

## **Deconstructing Western Hegemony and Voicing Silenced Histories in Amitav Ghosh's *The Calcutta Chromosome***

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### **Abstract**

Amitav Ghosh's *The Calcutta Chromosome*, a speculative novel which blends Western medical science with Eastern stories of ghosts, magic and immortality, criticizes the Eurocentric discourse of science and offers the possibilities of an alternative history from a subaltern perspective. By providing a logical and yet mystical order that privileges the marginalized, the novel casts doubt on the nature of knowledge. The aim of the article is to show that by substituting silenced protagonists (Eastern) and their ancient cultural practices for the 'noble' (Western) practices, and by providing agency to the subaltern by combining elements of myth, mysticism and the supernatural, Ghosh questions the superiority and nature of Western rationality. By providing an alternative life story of the scientist Roland Ross, where the subalterns Mangala and Laakhan have better knowledge of the malaria transmission process than Ross himself, Ghosh suggests the greater legitimacy of Eastern esotericism and mysticism over Western science. Thus, by allowing the story of the counter-science group to surface through the research of Murugan, Ghosh suggests the existence of a secretive historical records which have been removed from the official records of Western medical science. Finally, by contesting the idea that only Western science offers the ability to liberate humanity, Ghosh hints at the existence of alternative possibilities.

**Keywords:** subaltern, colonial medicine, rationality, mysticism, silenced history

### **Introduction**

Amitav Ghosh's 1995 novel *The Calcutta Chromosome* fantastically blends fact and fiction in dealing with some of the events related to the discovery of the malaria parasite. However, the novel also probes into many other related issues quite significant to the notion of science. J. H. Thrall argues that "Ghosh places this tension between rationality and religion" (292 at the centre of the new discovery in the field of medicine, which he uses to comment on and project beyond postcolonial India. Using the structure and narrative technique of science fiction, Ghosh questions the common understanding of knowledge and science through the fictional recreation of a 'counter-science' group of subalterns led by a woman named Mangala. In depicting the way scientific research, particularly medical science, becomes an issue of colonial discourse, Ghosh

shows the significance of both Western medicine and Eastern folk-healing. By combining elements of magic, myth and mysticism, Ghosh shows the effectiveness of Indian folk tradition over Western science. Ghosh blends science and the supernatural in his narrative, where the malaria parasite offers the subaltern the opportunity to reach the level of immortality and to speak out.

In his construction of an alternative history of Indian research in malaria, Ghosh gives agency to the oppressed, whose contributions to the field of medicine would otherwise remain unrecognized. Emphasizing the issue of subaltern agency in the novel as its central element, Tabish Khair argues that agency enables the subaltern to regain their silenced and/or unacknowledged contribution in the historical narrative, “for history can be seen as the plotting of human experience and agency” (309). Ghosh considers these subalterns as being better malaria researchers than the British medical doctor Ronald Ross, who received the prestigious Nobel Prize for Medicine in 1902 for his discoveries about malaria transmission.

*The Calcutta Chromosome* interweaves different eras and events and accommodates the three timelines of the past, present and future. The novel begins sometime in the near future in New York, with an Egyptian named Antar. The image of a damaged identity card leads Antar to try and solve the mystery of the disappearance of the card-owner, Mr. Murugan, a former colleague who has conducted wide research on the medical history of malaria in India. Murugan believes that Ronald Ross, who discovered the malaria parasite, was guided in the right direction by some of the native Indian people whose contributions to malaria research have gone unrecognized. The second timeline, which accounts for Murugan’s final days before he disappears in the time parallel to the novel’s publication in 1995, is “embedded within the narrative of Antar and Ava’s virtual detective work” (Thrall 293). Embedded within the second timeline is the third one, the discovery of the malaria parasite by Ronald Ross in the last decade of the nineteenth century. Murugan seeks to highlight the contributions of the unnamed lab assistants behind Ross’s winning of the Nobel Prize in 1902. According to James H. Thrall, “In peopling his story with non-European protagonists, and in lodging ultimate agency with figures most marginal to a European accounting, Ghosh borrows the Western genre of science fiction for his own alternative purposes of questioning the precedence and even nature of Western modes of rational inquiry” (293). Ghosh forefronts the unfairness in the access to technological innovations, as well as to advocate for a complex but fruitful intertwining of Eastern and Western approaches in the cause of scientific

advancement. Thrall points out that Ghosh seems to “suggest that Eastern approaches actually offer a more fruitful melding of what Western commentators would dismiss as the irrational with the rational” (293).

The narrative technique of the novel, which includes three different narratives in three different sections of the novel, is complex. Firstly, we have a third-person narrative in the first timeline; then Murugan himself is the narrator in the second timeline; and Sonali Das, an Indian female character, is central to the third timeline. This complex narrative flow, with different approaches to science in all three timelines, allows for a constructive and effective fusion of fantasy and realism, a significant characteristic of science fiction. Ghosh’s representations of science include the future and its advanced technology, the counter-science group of the native Indian people, and the posthuman – a science fictional utopian concept (Khandoker 18). By introducing the term “interpersonal transmission”,<sup>1</sup> Murugan establishes the concept of ‘counter-science’ and enables the subalterns to enter the plot.

It is revealed through Murugan’s research that Mangala and her secret ‘counter-science’ group are obstructing Cunningham’s research in order to have him replaced by Ronald Ross, whom they later manipulate in order to guide him to make ‘his’ discoveries. Although Ross believes that he is experimenting on malaria parasites, ironically, he himself becomes an object of experimentation at the hands of the native Indians. Although it seems that Ross is guiding his assistants, in reality, it is the lab assistants who actually have full control of the situation. Murugan’s research thus highlights the significant role of the native Indians behind Ross’s success, a finding which was excluded from the official version of history. By substituting silenced protagonists (Eastern) and their ancient cultural practices for the dominant ones (Western), and by providing agency to the subaltern by combining elements of myth, mysticism and the supernatural, Ghosh questions the superiority of Western rationality. By providing an alternative life story of the scientist Roland Ross, where the subalterns Mangala and Laakhan know more about the malaria transmission process than Ross himself, Ghosh attempts to show Eastern esotericism and mysticism to be as valuable as, and more effective than, Western science. Thus, by allowing the story of the counter-science group to surface through the research of Murugan, Ghosh suggests the existence of a secretive historical records which have been removed from the official records of Western medical science.

### **Questioning the Superiority and Nature of Western Rationality and Providing Agency to the Subaltern**

Ghosh disrupts the notion of the superiority of the West by showing as false Ross's belief that he is in control of the malaria research: "He thinks he's doing experiments on the malaria parasite. And all the time it's he who is the experiment on the malaria parasite. But Ronnie never gets it; not to the end of his life" (A. Ghosh 67). By using the concept of alternative history to uplift Laakhan, a "dhooley bearer", and Mangala, a sweeper woman, from mere followers (as published in Ross's *Memoirs*) to the actual controllers of Ross's research, Ghosh deconstructs the hegemony of West over East. Murugan's research proves Ross to be an almost clueless puppet: "'Eureka,' [Ross] says to his diary, 'the problem is solved.' "'Whew!' says Lutchman [Laakhan], skimming the sweat off his face. 'Thought he'd never get it'" (A. Ghosh 78). Ghosh seems to suggest that Mangala and Laakhan possess more advanced knowledge about the malaria transmission process than Ross, and that they beat him at his own Western game of science. Murugan's alternative history is thus used to reveal the actual history (Thrall 296) in which, according to Claire Chambers, "[S]cience, technology and medicine were not conveyed to India by the British in a one-way process of transfer, but were in fact involved in a complex series of cross-cultural exchanges, translations and mutations" (58). However, the science practised by Ross's assistants assumes a more spiritual (religious) shape which allows Ghosh to project the idea of a more effective Eastern 'counter-science' (Thrall 296).

Ghosh disrupts the hegemony of the West and deals with the cult of silence and secrecy through the use of the supernatural, myth and mysticism. As members of a secret counter-science group, Mangala and Lutchman believe strongly in the power of silence, and therefore do not want to reveal their identity. The aims and beliefs of this secret group are never clearly mentioned in the novel as to do so would break the code of secrecy, which is used as an operational tactic: "It would have to use secrecy as a technique or procedure. It would in principle have to refuse all direct communication, straight off the bat, because to communicate, to put ideas into language, would be to establish a claim to *know*—which is the first thing that a counter-science would dispute" (A. Ghosh 104-105). Unlike many believers in Western science, which does establish the claim to

know, this group of subalterns considers silence essential in advancing into the field of medicine. Highlighting the significance of the group, Phulboni, a twentieth-century writer, says:

Mistaken are those who imagine that silence is without life; that it is inanimate, without either spirit or voice. It is not: indeed the Word is to this silence what the shadow is to the foreshadowed, what the veil is to the eyes, what the mind is to truth, what language is to life. (A. Ghosh 24)

Phulboni's statement thus places 'silence' in a much higher position than 'word': silence, it would seem, encompasses deep truths, while the word merely voices those truths.

Ghosh's counter-science group also works with esotericism and mysticism. It would be a partial truth to say that the goal of the counter-science group is to research the malaria parasite; it is, rather, immortality through the transmission of personalities that the group longs for. Here, Ghosh blends science and the supernatural: the malaria parasite offers the subaltern the chance to achieve immortality, and hints at the possibility of an immortal future. According to Suchitra Mathur, *The Calcutta Chromosome* represents a coming-of-age for mysticism in our current postmodern and posthuman world: "Supported by empowering voices that have been silenced by the refusal (or inability) of the dominant scientific regime to listen to them, Antar is ready to cross over into the third space, into a community that transcends space and time and promises the bliss of ultimate homecoming" (137). Bagchi argues that Mangala and Laakhan attempt to unveil and extend a story and experiment which have a specific ending, so that the members of the secret group can continue to traverse into future temporalities and even into immortality (118). The subaltern group thus plays with science, religion and narrative, adapting and even mutating it to achieve their own ends.

Through his project of retelling and reinventing, Ghosh creates an alternative reading of Ross's *Memoirs*, emphasizing the role of the native subalterns and investigating the potential of passing on indigenous knowledge across generations. Murugan proposes that 'the Calcutta chromosome' transmits biological correlates from one person to another in a process which is non-sexual and which penetrates the blood-brain barricade. Murugan considers Mangala to be the mastermind behind this transference of mind. The supposedly primitive subaltern characters Mangala and Laakhan believe that the soul is immortal and that death is nothing but a transition, and thus show their strong belief in the continuation of life even after physical death. The leader

of the counter-science group, Mangala, is later resurrected as Mrs. Aratounian, the modern baby sitter in New York City; as Tara; and lastly as Urmila, the Calcutta correspondent; Laakhan transforms into Lucky. Sanjit Mishra and Nagendra Kumar argue that “The changing pattern of names reaffirms the logic of incarnations and reincarnations concerning ‘the Calcutta chromosome’ and thus provides a clue to the text’s preoccupation with perpetuity of soul against the transience of body” (84).

Being a colonial and othered subject, Mangala wants to find alternative ways of gaining knowledge, a voice of her own and a place in history; she has therefore long been trying to develop a technology called ‘interpersonal transference’ where knowledge can be transferred from one body to another even after the death of the physical body: “If all of that information could be transmitted chromosomally, from body to body [...] when your body fails you, you leave it, you migrate [...] You begin all over again [...] another body, another beginning [...] a fresh start [...]. A technology that lets you improve on yourself in your next incarnation” (A. Ghosh 94-95). It can be inferred from the statement that the characters argue for the possibility that life can exist even after the physical demise of the body. Critics like Maiti argue that this concept of ‘interpersonal transference’ has a strong affinity with the philosophy of reincarnation, according to which a soul reincarnates again and again on earth until it mixes with the divine source; during this process, the soul enters into many bodies, going through multiple deaths, births and rebirths (Maiti 140). The concept of reincarnation, too, contests the linear Western concept of one birth and one death.

By blending medicine and mysticism, the counter-science group that Ghosh forefronts, neither fully opposes Western Science, nor purely upholds Eastern superstitions. It engages in a type of logical enquiry on a totally different level, but more Eastern than Western. The vision of this group is far broader than the more limited perspectives of Western rationality, striving to acquire both what is considered to be within reach but also beyond possibility. Murugan considers marginality to be the cause for the success of the group as it encourages them to work in a different way: “a way so different it wouldn’t make sense to anyone who’s properly trained” (A. Ghosh 105). Since the discovery of the transfer of personality is “completely out of the loop, scientifically speaking ... It’s exactly the kind of entity that would be hardest for a conventional scientist to accept” (250-251). Ghosh thus casts doubt on the significance of conventional Western training in scientific research, and hints at the existence of alternative practices.

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According to Maiti, *The Calcutta Chromosome* challenges and disrupts the notion of space and time by juxtaposing various time-space continuums as “it follows the pursuit of different characters in the past, present, and in different parts of the world, ranging from Renupukur, a remote, almost ghost village in Bengal, to the virtually ghost town of digitised New York” (Maiti 141). There are also ghostly presences and supernatural events in the story which defy the received logic of science, and at the same time seem to disrupt the common understanding of time and space. In her essay, “On Grafting the Vernacular: The Consequences of Postcolonial Spectrology”, Bishnupriya Ghosh remarks that “only now the progressive intellectual must guard against a ‘forgetting’ facilitated by the current global hierarchies of knowledge” (“On Grafting” 201). In this novel, Ghosh seems to be pointing at the danger of forgetting the possibility that there are neglected and/or lost methods of gaining knowledge, as well as different types of knowledge, possessed by native subalterns like Mangala and Laakhan.

The novel juxtaposes elements of fantasy with reality and history. Ghosh’s use of ghosts and dead bodies is quite significant in this context. The ghosts prove the continued existence of past lives which are no longer physically present now, and are also closely associated with cultural and communal memory. Ghosh implies that the ghosts represent a simultaneous combination of a number of voices (polyphony), having the ability to provide alternative viewpoints and a deeper understanding of life than possessed by those who are alive. They can occupy “a more redemptive place, [and are] intangible sites for imagining a future beyond discredited modernist narratives of progress” (B. Ghosh, “On Grafting” 207-207). The main narrative thrust in this novel is attained through a tension between “membrances of lived bodies” and the “remembrances of ghost bodies” (B. Ghosh “When Speaking with Ghosts” 125). The memory of these forgotten subalterns lives “already, somewhere [in] images, words, glances but only signs, [in the grafted and] crafted mimicry of lives” (A. Ghosh 108). Subalterns like Mangala and Laakhan can be considered examples of “the living history of lost memories, or the living memory of lost history” (Maiti 143) because, although they cannot completely remember all the events of their past lives, they nonetheless have the memories of their previous lives within them.

It has been mentioned that Ghosh juxtaposes supernatural incidents with real life ones. The novel depicts many unusual and supernatural appearances and events such as the ghost station-master, ghost train and a mysterious character hidden in darkness, bearing a lantern: “[H]e heard

a scream, a raging, inhuman howl that tore through the stormy night. It hurled a single word into the wind—‘Laakhan’—and then it was silenced by the thunder of the speeding train” (A. Ghosh 227). Ghosh also portrays the tantric rituals performed by the counter-science group for the transmigration of the soul. Sonali, a journalist from Calcutta, personally witnesses the ritual where Laakhan’s spirit is transferred into the body of a person named Romen Halder, with the entire ritual conducted by Mangala (now in the form of Mrs. Aratounian):

She caught a glimpse of the tops of dozens of heads, some male, some female, young and old, packed in close together. Their faces were obscured by the smoke and flickering fire light. ... A figure had come out of the shadows: it was a woman. ... She seated herself by the fire and placed the bag and the birdcage beside her. ... Then she reached out, placed her hands on whatever it was that was lying before the fire and smiled. ... Raising her voice, the woman said to the crowd, in archaic rustic Bengali: “The time is here, pray that all goes well for our Laakhan, once again.”... The drumming rose to a crescendo: there was a flash of bright metal and a necklace of blood flew up and fell sizzling on the fire. (A. Ghosh 138-40)

By portraying the efficacy of folk rituals and beliefs, Ghosh throws doubt on the primacy of Western science as the only means of gaining knowledge, and suggests Eastern mysticism and esotericism as an alternative way of doing so.

The novel positions the subaltern as developers of the most daring and innovative technology ever in the field of medicine, stating that they possessed more advanced knowledge on malaria research than Ronald Ross. Ghosh thus solidifies the place of Indian folk treatment in relation to mainstream medical practices by showing myth, magic and mysticism to be instrumental in one of the most significant scientific discoveries in the world. The basic function of folk healing is to assist people to transcend the cage of ordinary existence and to offer social and metaphorical opportunities. In the process of the therapy, this method connects people with their past and future, death and life, in order to expand the range of their experiences. Dalal notes that different rituals and ceremonies involve a merging of the natural and the supernatural, with the involvement of the spirits of ancestors and departed relatives, who function as guides and counselors. This provides a sense of belonging to a group or community when facing danger, ultimately providing healing for individuals (1). The concept of folk healing can easily be



associated with subalterns like Mangala and Laakhan. Their belief in myth, the supernatural and the notion of the continuation of life even after the death of the physical body helps the subalterns to transcend their mundane existence, provides them with a platform from which to expand the range of their knowledge in ways which are not recognized by the Western rational mind, empowers them collectively, and thus enables them to fill in the blanks of official history.

Ronald Ross, as a representative of the Western colonizer, is recognized as the one who discovered the malaria parasite in a well-equipped laboratory in India. However, a century later, Antar, Sonali and Murugan uncover the suppressed contribution of the native Indians behind the discovery and want to let the world know about it or, at least, convey the message to the next generation (Maiti 144). Like Maiti, I also ask how the memories of neglected and unheard voices can be conveyed to the next generation, who have no access to libraries, technology or any other institutions which would allow them to learn the folk knowledge of their ancestors. Maiti argues that they cling to the knowledge of their past life by the act of remembering and reanalyzing the past through silent communication and through signs and body language (144). By intersecting with and thus unsettling the authoritarian voices of recorded history, they reinterpret the past in a way that exposes its gaps and cracks. For the marginalized, ‘folk memory’ or ‘cultural memory’ plays a significant role in absorbing and remodelling the memories of previous generations and, according to Maiti, in “maintain[ing] their nature in their invisible afterlives” (144). From Ghosh’s depiction of the subaltern, we can see that these people share their multiple lives and after-lives and through connection and silence, are able to gain power from their native knowledge. Through the collective memories of the marginalized like Mangala, Laakhan and Tara, and the more privileged, like Antar, Sonali and Urmila, Ghosh attempts to unite the “‘other mind’ of counter-epistemology, but also the hidden and lost cultural memory of the city” (Maiti 145).

According to Maiti, the aftereffects of Ross’s discovery of the malaria parasite do not come to an end in 1897. They rather decode many afterlives, after the discovery of the parasite (Maiti 143). In the reconstruction of the afterlives of those who are othered, cultural memory plays a significant role because of its ability to contain the continuing lives of the community. In *Memory, History and the Question of Violence*, Gyanendra Pandey defines memory as “accommodat[ing] the malleable, contextual, fuzzy, lived community and [recognizing] how the community (the subject of history) is forged in the very construction of the past” (49). The process

of Antar's (re)incarnation, where his proposed homecoming is equated with the soul's reunion with divinity, is depicted majestically: "There were voices everywhere now, in his room, in his head, in his ears, it was as though a crowd of people were in the room with him. They were saying: We're with you; you're not alone; we'll help you across" (A. Ghosh 262). This statement also emphasizes the importance of collective identity, which gives the marginalized the feeling of belonging to a community.

### **Unearthing a Secret History Removed from Official Records**

*The Calcutta Chromosome* attempts to rewrite the official history of science: Antar tries to discover the mystery behind Murugan's disappearance in Calcutta as well as the alternative (hi)story that took place in Calcutta during Ross's research. In the official history, Sir Ronald Ross is given all the credit for his discovery of the malaria parasite, while his Indian lab assistants and the people whom he used as guinea pigs are not given any recognition. In his own *Memoirs* Ross does not provide a list of the names of his assistants, but he would not have been successful without their support (Mondal and Gaur 5). Ghosh marks these unnamed assistants by giving them names. Laakhan, for example, teaches Ross the difference between the various types of mosquitoes. Apart from offering such knowledge, the Indian lab assistants and other Indian people offer their bodies for medical experimentation in exchange for money (5). Murugan hallucinates that he is in a past incarnation in which he was one of the guinea pigs of the British scientist. Through this kind of portrayal, the unknown history of the role played by Indians in Western medical research is discovered.

Ross is aware that his assistants are not ordinary. Although they are illiterate, the fact that they can remember the names and locations of all the slides seems unusual to him. However, Ross does not know much about Laakhan and his other assistants, nor does he care to know. Asked where Laakhan is from, he answers, "[N]ever asked. Guess he is from around here" (A. Ghosh 89). Although Laakhan comes to Ross on his own, allows him to perform experiments and even brings up the specific type of mosquito that causes malaria (Khandoker 20), Ross mentions in his *Memoirs* that sometimes he could not remember the name of the person who was assisting him. Even worse, Ross is aware of the fact that using the human body for medical experiments is not legal and he thus attempts to keep the fact that he does so a secret. In a conversation with Doctor

Mason, Ross says, “Don’t for heaven’s sake mention Lutchman at the British Medical Association. [...] he is a government servant. To give a government servant fever would be a crime!” (A. Ghosh 72). It can be understood from Ross’s statement that he uses lower-caste Indians as guinea pigs, a fact which is not included in the official history but which makes us realize the crucial contribution of the subaltern to the colonial past of India. Through the novel, Ghosh attempts to establish the fact that the story of the subaltern’s involvement in scientific research is excluded from official history. This untold or excluded history allows for the possibility of rethinking the future of the subaltern. Murugan’s attempt to investigate concealed history prompts him to visit Calcutta to find the truth. Through Murugan’s attempt, Ghosh wants to put forward the possibility of an alternative version of history from the viewpoint of the marginalized.

Mangala and Laakhan’s “participation challenges both Western scientific history as well as colonial subaltern history” (Khandoker 25). By showing the thoughts and actions of the subaltern characters to be stronger than their voices and words, Ghosh points to a new way of rethinking subaltern silence. Silence is their choice; it is a necessity for their mystic rituals. Mangala, who is a silent character, physically appearing only twice, is claimed by Murugan to be far more intelligent than Ross or any other thinks her to be:

With this woman we’re talking about a lot whole more than just talent; we may be talking genius here. [...] she wasn’t carrying a shit-load of theory in her head. ... Unlike Ross she didn’t need to read zoological study to see that there was a difference between culex and anopheles: she’d have seen it like you or I see difference between a dachshund and Doberman. (A. Ghosh 243)

Murugan’s assertion places the subaltern Mangala in a much higher position than the contemporary Western scientist, a representation which dissolves the usual hierarchy between the colonizer and the colonized. Mangala’s attempt to empower herself associates her with the Hindu goddess Kali who, according to feminist scholars, is a symbol of “feminist empowerment” but who is also considered “geographically and culturally marginal” (Laser 82). According to Laser, “Kali, in Hinduism, is the goddess of time, doomsday, and death or the black goddess. Kali’s iconography, cult, and mythology commonly associate her with death, sexuality, violence, and paradoxically in some later traditions, with motherly love” (Laser 82). Interestingly, although Mangala is a woman, she is worshipped by both the male and female members of the cult, which shows her own

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empowerment: “First the assistant went up to the woman, Mangala, still regally ensconced on her divan, and touched his forehead to her feet” (A. Ghosh 151). Just like Kali, Mangala also deals with death and shifts her identity from one body to another. Local people in Kalighat, Calcutta also address Kali as Mangala Bibi: “Today is the last day of the puja of Mangala-bibi. Baba says that tonight Mangala-bibi is going to enter a new body. ... The body she’s chosen, of course, no one knows whose it is” (A. Ghosh 233). Once again, the notion of ‘secrecy’/silence comes to the fore.

Although Western science is generally perceived as a forerunner to modernity, Ghosh argues that it can also develop without the hegemony of the West (Mondal and Gaur 9). The West’s prescription of “structural methodology” for science (9) is shown by Ghosh not to be either unerring or unfailing. Murugan’s question — “Do you think that everything that can be known should be known?” (A. Ghosh 52) — sets the tone of the novel. Murugan explains an alternative method of investigating science: “Think of Ramanujan, the mathematician, [...]. He went ahead and reinvented a fair hunk of modern mathematics just because nobody had told him that it had already been done” (A. Ghosh 209). Here, according to Mondal and Gaur, Mangala’s achievement in the field of science is very much the same. She has approached the malaria research from an alternative path as she is not schooled in “the conventional Western method of science” and therefore does not admit any restrictions to her thought or practice (Mondal and Gaur 9). There is also an implicit reference of ‘chance’ and ‘coincidence’ behind many scientific discoveries. It is suggested in *The Calcutta Chromosome* that Ross’s discovery of the malaria paretis is also a chance occurrence – at least as far as he knows. When Ross has not been making significant progress in his research, he suddenly meets Abdul Kadir, a fictional character, whose blood sample shows significant features under the microscope. In the novel, Murugan indicates that Ross did not pick Kadir but was rather picked by him. Although the counter-science group led by Mangala was already working on malaria and had achieved substantial progress when Ross initiated his research, they had become stuck. It is exactly at this moment that they find Ross and decide to use his knowledge and sophisticated technology to achieve a breakthrough. Abdul Kadir, who is no match for Ross in terms of social, political and economic status, nonetheless manipulates Ross’s research without giving him the slightest idea that he (Ross) is being manipulated. Ghosh seems to show subaltern agency as something so subtle as to create the impression of non-existence.

In their attempt to write the history of the Indian subcontinent, colonial intellectuals highlighted the complex caste system, but did not feel the necessity of documenting native medical practices seriously (Mondal and Gaur 11). There were “groups of subalterns ...who provided certain remedies for ailments” (Mondal and Gaur 11) without having any of the commonly accepted theoretical knowledge linked with Western science. Mondal and Gaur opine that it is the lack of traditional institutional knowledge among native Indian medical practitioners which actually triggered the Westerners to mock the folk medical tradition of India (12).

However, most of the colonizers refused to acknowledge the value of folk remedies and traditions. By attempting to highlight the native Indian healing system, Ghosh seems to offer an efficacious alternative medical practice unacknowledged by the West, thus empowering the natives. Quite a number of medical practitioners in India, who were othered from mainstream Western medical science because of geographical distance, regarded their employment in India as an outstanding opportunity to get acquainted with a wide variety of diseases

Mondal and Gaur argue, “Because of methodological differences between the conditional understanding of knowledge in Indian and Western systems, Western scholars, while documenting the history of Indian medical system, or any other discipline for that matter, described it as grossly fantastic” (14). In *The Calcutta Chromosome*, patients in the last stage of syphilitic dementia are brought to Mangala for a cure; Farley’s inquisitive eyes observe the rituals and later judge them as simply quackery. Farley belongs to that group of scholars which, in judging any feature of any other culture, finds them contemptible purely because of the difference in cultural context. Anything the Western scientists cannot decode or comprehend is labelled unscientific and absurd. By upholding Eastern esotericism, mysticism and folk belief, Ghosh offers alternative approaches for gaining knowledge, which have been denied by Western rational science.

### **Conclusion**

In *The Calcutta Chromosome*, Amitav Ghosh provides voice and agency to the subaltern by using elements of myth, local rituals, folk belief and the supernatural, and attempts to unearth a buried story about the unacknowledged contribution of the native Indians behind the medical discoveries of Western scientists like Ronald Ross. Ghosh shows that the counter-science group, headed by a mysterious woman named Mangala, has a better understanding of malaria transmission than Ross,

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and thus places the native people on a much higher level than Ross within a hierarchy of knowledge. Ghosh also sheds light on the way the members of the subaltern group, in spite of having more advanced knowledge than Western scientists, choose to keep themselves out of the limelight by being secretive and silent. Rather than putting themselves in the forefront, they instead try to find scientists working within the Western scientific framework whom they can manipulate to ensure the success of their research. Therefore, Ross is not the agent of the research, but rather the object of it. By focusing on the counter-science group's experiment on the transmigration of soul, Ghosh also advocates the existence of alternative possibilities towards the liberation of humanity.

## Notes

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<sup>1</sup>“Interpersonal transmission” is a concept which proposes the bodily transference of knowledge after death and thus highlights the continuation of life even after the death of the physical body. It has a strong affinity with the concept of ‘reincarnation’ according to which our soul never dies, but rather changes the body or carrier. The concept proposes that when changing its abode from body to body, the soul takes with it all the knowledge of its previous births. The soul can learn from its experiences of past lives and develop itself accordingly. Just like the notion of ‘reincarnation’, interpersonal transmission or transference poses a threat to the Western scientific notion of one birth and one death. The development of this supernatural concept by a subaltern Indian woman, Mangala, stems from her desire to overpower the scientific supremacy of the West and to emphasize alternative ways of gaining knowledge. It is also a way of getting a voice and finding a place in history from the viewpoint of the marginalized.

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