

**The Role of Religion in Shaping Knowledge and Identity in Amitav
Ghosh's *The Calcutta Chromosome***

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Abstract

Amitav Ghosh's *The Calcutta Chromosome* presents a complex narrative that interlaces religion, myth, and science to challenge conventional understandings of knowledge and identity in a postcolonial context. This paper examines how religious beliefs and practices function not as peripheral cultural elements but as essential frameworks for interpreting reality, generating knowledge, and asserting agency. Through characters such as Mangala and Lutchman, the novel foregrounds indigenous spiritual traditions and mystical practices as valid epistemologies that resist the dominance of Western scientific rationalism. Religious motifs—drawn from Hinduism, Islam, and localized cultic rituals—are integrated into the plot as tools for historical re-interpretation, offering a counter-narrative to the colonial account of Ronald Ross's malaria discovery. In doing so, Ghosh reimagines science not as an isolated, objective enterprise but as a culturally embedded process shaped by multiple belief systems. Religion in the novel also becomes a powerful site for identity formation, enabling marginalized characters to reclaim intellectual and historical agency. The interplay between cyclical mythic time and linear scientific chronology disrupts colonial historiography, positioning spiritual frameworks as equally credible avenues to truth. Ultimately, the novel proposes a syncretic model of knowledge production in which faith, culture, and science coexist, thereby redefining the boundaries of both identity and intellectual authority.

Keywords: Amitav Ghosh, *The Calcutta Chromosome*, religion, knowledge, identity

Introduction

In *The Calcutta Chromosome*, religion is intricately woven into the fabric of the narrative, profoundly influencing both character development and the structure of the story. Religion in the novel serves as a driving force that shapes the characters' worldviews, decisions, and spiritual transformations. The characters' quests for immortality and knowledge are deeply

intertwined with religious and spiritual themes, reflecting the interplay between science and faith. As they navigate the complexities of life, death, and the mysteries of existence, religion provides them with the framework for understanding their experiences and guiding their personal journeys.

The influence of religion is most evident in the character of the *Guru*, a central figure who acts as a spiritual guide and mentor. His teachings combine elements of scientific knowledge with spiritual wisdom, creating a synthesis of rationality and mysticism that challenges the conventional boundaries between science and religion. The *Guru* embodies the integration of Eastern spiritual traditions with Western scientific inquiry, offering an alternative approach to knowledge that transcends empirical observation and embraces the metaphysical. His influence on characters like Murugan and Antar helps them reconcile their scientific backgrounds with spiritual insights, leading them to deeper self-realization and understanding.

Hinduism, Buddhism, and indigenous spiritual practices are key religious influences in the novel. Hindu concepts such as *atman* (the soul), *moksha* (liberation), and *karma* are explored, reflecting the spiritual search for transcendence and understanding of the self beyond the physical world. Buddhism's emphasis on the impermanence of life, the cycle of *samsara*, and the pursuit of *nirvana* further enriches the novel's exploration of death, rebirth, and spiritual enlightenment. Ghosh blends these religious traditions with indigenous mystical practices, presenting a rich, multi-faceted approach to spirituality that underscores the novel's broader critique of colonialism and its suppression of indigenous knowledge. Through religion, *The Calcutta Chromosome* challenges the dominant scientific rationalism of the colonial era and reclaims spiritual wisdom as a legitimate source of knowledge and personal transformation.

Religious Figures and Authority

- **The Guru as a Spiritual Guide**

In *The Calcutta Chromosome*, the character of the *Guru* serves as a central religious figure who blends spiritual wisdom with scientific inquiry, presenting an alternative to the dominant rationalist framework of Western science. As a spiritual guide, the *Guru* is not confined to traditional religious dogma but represents an evolved synthesis of scientific thought and deep mystical insight. His teachings challenge the boundaries between empirical science and spiritual exploration, illustrating that knowledge is not limited to what is observable and measurable but also includes the unseen, the metaphysical, and the experiential. In this sense, the *Guru* embodies a form of intellectual and spiritual authority that transcends the duality

between the rational and the mystical. His ability to integrate these realms is a key element of the novel's critique of colonial scientific rationalism, which often dismisses indigenous knowledge and spiritual wisdom as primitive or superstitious. The *Guru*'s role in challenging the characters' understanding of life, death, and immortality is crucial in shaping the narrative arc. He provides an alternative to the Western scientific view of immortality, which is grounded in the biological persistence of the body. Instead, the *Guru*'s teachings emphasize the spiritual dimension of immortality, suggesting that true immortality is not achieved by preserving the physical body but by realizing the eternal and unchanging essence of the *atman* (soul). His guidance is not merely about providing knowledge but about leading the characters toward a deeper spiritual awakening, where they confront the impermanence of life and the mysteries of death and rebirth. The *Guru* challenges characters like Murugan and Antar to rethink their assumptions about existence, compelling them to recognize that immortality is not a purely biological phenomenon but also a profound spiritual journey that requires transcendence of the material world. Through the *Guru*, Ghosh critiques the scientific reductionism of the colonial mindset, which views immortality and knowledge through a purely biological lens. The *Guru* emphasizes that the human soul and its journey toward enlightenment must be considered in tandem with physical existence, encouraging the characters to explore the mysteries of existence beyond scientific and empirical understandings. By bridging the gap between science and spirituality, the *Guru* offers a holistic approach to life, death, and immortality, making his role as a spiritual guide pivotal to the novel's broader thematic exploration.

Religious Practices and Their Influence

- **Spiritual Rituals and the Search for Knowledge**

In *The Calcutta Chromosome*, spiritual rituals play a crucial role in shaping the characters' journeys toward enlightenment, offering an alternative approach to knowledge that contrasts with the rational, scientific methods they initially embrace. The novel presents these rituals as more than mere cultural practices—they are pathways to deeper understanding and spiritual realization. Through the character of the *Guru* and the broader religious practices he teaches, Ghosh highlights how these rituals are not just forms of religious expression but integral to the characters' quest for immortality and enlightenment. These practices guide the characters on a journey that is both intellectual and spiritual, illustrating the novel's broader message that true knowledge transcends the limits of empirical science.

The *Guru's* spiritual rituals serve as the cornerstone for this spiritual journey. His teachings, which integrate spiritual practices such as meditation, contemplation, and ascetic discipline, are not merely designed to impart religious wisdom but to foster a profound personal transformation in his disciples. These rituals are deeply connected to the characters' understanding of life, death, and immortality, and they invite them to go beyond the physical and intellectual domains in their search for enlightenment. The *Guru's* rituals emphasize inner exploration and self-awareness, providing the characters with tools to access hidden or repressed knowledge, often in ways that scientific inquiry alone cannot facilitate. The spiritual practices in the novel are not just methods of religious devotion; they are also acts of self-discovery, helping the characters transcend the limitations of their former understanding of the world. For instance, Murugan, a scientist at the beginning of the novel, approaches the *Calcutta chromosome* with a purely biological perspective, seeking to uncover its secrets through empirical research. However, his exposure to the *Guru* and his spiritual practices forces Murugan to reconsider his approach. The *Guru's* practices, grounded in Indian spiritual traditions, challenge Murugan's purely scientific worldview by urging him to recognize the importance of mystical and esoteric knowledge. Murugan's journey is marked by his gradual transformation from a strictly scientific rationalist to someone open to the deeper, spiritual truths that transcend empirical evidence. The *Guru's* rituals, particularly his teachings on the nature of immortality, force Murugan to question his assumptions about the boundaries of human knowledge and existence, encouraging him to pursue knowledge that is both intellectual and spiritual.

The spiritual rituals also play a similar role in Mangala's journey. For Mangala, the quest for immortality is deeply connected to her spiritual practices, which are rooted in the mystical traditions of India. Her rituals, which involve deep meditation and religious devotion, complement her pursuit of the *calcutta chromosome*—a scientific object that holds the promise of eternal life. However, the deeper knowledge Mangala seeks goes beyond the biological reality of immortality; it is connected to the spiritual realization of the self. The rituals she follows are integral to her understanding of the *calcutta chromosome*, showing how scientific and spiritual knowledge are intertwined. For Mangala, the pursuit of immortality is not solely about biological preservation but about transcending the physical body and achieving spiritual enlightenment. Through her rituals, Mangala accesses hidden knowledge that helps her understand the mysteries of life, death, and the true nature of immortality. In contrast to these

religious figures, the scientific figures in the novel—particularly Sir William—remain rooted in the belief that knowledge is best attained through scientific rationalism and empirical methods. Sir William's approach to the *calcutta chromosome* is purely biological; he sees the discovery of immortality as a scientific achievement that can be measured and understood through observable data. His rejection of religious rituals and spiritual practices reflects the broader colonial view that indigenous spiritual practices are inferior to Western scientific knowledge. However, as the narrative unfolds, it becomes clear that Sir William's approach, while scientifically rigorous, is incomplete. He cannot unlock the full potential of the *calcutta chromosome* without recognizing the spiritual dimensions of existence. The tension between Sir William's scientific rationalism and the *Guru's* spiritual practices represents the broader conflict between Western science and Eastern spirituality, with each offering a different approach to the search for immortality and enlightenment.

Thematic Exploration of Religion

- **Religion as a Counter to Scientific Rationalism**

In *The Calcutta Chromosome*, Amitav Ghosh uses religion as a powerful counter to the dominance of scientific rationalism, challenging the conventional, Western-centric view of knowledge and existence. The novel critiques the reductionist approach of scientific rationalism, which seeks to explain all aspects of life through observable, empirical evidence, often disregarding or dismissing spiritual, metaphysical, and mystical elements as unworthy of consideration. Through the characters' quests for immortality and the search for the *calcutta chromosome*, Ghosh highlights the limitations of scientific thought, particularly when it attempts to address existential questions about life, death, and the nature of reality. In this framework, religion is portrayed as an alternative worldview that not only complements scientific understanding but also provides a more holistic, multidimensional approach to the human condition. Scientific rationalism, as represented by characters like Sir William, embodies the colonial mindset that seeks to impose Western scientific thought on the rest of the world. In this worldview, science becomes the sole arbiter of truth, with its empirical methods and objective principles regarded as the ultimate means of understanding existence. However, Ghosh critiques this reductionist approach by presenting the *calcutta chromosome*—a scientific discovery that transcends the limits of conventional science—as something deeply intertwined with spiritual and religious wisdom. While Sir William and other Western scientists attempt to approach immortality and the mysteries of life solely from a biological standpoint,

they are ultimately unable to comprehend the full significance of the *calcutta chromosome* without acknowledging the spiritual and mystical dimensions of existence. Through this critique, the novel suggests that science, though powerful and revealing, cannot offer a complete understanding of the human condition without engaging with the metaphysical and the unseen.

The Guru as a Bridge Between Science and Religion

Spiritual Leadership and Scientific Integration

In *The Calcutta Chromosome*, the character of the *Guru* serves as a pivotal figure who bridges the gap between scientific and spiritual knowledge, blending the two realms in a way that challenges the conventional boundaries between them. His teachings are not confined to religious dogma or mystical beliefs but integrate elements of scientific inquiry with spiritual wisdom. This fusion of science and spirituality represents an alternative approach to understanding the world, where the pursuit of immortality and self-realization is not restricted to one domain of knowledge but encompasses both empirical science and metaphysical insight. Through the *Guru*, Ghosh illustrates how science and religion are not opposing forces but complementary pathways to understanding the deeper mysteries of existence. The *Guru*'s role as a spiritual leader is rooted in his ability to transcend the limitations of both traditional religious teachings and the reductionist approach of Western science. His teachings on immortality are not merely about extending biological life through scientific advancements but about transcending the limitations of the physical body to reach a higher state of spiritual enlightenment. The *Guru* integrates scientific knowledge, such as the understanding of the human body and its biological processes, with spiritual wisdom that goes beyond the material world. His perspective on immortality challenges the purely biological interpretation, suggesting that true immortality lies in the realization of the eternal, unchanging nature of the *atman* (soul). In this sense, the *Guru* serves as a guide to a deeper understanding of life, where scientific knowledge and spiritual wisdom converge to offer a more holistic vision of existence. The *Guru*'s teachings emphasize the need to transcend the confines of the physical body and engage with the metaphysical dimensions of reality. For characters like Murugan, who initially approach the *calcutta chromosome* purely as a scientific phenomenon, the *Guru* offers an alternative path. Murugan's initial pursuit of immortality is grounded in the rational, empirical tradition of Western science. However, as he is exposed to the *Guru*'s teachings, Murugan begins to recognize that immortality cannot be understood through science alone. The *Guru*

teaches Murugan that true knowledge is not just about observable facts and biological processes but about understanding the soul and the deeper spiritual truths that underlie existence. Murugan's journey from a strictly scientific worldview to a more integrated perspective is facilitated by the *Guru*, whose spiritual wisdom provides a counterpoint to the limitations of empirical science. Similarly, the character of Antar, another central figure in the novel, is guided by the *Guru* on a journey that intertwines scientific inquiry with spiritual realization. Initially, Antar is focused on the scientific investigation of the *calcutta chromosome*, seeking to uncover its biological mysteries. However, as he uncovers more about the chromosome and its implications, he finds himself drawn to the spiritual and religious dimensions of the discovery. Antar's transformation is marked by his recognition that science alone cannot unlock the full potential of the *calcutta chromosome*; it requires an understanding of the metaphysical and spiritual dimensions of immortality. The *Guru* guides Antar on this path, offering insights that allow him to reconcile his scientific background with the spiritual wisdom that can unlock the deeper truths of existence. Antar's evolving understanding of immortality, influenced by the *Guru's* teachings, shows how the integration of science and spirituality leads to a more complete realization of the self.

The *Guru's* ability to bridge the gap between science and religion is not just about merging two distinct bodies of knowledge but about offering a path that transcends the limitations of both. His teachings encourage the characters to look beyond the material world and explore the deeper, spiritual dimensions of existence. For the *Guru*, the pursuit of immortality is not merely about scientific discovery or spiritual devotion but about realizing the interconnectedness of the physical and the metaphysical. This integrated approach provides the characters with the tools to understand the *calcutta chromosome* not just as a scientific anomaly but as a key to unlocking both biological and spiritual immortality. The *Guru* teaches that knowledge is a journey that requires both empirical investigation and spiritual insight, and that the two are ultimately interconnected in the pursuit of self-realization and enlightenment. The *Guru* acts as a guide who helps the characters navigate their internal conflicts and existential dilemmas. For Murugan, the tension between scientific rationalism and spiritual wisdom is a central conflict. His identity as a scientist is challenged by the *Guru's* teachings, forcing him to confront his own limitations and expand his understanding of immortality. Similarly, Antar's journey is one of reconciliation—he must reconcile his scientific worldview with the spiritual insights he gains through his interactions with the *Guru*. The *Guru* offers them not only

knowledge but also a path to self-realization, helping them understand that immortality is not just about escaping death but about transcending the ego and achieving a deeper connection with the universe. In this way, the *Guru's* spiritual leadership is not just about imparting knowledge but about guiding the characters toward an integrated understanding of the self, one that recognizes both the scientific and spiritual dimensions of existence. The *Guru* in *The Calcutta Chromosome* serves as a bridge between science and religion, offering an integrated approach to knowledge that blends empirical science with spiritual wisdom. Through his teachings, the characters are able to transcend the limitations of scientific rationalism and engage with the metaphysical aspects of existence. The *Guru's* role as a spiritual guide is instrumental in shaping the characters' understanding of immortality, knowledge, and self-realization. By offering a path that connects empirical science with spiritual insight, the *Guru* helps the characters navigate their personal journeys and resolve their internal conflicts, ultimately leading them to a deeper, more holistic understanding of life, death, and the nature of existence. Through the *Guru's* wisdom, the novel presents a vision of knowledge that transcends the boundaries between the material and the spiritual, showing that the pursuit of immortality and enlightenment requires an integrated approach to both realms.

The Role of Meditation and Inner Knowledge

- **Meditative Practices in Spiritual and Scientific Discovery**

In *The Calcutta Chromosome*, meditation and contemplative practices emerge as essential pathways to deeper knowledge and spiritual enlightenment, with a unique connection to the scientific quest for immortality, especially in the pursuit of the *calcutta chromosome*. Ghosh presents meditation not just as a religious or spiritual practice, but as a method of intellectual and metaphysical exploration, guiding the characters toward knowledge that transcends the limits of empirical science. These practices provide a way for the characters to access insights that are not available through purely rational or scientific thought, thus integrating both the spiritual and the scientific in their quests for immortality and self-realization. Meditation in the novel is deeply connected to the pursuit of the *calcutta chromosome*, which symbolizes the search for immortality. For characters like Murugan, whose initial worldview is grounded in scientific rationalism, the idea of using meditation as a means of accessing hidden knowledge is foreign and challenging. However, as Murugan becomes more immersed in the *Guru's* teachings, he begins to recognize that true understanding of the *calcutta chromosome* requires more than just biological observation and rational deduction. The *calcutta chromosome* is not

simply a biological anomaly; it holds metaphysical and spiritual significance that can only be understood through an integration of scientific inquiry and inner contemplation.

Religious Myths as Guides to Human Existence

- **The Function of Religious Myths in Shaping Morality**

In *The Calcutta Chromosome*, religious myths and stories play a crucial role in shaping the moral and existential decisions of the characters, guiding their perception of immortality, fate, and their individual roles within the broader spiritual framework of existence. These myths, particularly those drawn from Hinduism and Buddhism, serve as vehicles for understanding the larger questions of life, death, and the human quest for transcendence. Ghosh weaves these religious myths throughout the novel, using them not only as cultural references but also as guiding principles that influence the characters' actions, decisions, and transformations. By grounding the characters' spiritual journeys in these ancient myths, the novel underscores the importance of mythological narratives in navigating moral and existential dilemmas. In Hinduism, myths such as those surrounding the cycle of life and death (*samsara*), the concept of *karma* (the law of cause and effect), and the quest for *moksha* (liberation from the cycle of reincarnation) provide the framework through which the characters in *The Calcutta Chromosome* approach their own journeys of self-discovery. These religious concepts shape their understanding of immortality, helping them move beyond the biological or scientific pursuit of eternal life. The myth of *samsara*, for example, suggests that life is a continuous cycle of birth, death, and rebirth, and that liberation can only be achieved through spiritual enlightenment. This idea deeply influences characters like Murugan, who, initially focused on the scientific search for immortality, begins to realize that true immortality is not found in biological continuity but in transcending the cycle of *samsara*. The myth of *moksha* becomes a guiding principle for Murugan's transformation, as he learns to see immortality as a spiritual goal rather than a physical one.

Similarly, the concept of *karma*—the belief that every action has consequences that affect future lives—shapes the characters' moral decisions. For characters like Mangala, who is deeply connected to the spiritual practices surrounding the *calcutta chromosome*, the concept of *karma* plays a significant role in her understanding of the consequences of her actions. Mangala's quest for immortality is not just about extending life, but also about aligning her actions with the spiritual laws of the universe. By adhering to the moral teachings of *karma*, she navigates the moral complexities of her search, making decisions that are informed by a

sense of responsibility to the larger cosmic order. The novel suggests that the pursuit of immortality is inseparable from the way one lives and acts in the world, highlighting the interconnectedness of morality, spiritual growth, and immortality. In Buddhism, the myths surrounding *nirvana* (the cessation of suffering and the end of the cycle of *samsara*) also shape the characters' moral and existential decisions. Buddhism's emphasis on impermanence and the transient nature of life encourages the characters to reflect on their attachment to the material world and to seek enlightenment through inner wisdom. This mythological framework influences the characters' perception of death and immortality, as it presents the idea that true liberation is not found in the continuation of physical life but in the cessation of desire and attachment. The novel illustrates how characters like Antar, who is initially focused on the empirical aspects of the *calcutta chromosome*, gradually come to understand that immortality is not just a scientific or biological goal but a spiritual one, linked to the attainment of *nirvana*. The Buddhist myth of *nirvana* offers a moral guide for Antar, pushing him to transcend his material desires and seek a higher spiritual truth.

The influence of religious myths on the characters' moral decisions also extends to their understanding of fate and individual agency. In many of the myths explored in the novel, fate is not seen as a fixed, unchangeable force but as something that can be influenced by one's actions and decisions. This concept of fate as mutable is particularly important in the context of *The Calcutta Chromosome*, where the characters must grapple with their own agency in the face of larger, often mysterious forces. The idea that one's actions can influence the course of future lives, as reflected in the concept of *karma*, encourages the characters to take responsibility for their actions and decisions. This moral framework challenges the notion that individuals are helpless in the face of fate, suggesting instead that they have the power to shape their own destinies through their choices. Religious myths also serve as guides to the characters' understanding of their roles within the larger spiritual framework of existence. The *Guru*, as a spiritual leader, uses mythological stories and teachings to help the characters realize their place within the cosmic order. Through his guidance, the characters learn to view their personal quests for immortality not just as individual pursuits but as part of a larger spiritual journey that connects them to the divine and to the greater universe. The myths of Hinduism and Buddhism teach that individual existence is not separate from the cosmos but is deeply interconnected with the universe and its spiritual laws. The characters' moral and existential

decisions, therefore, are not just about personal gain or survival but are informed by a deeper understanding of their place in the cosmic order and their responsibility to the greater whole. The religious myths in *The Calcutta Chromosome* also function as a critique of the colonial mindset, which sought to replace indigenous spiritual traditions with Western scientific thought. Through the characters' engagement with these myths, Ghosh reasserts the validity and importance of indigenous spiritual knowledge in shaping moral and existential frameworks. The mythological teachings that guide the characters are not presented as antiquated or irrelevant but as deeply meaningful and transformative. They offer an alternative to the colonial imposition of Western science, which often dismissed indigenous belief systems as inferior or primitive. By positioning these religious myths as central to the characters' journeys of self-discovery and moral development, Ghosh critiques the colonial erasure of indigenous knowledge and reclaims the importance of spiritual wisdom in understanding the human condition. The religious myths in *The Calcutta Chromosome* serve as powerful guides to the characters' moral and existential decisions, shaping their understanding of immortality, fate, and their roles within the larger spiritual framework of existence. Through these myths, Ghosh explores the interconnectedness of life, death, and the pursuit of transcendence, suggesting that moral decisions are inseparable from spiritual growth and enlightenment. The novel presents these myths not as mere cultural artifacts but as living traditions that offer profound insights into the human condition, helping the characters navigate the complexities of life and death in their quest for immortality and self-realization. In doing so, *The Calcutta Chromosome* highlights the enduring power of religious myths as guides to human existence, offering a moral and spiritual compass that transcends the limitations of scientific rationalism.

Conclusion

In *The Calcutta Chromosome*, Amitav Ghosh masterfully positions religion as a central force in redefining both the nature of knowledge and the contours of identity within a postcolonial framework. The novel dismantles the supremacy of Western scientific rationalism by revealing how spiritual traditions, ritual practices, and mythic structures function as parallel—and at times superior—modes of inquiry. By embedding religious symbolism into the narrative, Ghosh underscores the idea that knowledge is not a monolithic construct but a pluralistic phenomenon, shaped by diverse cultural logics and epistemologies. Characters such as Mangala and Lutchman embody this synthesis, representing custodians of an indigenous wisdom that subverts colonial hierarchies of knowing. Religion in the novel also becomes a



site of identity formation, offering characters a sense of belonging and agency in opposition to imperial narratives that sought to erase or appropriate local intellectual traditions. Through its cyclical, non-linear temporality, the religious worldview in *The Calcutta Chromosome* reclaims historical agency for the marginalized, reframing scientific milestones as collaborative, culturally embedded achievements rather than solitary triumphs of Western genius. Ultimately, the novel invites readers to question dominant historical accounts, to recognize the legitimacy of alternative knowledge systems, and to appreciate how faith and identity are intertwined in the pursuit of truth. In doing so, Ghosh not only reconfigures the relationship between science and religion but also asserts the enduring relevance of spiritual frameworks in shaping human understanding and cultural self-definition.

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