CHAPTER 5
THE SUBALTERN SCIENTIFIC RESEARCHER
IN GHOSH’S MEDICAL HISTORY:
THE CALCUTTA CHROMOSOME

_The Calcutta Chromosome_ further continues Ghosh’s peculiar themes and techniques albeit in a changed garb. It is an excellent work of science fiction that projects into the past. Although Ghosh won the Arthur C. Clarke award for science fiction for this novel, yet it is a merging of various genres like science fiction, history detective chases and even spirituality. Throughout his fiction, Ghosh’s predominant concern has been with the exploration of personal memories in the wake of historical developments. _The Calcutta Chromosome_ veers to include the politics of scientific research, technology and an exploration of identity along with history and memory. R.K. Dhawan comments:

> “Ghosh makes a unique experiment in _The Calcutta Chromosome_ by combining various themes and techniques. He amalgamates here literature, science, philosophy, history, psychology and sociology.”

Keeping in mind Ghosh’s distrust of lines people draw between fiction and non-fiction, this novel too, reveals Ghosh’s fundamental interest i.e. “in people – in individuals and their specific predicaments.”

The main narrative revolves around an examination of the history of late nineteenth century malaria research by Murugan, the cynical protagonist, who works for an international public health company called Life Watch. Murugan is obsessed with the history of
malaria research and according to him, Ronald Ross, who was awarded the Nobel Prize in 1902 for his work on mosquito as the vector for Malaria, was not the real genius behind this study, but a mere puppet in the hands of local geniuses, who themselves chose to remain obscure. Murugan is of the conviction that there is a secret history that has been erased from the scribal records of medical history. It is this hidden truth that he has devoted himself to uncover.

Another protagonist in the future time, named Antar, is a New York based computer systems operator, who has been a former colleague of Murugan’s and now works for an international water agency which has absorbed Life Watch. It is Antar only, who introduces us to Murugan. At the very outset Antar comes across a part of an ID card on the screen of his computer and this sets him off on a search for the owner who turns out to be Murugan whom he had met once earlier. The novel is set in the near future with Ghosh’s characteristic shuttling between time zones. Murugan, a cynical man, who gets himself transferred to Calcutta at a greatly reduced salary, to pursue his apparently whimsical doubts over Ronald Ross’s ingenuity, has been reported as missing. He was last seen in Calcutta on 21 Aug 1995. This point of departure reveals an intricate web of quests ranging from Murugan’s quest for truth behind malaria research; Antar’s pursuit of Murugan through complicated computer technology, which has become far more advanced in the future and further involvement of characters, who later join Murugan’s quest. Antar’s search for Murugan leads the reader to the other quests, which are interlocked and lead to a final revelation bringing all the characters together. The book seems to be a departure from Ghosh’s other novels, yet as mentioned by John C. Hawley, the author tells
interviewer Paul Kincaid that what he wanted to do was “to integrate the past and present” which has been his primary concern in almost all his fictional works. Moreover, the idea of a secret society dedicated to achieving immortality came from the Egyptian Gnostics, and the mysterious Renupur reminds us of villages from *In An Antique Land*.

Post-coloniality, the theme inseparable from Indian literature in English, has been approached in this apparent science fiction also, but from a very novel perspective. John C. Hawley cites the two thematic points that could be drawn from the novel as highlighted by Paul Kincaid: “the role of the colonist who exploits but is largely ignorant of local culture and knowledge” and “the very different attitudes to knowledge and research in East and West.” A conventional post-colonial fiction would give a position of privilege to the colonizer describing the travails of the colonised subject as a downtrodden subaltern. But here we have a very obscure group of Indians who are far ahead of the colonizers that is the privileged group of British scientists, in terms of scientific research. Ronald Ross, in fact is no more than a puppet in the hands of this group headed by Mangala, who in fact feeds the necessary information and intelligence to Ross and his other team members. This secret society is far ahead in intellectual power to the scientists who have access to latest technological developments. They have already discovered what Ross and team are struggling to understand. Thus in this novel, it is the subaltern who has the upper hand, in contrast to the privileged. And the fact that it is a woman, who spearheads the research work, implies the victory of twice colonized female and that too one belonging to a downtrodden backward class of sweepers.
Consequently the female subaltern in the guise of Mangala is given a voice and that too an authoritarian one. In order to show the triumph of East over West and give words to the concerns of the colonized, Ghosh has used the mystical and superstitious practices of colonized India. It may be perceived as an attempt by Ghosh to bridge the gap between the privileged and the subaltern class, the colonizer and the colonized. John Thieme emphasizes this point:

“The Calcutta Chromosome and the possibility of effecting the ‘interpersonal transference’ of knowledge occupies a central role in this investigation, since such transference would erode the barriers between elite and subaltern classes, between the purveyors and recipients of knowledge, everything about Ghosh’s novel seems to be working towards this end.”

The charm of *The Calcutta Chromosome* lies in the power he has bestowed upon the subaltern, irrespective of caste, by giving him the secret knowledge which had hitherto been the preserve of the colonizer. Ghosh has very effectively made use of the genre of science fiction to represent the subaltern’s deserved acknowledgement as an equal. He has successfully overcome the hurdles of presenting a subaltern’s viewpoint in a language which is essentially the preserve of the urbane and educated. Tabish Khair underscores this point:

“... Amitav Ghosh’s *The Calcutta Chromosome* (1996) has been widely acclaimed in the popular media; but, significantly, not in terms of its main concern – the question of subaltern agency vis-à-vis alienation... This confronts us, first of all, with the problem of accounting for and registering the agency of the coolie and the non-Babu in a language (English) that is seldom, if ever, employed by the coolie and the non-Babu
(and never from choice in an ordinary situation). The Babu, so to say, has a monopoly on the ‘medium’ through which the knowledge of the coolie and his/her agency (or the lack of it) is ‘exchanged’ and created. How then can this agency be expressed? How can the coolie be constituted in another language, and one that shares a different socio-economic and discursive siting, without depriving him/her of voice and agency.”

This precisely, is the difficulty which Ghosh has overcome and produced a work where the subalterns are given a voice even without making them speak much. In fact silence pervades the entire novel, but this silence too, has an expressive character. Most of the post colonial works represent the colonized subaltern as being viewed as irrational, superstitious and narrow-minded. But Ghosh departs from conventional portrayal in this novel. The secret cult has accumulated a horde of scientific knowledge, but this knowledge is accessible to selected individuals irrespective of their caste or even nationality like the Egyptian Antar. An apt illustration of this tactful handling of situations is the human sacrifice scene which causes Sonali to faint. Khair opines:

“Tellingly, the climax of the novel is a scene that, in colonial discourses of Indian irrationality would be described as a scene of ‘human sacrifice’. The human sacrifice is probably the most extreme metaphor of non-European (whether Indian or ‘Red Indian’) otherness. In colonial and even certain neo-imperial discourses, it stands as the example par excellence of the other as mindless, herd like barbarous and irrational. In *The Calcutta Chromosome*, significantly, the ‘human sacrifice’ is taken over and re-inscribed within the subaltern’s agency and the subaltern’s
(suggested) discourses. From that perspective, it becomes a form of discovery, of furthering life and of planned, purposive activity. It becomes in a way the exact opposite of what barbaric and ‘irrational’ stand for- a planned means of personal improvement and collective wellbeing.”

The Farley episode, though not discussed in as much detail as the Phulboni episode, is a crucial instance of a subaltern figure exercising power over the privileged coloniser. Both the episodes have startling similarities. More than thirty years before Phulboni’s fated night at Renupur railway station, in 1894, an American scientist; Elijah Farley has been reported as having vanished after disembarking from a train at Renupur. The reason being that Elijah Farley had discovered the way, Mangala and her secret cult were manipulating the experiments of Ross’s Calcutta predecessor, D.D. Cunningham. It is Antar’s super-computer, Ava that reconstructs a lost e-mail which has mysteriously disappeared after Murugan has read it in a Baltimore library. Later in the Phulboni incident the veteran guard at the railway station remembers a foreigner dying at Renupur in 1894, having been led just like Phulboni to the tracks by a lantern. When Farley died, Laakhan was occupying the station. Laakhan was Mangala’s assistant in Cunningham’s laboratory. This Laakhan / Lutchman is revealed as subsequently having worked for Ross and his identity is revealed in a range of other context. He has a thumbless left hand and in the Phulbani episode, he sees an imprint of just such a hand in the signal box at Renupur. The guard verifies the trait by telling Phulboni how after Farley’s death in 1894, a stationmaster was found dead, an upper caste man who regarded Laakhan and his misshapen left hand as worse than untouchable and
attempted to kill him ‘by switching the points and leading him before a train’
8, only to suffer the fate he has intended for Laakhan, himself, a third incident of narrowly averted or actual death of this kind.

This last episode, narrated by the guard is a perfect instance of a subaltern exercising power, after having been a voiceless sufferer. When Farley discovers that Cunningham’s work is being hampered by his assistants Laakhan and a woman named Mangala, he tries to probe and suffers the consequences. Mangala is the brain behind all the discoveries that will eventually lead to Ross’s winning the Nobel Prize. So Ghosh’s novel brings to light how the Indian female subaltern controls the intellectual achievements of western scientists. Murugan, after his research, comes to the conclusion that Mangala and her associates are deliberately coming in the way of Cunningham’s research, so that he is replaced by Ross, whom they can use as the vessel for their discoveries. These discoveries are beyond mere cures for malaria and syphilis. These discoveries question the very existence of autonomous selfhood and subjectivity of the characters. This is precisely the reason why the characters have more than one name and they all elude any fixed identity. The discovery, how malaria is transmitted by a mosquito is a mere by-product of her real research interest. Mangala and her secret cult is attempting to evolve “a technology for interpersonal transference” (TCC, P. 106), “a means of transmitting knowledge, from body to body” (TCC, p. 107). According to Murugan, Mangala is the follower of a theory that may be called counter-science and this counter-science and the conventional science are analogically related like ‘matter and antimatter [...], rooms and ante-rooms [...] Christ and Antichrist and so on’ [TCC, p. 103]. If we accept Murugan’s
thesis, there is a subaltern force which, although silent and secret, is at least as powerful, if not more, as conventional science.

Amitav Ghosh avowedly has been an ardent fan of science fiction. *The Calcutta Chromosome* though it articulates concerns ranging from post-colonialism, history and the predicament of the subaltern; was essentially conceived as a science fiction. Joydeep Banerjee reviews *The Calcutta Chromosome* and comments:

“A work of fiction is invariably a quest, for an identity and meaning, most of all for personal significance in a living world. But *The Calcutta Chromosome* is its deliberate inversion. It is almost as if Ghosh is exorcising the gloom, which had crept upon him in the writing of *In An Antique Land*. In both the works, the chance discovery of marginal figures, lost in time becomes the occasion for researching the historical past of ancient civilizations with their richness and complexities and also for tracing their inevitable destruction at the hands of the European conquerors.”

Science fiction critics do not think of *The Calcutta Chromosome* as a typical conventional science fiction book. When Murugan comes to Calcutta in 1995 to verify and further develop his research about the malaria story, he discovers an esoteric cult of people who worship a peculiar female image having a microscope in hand. This demi goddess is called ‘Mangalabibi’. This story of Mangala in her various incarnations is full of elements both mythical and mystical. Phulboni does a comprehensive story on this image and its advent into the world. In Shubha Tiwari’s words: “As we know in ‘Bhakti Marg’ where poet/devotee/mystic cries in anguish to become one with the Mother. Mangala belongs to this path. The other path is that of ‘Tarka’ or logic and science Ross follows this
path. The two paths may seem contradictory but in reality are not so. They are complementary. In fact, in his book, Ghosh ratifies and endorses Mangala’s path. Logic without intuition is incomplete.”

The novel gives a subsidiary place to Ronald Ross’s methods while Mangala and her methods are glorified as perfect.

If we perceive the more scientific and logical aspects depicted in the novel, Mangala is nothing short of a genius scientific power. Mangala had developed a particular kind of malaria that could be induced in Pigeons. Then she started treating syphilitic patients by infusing them with the blood of malaria-infected pigeons. She operated from Cunningham’s laboratory very secretly. This peculiar treatment resulted in strange transference of personality traits in individuals, which is the ‘Calcutta Chromosome’. This ‘Calcutta Chromosome’ transfers personality traits from one individual to another, in a way suggesting immortality. As Murugan tells Antar:

“Just think a fresh start: when your body fails you, you leave it, you migrate – you or at least a matching symptomology of yourself. You begin all over again, another beginning, a technology that lets you improve in your next incarnation” (TCC, p. 91-92).

The novel comes out as a mingling of the two worlds of science and counter-science, Indian mythology and European logic. Every character is trapped in a web of interrelated episodes wherein each character is in a mad pursuit of some fact or some individual. While Antar, the Egyptian clerk is trying to follow the adventures and disappearance of L. Murugan, Murugan in turn is trying to verify the truth behind Ross’s malaria research between 1895-99. The rest of the characters including Ross in absentia are involved by
Murugan in pursuit of the scientific research which culminates in a
discovery. John Thieme very aptly comments on this intermingling
of various elements in *The Calcutta Chromosome*:

“*The Calcutta Chromosome* is more overtly fictive, but again it interweaves a network of traces-from the history of late nineteenth century malaria research, theological movements generally deemed to be heretical in the west and slightly futuristic information technology _inter alia_ to provide the possibility of an alternative subaltern history, which exists in parallel with colonial history as an equally (or possibly more) potent epistemological system, albeit one which has traditionally operated through silence rather than articulation.”

Throughout his entire oeuvre Ghosh has exhibited his love of histories, and his novels stick to the verity of annals to a great extent. The novel under study can be classified as a medical history in the guise of science-fiction: Tabish Khair says:

“…in *The Calcutta Chromosome* Ghosh presents a complex India that achieves coherence on a non-colonial (not Eurocentric that is) and non-Babu level… (since) Ghosh’s ‘chromosome’ suggests a coherence of parts which is neither a nationalist ‘united’ nor based on hegemonic and parochially ‘universal’ discourses emanating from Europe or from Babu realms of activity.”

Thus, though the work is a science fiction, with Ghosh’s characteristic shuttling between past, present and future, it can also be seen as history rewritten, like in other works by Ghosh. The implication is that there may well have been a lot going on throughout the centuries, which the historians just overlooked. Ghosh’s concern with the predicament of the subaltern who’s been obscure in history, predominates in this novel too, as has already
been earlier discussed. Ghosh’s interest in history overrides his fictional representation of science as well. John Hawley very aptly cites what Ghosh says in an interview with Paul Kincaid, “I think it’s a pit that science fiction always seeks to project into the future: it’s just as interesting to project into the past.”

Ghosh with an anthropologist’s discerning eye for historical details brings forth and constructs stories that otherwise slip from consciousness and recorded history. This remembering and piecing together of history from disjointed episodes takes his works beyond mere aesthetics and entertainment. Brinda Bose observes about *The Calcutta Chromosome*:

“The *Calcutta Chromosome* (1996)[then] took a leap in a completely new creative direction when Ghosh wrote what has subsequently been called the ‘first science fiction in Indian English’,...sub-titled ‘A Novel of Fevers, Delirium and Discovery’, *The Calcutta Chromosome* grapples with colonialist notions of science( ‘discovery’) and the ‘native’ East (counter-scientific, ‘fevers and delirium’) without reducing them to an essentialized binary opposition that the post colonial writer must reverse. It considers Eurocentric dualisms set up between science and Magic/Mysticism in which the colonies supposedly embody the latter, and re-plays the man-machine wars on native territory with surprising turns of ‘discovery’.”

Ghosh’s works are primarily based on and immersed in history, and involve the politics of earlier times as well, besides that of recent decades. Unlike a conventional science-fiction Ghosh chose history i.e. past over future as the major time period when the incidents depicted in the novel happened. Though futuristic information technology is also given due role in the scheme of
things, yet the centre of real action is in the past. The history as presented by Ghosh in this novel is from the perspective of the subaltern subject who finds no place in conventional historiography. The scientific cult led by Mangala, though silent, is given a prominent voice as the supreme power. In the words of John Thieme: “What *The Calcutta Chromosome* forces its readers to engage with is the possibility of an alternative historiography in which traditionally disempowered subjects prove to be the real puppet masters.”

This alternative historiography is a perfect lesson in female power, which has hitherto been unacknowledged. Shobha Hiatt emphasizes this feminine force:

> *The Calcutta Chromosome* has a new breed of powerful self aware, confident and autonomous female characters majority of them christened after the great Mother archetype.”

Mangala, Tara, Urmila and Maria are the various incarnations of the all powerful mother. All these female protagonists are single and contented with their successful lives. Except for Antar’s wife who’s just mentioned briefly in the novel, the rest of the female characters, appear beyond the institution of marriage. Mangala’s family doesn’t find any mention; Mrs. Aratounian and Countess Pongracz are spinsters; Tara and Maria live alone in New York; death of Romen Haldar leaves Sonali alone and Urmila lives as an outsider amidst a family of father, mother, brothers, sister- in-law and nephews.

*The Calcutta Chromosome* revolves around discovering the possibility of affecting the ‘interpersonal transference’ of
knowledge, since it offers to dissolve the barriers between elite and subaltern classes, between the educated and the illiterate. Throughout the text readers are in the quest of the real discoverers and what they have discovered. The borderline between the discoverer and those who are discovered is a very porous one, bringing into focus Ghosh’s persistent concern with the dissolution of boundaries. Ronald Ross appears to be the discoverer busy with his research work, but apparently he has been discovered and in fact guided by Mangala and her followers. L. Murugan is investigating the verity of malaria research and Ross’s role in it, but he himself is being investigated by Antar. This investigative pattern is further complicated by the involvements of other characters in the narrative. On 21 August 1995, Murugan follows the final stages of his investigation with a magazine journalist Urmila Roy, who joins Murugan in his obscure search. The entire team of discoverers is heading towards some mysterious climactic coming together of characters and revelation of the real force behind the entire drama. John Thieme comments upon the climax:

“Towards the end novel appears to be moving towards some kind of apocalyptic revelation and one wonders whether Murugan is about to become a victim or an initiate of the cult. Such ambivalence is of course central to The Calcutta Chromosome procedure and its unsettling of the shadow-lines between elite and subaltern subjects.”

When Murugan Sonali and Urmila are following Mrs. Aratounian in the final chase to uncover the mystery, Murugan identifies Urmila as the chosen one for Mangala’s next incarnation and asks her for a promise, ‘that you’ll take me across if I don’t
make it on my own’ (TCC, p. 305). Urmila, hitherto had not been seen as occupying a significant position in the entire process of discovery. But suddenly Murugan realizes this role and explains:

“You see, for them the only way to escape the tyranny of knowledge is to turn it on itself. But for that to work they have to create a single perfect moment of discovery when the person who discovers is also that which is discovered” (TCC, p. 306).

The climax takes the readers to Antar’s New York apartment where Antar with his supercomputer, is startlingly revealed to be the ultimate discoverer of meaning in the novel. Antar, till now was the only figure who appeared outside the complicated conspiracies. But he too is an ardent investigator and the final chapter shows that he too has been engulfed in the mysterious revelation like the other characters. He how realizes that his stumbling upon Antar’s ID card, had not been an accident and this intricate web of people expands even further, as two of Antar’s New York friends are observed into the visual images of Murugan’s last day in Calcutta which Ava is projecting for him. Thus, the apparent discoverer Antar is revealed himself to have been discovered.

John Thieme takes the discoverer-discovered intermingling a step further and infers the reader to be the ultimate discoverer who has been discovered:

“In erasing the distinction between discoverer and the discovered, Ghosh has also demonstrated the unsatisfactoriness of making rigid distinctions between story tellers and listeners. Nobody, the suggestion seems to be, is exempt from history or from playing an active role in the historiographical process. So perhaps, the ultimate discoverer who is discovered by the novel is the reader.”18
NOTES AND REFERENCES


* All the subsequent references are from the same edition here after referred to with page numbers in parentheses within the chapter itself.
13. John C Hawley, 163.
17. John Thieme, 139.
18. John Thieme, 140.