolonial narrative. The writer highlights counter-science as an opposition to Western science and epistemology. He presents a parallel journey for both sciences, leading to discoveries related to the malaria parasite, syphilis, and reincarnation. Ghosh focuses on character development and weaves stories across different timelines. He blends postcolonial theory with deconstruction through the character of Mangala, a subaltern woman who is marginalized and not recognized as a scientist, let alone a god. *The Calcutta Chromosome* focuses on rewriting the history of Indian subalterns from a postcolonial perspective, showcasing the relationship between power and knowledge in colonial contexts. *The Calcutta Chromosome* is one of the best and most successful science fiction novels by Amitav Ghosh, published in 1995. The novel is divided into two parts: (I) *August 20: Mosquito Day* and (II) *The Day After*. The first part, *August 20*, is a significant day because it marks the discovery of the malaria transmission cycle by the great scientist Ronald Ross in 1897. This date is central to the novel's plot, as the character Murugan chooses this day to unravel the mystery behind Ross's discovery. Murugan believes that someone or something played a significant role in Ross's journey. The second part, *The Day After*, reveals the true mystery— a part of history shaped by the subalterns. After August 20th Murugan suspects that something occurred which indicate that marginalized groups influenced the British scientists.

The novel begins with the character Antar and his official AI system, AVA. The story progresses through AVA's discovery of an ID card belonging to an employee of "LifeWatch." Antar examines the card and recognizes the person as his former colleague, L. Murugan, who disappeared in Calcutta. Murugan was obsessed with science, particularly the work of Ronald Ross, who discovered the malaria parasite. The story follows Antar's concern for Murugan, leading him to an unexpected turn and a new theory about malaria that may not align with the logic of Western science. Antar discovers that Life Watch had only one meeting with Murugan about his obsession with Ross's life journey. This scenario helps Antar recall conversations with Murugan about his obsession,

doubts, and predictions. Murugan, a Western-educated man, always sought to rationalize everything through knowledge and logic. However, this journey leads him to believe in unexpected and undefined phenomena. The novel's exploration of science intersects with counter-science, led by a group of people who discover something unprecedented, involving characters such as Urmila, Sonali, Phulboni, Romen Halder, and Tara. Urmila and Sonali both work at *Calcutta Times*. At an award function held for the writer Phulboni, they encounter Murugan. From this meeting, their journeys become linked. Later, a fisherman intentionally visits Urmila to sell fish wrapped in particular newspapers. Urmila discovers that these newspapers contain information about the pre-discovery of the malaria parasite. These papers set the stage for Murugan and Urmila's day, leading to conversations about the papers, finding Sonali, learning about Romen, and identifying Mrs. Aratounian. This day leads them to uncover the secret group practicing cult culture, created by subaltern people. This group discovers a cure for syphilis and, in the process, accidentally discovers the method of reincarnation. Science fiction is a genre that has evolved significantly, from Western science and technology to India's unique style of writing science fiction. Science fiction is typically based on technology, human curiosity about nature, and the future. Indian science fiction is a complete package of science, nature, and socio-political influences. It is not only about science but also incorporates mythology and ancient history. Indian science fiction seamlessly merges imagination, scientific research, and the rewriting of social issues, Indian philosophy, and political aspects (Khilnani and Bhattacharjee, 3). However, if we examine the evolution of Indian science fiction, it becomes clear that after colonial influences, Indian science fiction became a genre that resists Western epistemology and science. It challenges the ideology that the term "science" is inherently Western. Indian science fiction's incorporation of postcolonialism showcases the rejection of and resistance to Western science and epistemology. "One of the immediate implications of postcolonial Indian SF's delinking the procedures of imagination from the boundaries of Western science is a rejection itself" (Parial, 90). This text is also referred to as science fiction that expresses discoveries and phenomena that cannot be explained by logic. But what this text does is set an example for the rest of the history of Indian science fiction by introducing something called *Vigyan* (Parial, 90). *Vigyan* itself represents resistance and rejection of Western science and Western culture. Film director Satyajit Ray, who, along with Tagore, is one of Ghosh's major inspirations, represents these very tensions in many films, including the transposition of Tagore's *The Home and the World* and *Ganashatru*, an adaptation of Henrik Ibsen's 1882 drama of the same title. The latter tells the story of a physician who discovers that the holy water distributed to pilgrims at a certain temple in Calcutta is infected. When he publishes the results of his water analysis, the outraged mob nearly lynches him and his family. Ray's films are yet another subtext that intersects the poetics of *The Calcutta Chromosome* (Vescovi, 3). *The Calcutta Chromosome* is a novel in which not only scientific elements but also post-colonialism can be seen through Jacques Derrida's theory of deconstruction. Deconstruction, a theory by Derrida, challenges traditional language, meaning, and, more accurately, the theory of structuralism. Structuralists believed that every word, sentence, or text should follow a rule that perfects meaning, and a word should have only one meaning, visible on the surface, ignoring the history of the word. According to Derrida, there is more inside the box that needs to be uncovered. The theory of deconstruction explains that everything has a deeper meaning and perspective. It asks us to break and rebuild things. Deconstruction is like an earthquake—a minimal crack, but its effectiveness is far greater than expected. In an interview, Derrida remarks, "Deconstruction moves, or makes its gestures, lines, and divisions move, not only within the corpus [of a writer] in general but at times within a single sentence or a microscopic element of a corpus. Deconstruction mistrusts proper names: it will not say 'Heidegger in general' this or that; it will deal with the microbiology of the Heideggerian text, with different moments, different applications, concurrent logics, while trusting no generality and no configuration that is solid and given. It is a sort of great earthquake, a general tremor, which nothing can calm. I cannot treat a corpus, or a book, as a whole, and even the simplest statement is subject to fission" (Royle, 25). Post-colonialism and deconstruction challenge binaries. Deconstruction shows that traditional binary oppositions, such as 'men-women' or 'white-black,' hold the power to blur other binaries. Similarly, post-colonialism reveals that the history of our own country was

written by Western people, marginalizing our voices and freedom while hiding the actual truth. Ghosh writes about Indian epistemology, aiming to show the actual truth—something that cannot be detected by Western science and knowledge. He succeeds in implanting these ideas by focusing on the unpopular, unnoticed thinking of cult culture and practices. Ghosh highlights the subaltern people, who were often referred to as the 'other' in the colonial era. Gayatri Chakravorty Spivak, in her essay *Can the Subaltern Speak?*, stated that "the subaltern's voice is either misrepresented or completely erased by elite or colonial narratives." She analyzes why they cannot speak and finds that their stories are usually told through elite intellectuals, colonizers, or dominant social groups. She also mentions that there is no unrepresentable subaltern that can know and speak for itself. In this text, Amitav Ghosh addresses subaltern figures such as Mangala and Lakhan (or Lutchman), who operate in secrecy outside mainstream historical discourses. They are marginalized in the colonial era, making it unnatural for them to read or write. However, Ghosh implants opposition through Mangala's discovery about malaria. She discovered the malaria parasite long before Ronald Ross but was not satisfied with her findings. Instead, she allowed Ross to work on these discoveries and publish his work by sending Lutchman. Murugan, who is passionate about Ronald Ross's journey of discovering the malaria parasite, finds traces suggesting that someone else is managing the whole process. By reading Farley's letter about Mangala, whom Cunningham found at Shaidah station along with Lutchman, Murugan connects the traces he found earlier.

As a subaltern and marginalized figure, Mangala transforms from an ordinary woman into someone who can process the malaria parasite as a cure for syphilis—*"Mangala was actually using the malaria bug as a treatment for another disease"* (Ghosh, 310). Murugan guesses, or rather finds, that Mangala is also a patient of syphilis. Mangala practices cult culture, and the symbol of the pigeon plays a significant role in enhancing the storyline of counter-science. She uses pigeons to transfer the bug from malaria patients to syphilis patients. Throughout the text, Mangala and Lakhan barely present any dialogue, as Ghosh intentionally writes these characters as silent pillars for their own sake. They believe that if any of their information leaks out, their efforts will be damaged. According to Murugan, "to know something is to change it, because as soon as something is known, it is already changed. Since, by then, you only know its history" (*The Calcutta Chromosome*). Mangala and her group aim for their ultimate goal: immortality. According to Gayatri Chakravorty Spivak, the subaltern cannot speak for the dominant social group, but it is Amitav Ghosh who turns the tables and creates something new and unique by showcasing the subaltern's epistemology, which shuts down all Western popular beliefs. Their silence is the loudest and strongest answer to those dominant social groups that always try to erase them from history. The 'silence' is the greatest part of the entire text, as it becomes the power for these people who acknowledge their knowledge—a knowledge completely different from traditional science and scientific research. Ghosh successfully implants the subaltern's epistemology in their own unique way, as their knowledge brings out something that would have been impossible for Ronald Ross and other scientists of that time to conceive. The form of the novel, or its style of narratology, perfectly blends the time periods, requiring patience to reach the climax of the story. The narrative shifts from the future, showing Antar, to the scenes involving Murugan, Urmila, and Sonali, with different small sections of the story leading to a broader revelation. Mangala, as a marginalized and subaltern woman, is often overlooked and lacks an identity of her own. However, she creates her identity and ensures that it remains forever. Mangala discovers that the malaria bug can be used as a cure for syphilis, along with another finding— immortality. This immortality is not something to consume to escape death; it is reincarnation. Many religious traditions believe that reincarnation is a method of being reborn in a different body with different personality traits. Mangala achieves reincarnation through the malaria bug, which has the unique ability to "cut and paste" its DNA—unlike any other creature except the trypanosome (Ghosh, 214). She discovers the method of reincarnation when she notices that her syphilis patients develop new personality traits or disorders. From finding the cure to choosing Urmila through a fisherman (who seems to be Lakhan in another form of DNA or soul), to Antar's assistance for Tara, and sending a house help to Sonali's house to expose her to cult practices, Mangala and Lakhan perfectly execute their plan to achieve reincarnation.

The theory of reincarnation generally does not exist within traditional Western epistemology, but it is something Mangala creates. She can transfer her own DNA into someone she chooses. As Ghosh writes, "she actually believed that the link between the bug and the human mind was so close that once its life cycle had been figured out, it would spontaneously mutate in directions that would take her work to the next step" (Ghosh, 215). It is Murugan who ultimately solves the theory by discovering that Mangala chooses Urmila for reincarnation. The repetition of Lakhan's appearance in different time periods in the text suggests his reincarnated presence—he is the man in the coffee house at Penn Station, the bearer who was a servant and assistant in Cunningham's laboratory, and the famous Romen Haldar. Not everyone can access reincarnation; it is reserved for those Mangala chooses, as she holds the power to decide. Through her cult practices, she becomes 'Mangala Bibi.' Without any formal knowledge of deconstruction, Mangala achieves her goals through her cult practices. Her intentions are not to become an influencer or a role model for her country but to fulfill her own desires and satisfaction. According to Murugan, "She is not in this because she wants to be a scientist. She's in this because she thinks she's a god." He also states, "The way she sees it, we can't ever know her, or her motives, or anything else about her: the experiment won't work unless the reasons for it are utterly inscrutable to us, as unknowable as a disease. But at the same time, she's got to try and tell us about her own history: that's part of the experiment too" (Ghosh, 215). Her research on immortality allows her to reincarnate. She transfers her DNA through Tara and chooses Urmila for the future. Tara, Maria, Urmila, and Sonali are all connected to Mangala. By the end of the text, Antar discovers that Urmila is none other than Tara. With the help of the supercomputer AVA, Antar transforms all the information about Murugan and Ronald Ross's journey into himself, providing further proof of Mangala's successful reincarnation. The paper's motive is to locate deconstruction within the text, and Amitav Ghosh successfully achieves this by allowing Mangala to become 'Mangala Bibi' with the help of Western science and scientists like Ronald Ross and Cunningham, alongside her own epistemology. It is incredibly difficult for subaltern people to create change in a dominant era. These individuals are labeled as 'subaltern,' yet they are human. However, they are often categorized as non- human or deemed nonexistent in terms of their own identity. Their purpose in life is reduced to *seva* (service) or serving British colonizers. They are judged and categorized based on race, caste, and class. As Parial notes, "Eurocentric humanism has always denied recognition and agency to those who have suffered the violence of colonialism, branding them as non-human or less than human" (Parial, 100).

II. CONCLUSION

In conclusion, Mangala's journey is arduous, but she succeeds nonetheless. The silence and secrecy of Mangala and her group help them achieve their goal of immortality through reincarnation. It seems Ghosh intentionally keeps their activities hidden, using their silence to send a clear message to readers: their silence is their most powerful tool, serving as a perfect opposition to Western culture and studies. Their silence deconstructs colonial effects, as their culture and practices unconsciously create resistance. This text gives voice to the voiceless, and through it, Derrida's deconstruction is successfully executed by the subaltern, erasing the label of the so-called "Other." Amitav Ghosh's *The Calcutta Chromosome* masterfully weaves together elements of postcolonialism, deconstruction, science fiction, and subaltern studies, creating a narrative that challenges conventional knowledge systems. By blending historical reality with speculative fiction, Ghosh constructs a layered text that forces readers to reconsider dominant epistemologies, particularly the Western-centric discourse on science and discovery. The novel positions counter-science as an alternative form of knowledge, one that is deeply embedded in indigenous traditions, secrecy, and an epistemology beyond Western logic. At the heart of this alternative knowledge system lies the enigmatic character of Mangala, a subaltern woman who, despite her marginalized status, wields immense power. Through her cult-like practices and clandestine experiments, she inverts the established hierarchy of scientific discovery. While figures like Ronald Ross are traditionally credited with groundbreaking research, Ghosh presents the possibility that such discoveries were manipulated or even orchestrated by unseen forces operating outside recognized scientific institutions. This notion subverts the authority of Western science, positioning the subaltern as an agent of knowledge rather than a mere subject of colonial narratives. The

novel also engages with Jacques Derrida's theory of deconstruction by dismantling binary oppositions, such as science and superstition, rationality and irrationality, and knowledge and ignorance. Ghosh refuses to offer a singular, definitive interpretation of events, leaving the reader in a state of uncertainty—mirroring the way poststructuralist theory resists fixed meanings. The narrative structure itself is fragmented and non-linear, requiring the reader to piece together multiple perspectives and timelines. This stylistic choice reinforces the novel's thematic concerns with secrecy, hidden histories, and the limitations of Western modes of understanding. Silence, both literal and metaphorical, plays a crucial role in the text. As Gayatri Chakravorty Spivak argues in *Can the Subaltern Speak?*, subaltern voices are often erased or misrepresented by dominant discourses. Ghosh, however, finds a way to make the subaltern "speak" without conforming to traditional linguistic expression. Mangala and her followers operate through gestures, secrecy, and an alternative epistemology that does not rely on the written or spoken word. Their knowledge is powerful precisely because it is inaccessible to those who seek to control it. In this way, Ghosh turns silence into an act of resistance, challenging the notion that scientific knowledge must be openly documented and disseminated in order to be valid. *The Calcutta Chromosome* situates itself within the broader tradition of Indian science fiction, which resists Western definitions of the genre. Unlike Western science fiction, which often centers on technological advancements and space exploration, Indian science fiction, as seen in this novel, integrates mythology, spirituality, and socio-political commentary. The novel demonstrates how Indian epistemology challenges the idea that science and rationality are exclusively Western constructs. Instead, it presents an alternative vision of scientific inquiry—one that is nonlinear, intuitive, and deeply tied to cultural traditions. Ultimately, *The Calcutta Chromosome* is a text that not only reinterprets history but also reshapes the way we think about knowledge and power. By foregrounding the subaltern, engaging with postcolonial theory, and deconstructing rigid binaries, Ghosh crafts a novel that is as intellectually provocative as it is narratively complex. The novel's open-ended structure and refusal to provide clear answers reflect its deeper message—that true knowledge often lies in ambiguity, secrecy, and the spaces between what is spoken and what is left unsaid.

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