Subversive Delirium in *The Calcutta Chromosome*

*The Calcutta Chromosome* (1996) is a multifaceted and complex quasi-science fiction narrative meticulously set by moving at all planes of time: starting with future shifting to the past and present. The subversive attributes of the novel aim at entreating a case for the marginalized natives and their primordial cultural practices and questioning the claims of West-centric scientific discourse. The novel shuttles astoundingly among the points of time, makes link in them with a few characters and firmly supports the silence and secrets of the marginalized people. A galaxy of critics has much to say about the novel’s surfaced fact and fictional fusion of medical adventures of Ronald Ross [1857-1932] (the Nobel Prize Winner of 1906 for his work on the life-cycle of malaria parasite in 1898), about Murugan’s interest in malaria research and a few have written on the network of stories woven throughout the novel.

When the novel opens, one of the main characters, an Egyptian computer wizard, Antar encounters a smashed identity card. He soon discovers that it belongs to some L. Murugan, a colleague and researcher in Life Watch where he works. He comes to know that Murugan has done extensive research on the medical history of malaria. Murugan believes that Ronald Ross, in the beginning of his work, was going in the wrong direction and was directed by some people on the right path.

Amitav Ghosh dismantles the Western superior complexity by making one of the characters sneer at Ross’s false perception of himself as the wholly true researcher. Murugan says, “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” (67). The novelist wants to prove “…everything is other than what it appears to be, a phantom of itself” (129) as the silent secretive group was more vociferous in its works and abilities than the privileged section of society. Murugan attempts to prove that Ronald Ross was controlled in his research by the illiterate lower class dhooley bearer, Lutchman and a sweeper woman, Mangala.

Mangala is a very crucial character in highlighting the hidden talent and intuitive genius of subaltern section of rural India. Inspite of being a sweeper woman, she interrogated logocentrism through the discovery of the Calcutta chromosome. She
discovered that syphilitic paresis, the final paralytic stage of syphilis can be cured artificially induced malaria. By primitive horse-breeding methods, malaria is induced into the pigeons and the bacteria are cultivated in them. She found some way of making the bug cross over so that the bird could be used as a test tube. She noticed that her treatment often produced weird side effects and created strange personality disorders. There was a cross over of randomly assorted personality traits from the malaria donor to the recipient via the bird.

This aspect of treatment was to be isolated so that she could control the ways in which the cross over worked. Mangala stumbled on something she could not name. For the sake of argument, Murugan calls it a chromosome—the Calcutta Chromosome. It is a chromosome only by analogy. Unlike the other chromosomes, it is not symmetrically paired, nor is it transmitted from generation to generation by sexual reproduction. It exists only in the non-regenerative tissue, the brain. Its entity will be the hardest for the conventional scientists to accept. This chromosome is capable of affecting interpersonal transference of soul.

Through the character of Farley, the novelist makes the readers surprised to see the illiterate sweeper woman, Mangala doing all the selection of the slides for experiments in lab, “Farley saw her picking the slides out with a speed that indicated she was not only thoroughly familiar with the slides but knew exactly what they contained.” He wonders “how had a woman, and an illiterate one at that, acquired such expertise? And how had she succeeded in keeping it secret from Cunningham? And how was it that she, evidently untrained and unaware of any of the principles on which such knowledge rested, had come to exercise such authority over the assistant?” He realizes her secretive power, “she was keeping something from him; that had she wished she could have shown him what he was looking for, Laveran’s parasite; and that she had chosen to deny it to him because, for some unfathomable reason, she had judged him unworthy”(121).

Cunningham commended Mangala’s dexterity in various activities of the laboratory, “And a quicker pair of hands and eyes I have never seen before” (123). Murugan later on tells Urmila about Mangala which he knows because of the letter (Murugan has traced in archives) of an American missionary doctor Elijah Farley describing a visit to Cunnungham’s lab:
there was this one person, one woman, who took to the lab like a duck to water...within a few years she was way ahead of Cunningham in her intuitive understanding of the fundamentals of the malaria problem...With this woman we’re talking about a whole lot more than just talent; we may be talking genius here...She was working towards something altogether different, and she’d begun to believe that the only way she was going to make her final breakthrough was by getting Ronald Ross to make his. She had bigger things in mind than the malaria bug (202-203).

Magic realism and mysticism abound in this novel which serve the novelist’s purpose to privilege the code of secrecy of the members of a secret religious group (the group was at the periphery of the society of that time) and subvert the notion that only a theory loaded person can do wonders in research. The novelist attempts to emphasize the richness of Indian folk having the elements of supernaturalism, mysticism and myth which is far ahead the Western rationalism. The novel highlights the native folk practices of healing in India.

A socio-medical researcher, Ajit K. Dalai’s views are relevant in this context who believes that Indian society has always remained concerned to achieve freedom from pain and suffering. Every society has developed its own healing institutions and practices by taking into account the understanding of common human nature and the causes of suffering. Thus, the traditional systems have witnessed numerous changing times but still manage to flourish popularly in the present times (1). The essential purpose of folk healing is to help people move away from constricted mind-set of apathetic existence which make them indifferent to larger aspects of human life and thus, to offer them the larger social and spiritual possibilities. People are connected unusually with their past and future, with living and dead, with spirits divine and earthly, thereby broadening their vision.

Dalai also opines that the various rituals and ceremonies “solicit the indulgence of ancestors and departed relatives” (11), who are regarded as a vital link to the wider support. Consequently, people build up “a sense of belonging to a larger cross-section of people and learn to situate their problems and sufferings in the larger social matrix” (11) which is the ultimate way to cure. All this leads to the merging of
the natural with the supernatural thus facilitating the process of becoming a social being from just an unresponsive individual being during a catastrophic situation. That’s why we witness the mushroom growth of the modern healing centres despite the reluctance of the doubting rationalists of Science. People have started showing dynamism and support to such centres as they learn to deal with their personal problems in different alternative ways. The personal anguish gets exposed to the larger society. When an individual gets involved in a ceremony, he feels privileged to be acknowledged and given due importance in the same way as others in the society. Thus, the broadening of the networks of relationships is the commendable outcome of healing (12).

In 1927, Julius Von Wagner-Jauregg won Nobel Prize for his discovery that “artificially induced malaria often cured, or at least mitigated, syphilitic paresis” (204). At that time very little was known about in the process in which it worked. But in the 1890s, the secretive Indian group which was led by Mangala had already attained an important landmark in this area of research which was surely ahead of the Europeans. This group had developed a specific kind of malaria that could be traced in pigeons. Mangala attempted to find out a cure for syphilis, a sexually transmitted disease, by way of transferring the malaria microbe to the patient through the bird.

The process resulted in exchanging “of randomly assorted personality traits, from the malaria donor to the recipient” (206). In the process they struck upon a strange chromosome which had been eluding all those modern techniques of detection and isolation. Murugan gives this DNA carrier a name, that is the Calcutta Chromosome, “a biological expression of human traits that is neither inherited from the immediate gene pool, nor transmitted into it” (207) which could be found only in the non-regenerating tissue, the brain, and could be transmitted through malaria.

This crucial thread of the genius of this underground group does not end here; there was another purpose in the minds of Mangala and her associates. In fact, their motive was to achieve “immortality” through the technique of “interpersonal transference” which could be made possible by the Calcutta Chromosome. (90) It was as Murugan calls “the ultimate transcendence of nature” which implies switching between spirits of bodies, “You’d have him speaking, in your voice, or the other way around. You wouldn’t know whose voice it was...when your body fails you, you...
leave it, you migrate- you or at least a matching symptomology of your self. You begin all over again, another body, another beginning. Just think no mistakes, a fresh start...a technology that lets you improve on yourself in your next incarnation…” (91-92). Mrs. Aratounian as the reincarnated Mangala, Romen Halder as the reborn Lakhan; the trio of Murugan, Urmila and Sonali; again the trio of Antar, Tara and Maria are all independent characters in the novel but they are interconnected chromosomally and knowledge is transmitted from one person to the other through interpersonal transference or transmigration of the soul. The secret behind the interpersonal transference of soul is confined to the counter science team alone which shows that they are more advanced than the Western scientists in their mysterious and intuitive wisdom.

The narration shifts from Antar’s computer cabin at New York in the twenty-first century and then through flashback moves to the twentieth century to make Antar recollect his meeting with his colleague Murugan at the Thai restaurant. He moves further back to the nineteenth century to furnish the details of a very important letter Dr. Farley wrote to Dr. Eugene Opie. The narration becomes non-linear with its to and fro movement in space and time. From the letter written by Dr. Farley, Murugan learns that some bizarre events were taking place in Dr. Cunningham’s laboratory.

As Dr. Cunningham had to leave for Assam, he entrusted his assistant Lutchman to provide Dr. Farley with all the facilities, like slides and other equipment. Farley could sense that in the absence of Dr. Cunningham, some weird and secret rituals and chantings were taking place in an outhouse near the laboratory. He secretly noticed a great deal of activity taking place in a nearby anteroom too. Headed by Mangala, as though enthroned, were some dozen people in various attitudes of supplication clustered around her feet. Two or three of them were in the last stage of syphilis. By her side were several bamboo cages containing pigeons shivering evidently near death.

He saw that the bearer-boy, with an adept hand is taking clean slides to the anteroom whispering something in Mangala’s ears. At this Mangala muttered a prayer, took a scalpel and beheaded the dying pigeon. Then she smeared the slides across the severed neck and handed them to the assistant. He gave the slides to Farley and asked him to examine them and said, “May be you will at last achieve success in your quest” (The Calcutta Chromosome 128).
The words were prophetical. Farley was able to see through the microscope, the movement of the amoeboid forms undulating slowly across the glassy surface. He saw hundreds of Laveran’s rods, tiny cylindrical things with their pointed penetrating heads piercing the bloody miasma. Laveran’s theory was proved beyond doubt. Farley was all the most excited. He saw a row of faces watching him curiously and Mangala staring at him smiling to herself. “Tell him, the woman said with a mocking smile; tell him that what he sees is the creature’s member entering the body of its mate”(128).

Although the discovery was made, yet Mangala and Lutchman were not ready to allow him to go to the world with their unique secret knowledge. Somehow or the other he should be got rid of. So, Lutchman in a cunning way took him to the Renupur railway station, where in unexplained circumstances Farley disappeared into oblivion. Before his disappearance, Farley recorded the events he witnessed at the Cunningham’s laboratory in a letter to Eugene Opie, which Murugan searches out from a library during his research. But when he goes again to the library for a second reading it has mysteriously disappeared. The information that Murugan gives to Urmila is a reconstruction of the letter from his own memory.

Mangala is also the representative of the archetypal mother, the goddess Kali or Durga for all her enormous powers of renewal and regeneration. Joydeep Banerjee(2009) believes that Amitav Ghosh makes use of goddess metaphor to refer to the inevitability of coming back to life. Farley saw during his visit to Cunningham’s laboratory:

…Mangala was seated at the far end of the room, on a low divan, but alone and in an attitude of command, as though enthroned…On the floor, by the divan, clustered around the woman’s feet, were some half-dozen people in various attitudes of supplication, some touching her feet, others lying prostrate. (125)

After being involved in series of experiments, Mangala went out of the research track in 1897 and immediately wanted to have somebody who could continue this project. It was here that she encountered Ronald Ross, the scientist related to the discovery of the malaria bug. She was left with the conclusion that with the existing strains of malaria; she could not go on in the right direction. She thought of getting the scientist onto a proper direction to her research. For this, she intentionally placed
the necessary clues and details before Ronald Ross and cautiously manipulated his experiments to make him a mere puppet and work the way she wanted. Murugan tells, “Every time Ron went running off in the wrong direction, Lutchman was waiting to lead him off and show him the way to go on” (200). Lutchman was already directed by Mangala in selection of the slides and all.

Murugan tells Urmila later about the possibilities of the reasons for the mysterious people holding back their truth, “Maybe they’re waiting to find some previously unreported strain of malaria. Or maybe they’re waiting on a technology that’ll make it easier and quicker to deliver their story to whoever they’re keeping it for: a technology that’ll be a lot more efficient in mounting it than anything that’s available right now” (181). And it is here that Murugan’s doubt is proven to be right as Antar is the new chosen one to actually visualize all this happen and relate it altogether.

Amitav Ghosh draws the attention of the readers towards the fundamental folk belief in the transmigration and immortality of the soul. It is shown through the believers of a cult and more specifically the Spiritualists who firmly believed that death is nothing more than a change of attire. The primitive characters of Mangala and Lutchman had their firm faith in continuance of life. Mangala of the 1890s resurrects into the forms of Mrs. Aratounian, Urmila and Tara of 1995 and Laakhani/Lutchman transforms into Lucky. 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 concern with permanence of soul against the transience of body.

Amitav Ghosh also makes a strong reference to the religious tantric rituals performed by the secret sect for transmigration of soul. He employs the technique of magic realism in the narrative to surprise the readers by its mystical and supernatural threads. Sonali’s visit to Romen’s house in Robinson Street is its remarkable illustration. During the ceremony, Laakhani’s spirit is transferred into the body of Romen Haldar and the ceremony is performed by Mangala- bibi in the form of Mrs Aratounian:
When Sonali goes inside Romen’s house, she catches “the distinctive odour of incense, the sweet, acrid smell of burning camphor.” Then she hears “a sound of drumming, familiar from pujas and festival days…” She approaches the grand, ceremonial staircase...she saw that smoke was pouring into the stairwell from above...the torch...eluding her hand, ...went spinning down the stairwell...She knew she would panic if she stayed on the floor any longer, flailing about, blinded by sweat and smoke, deafened by the noise. ...She saw...the whole room seemed to be filled with people. They were chanting something and some were keeping time with drums while others were beating little hand-held cymbals. At the far corner, she spotted the opening that led to the gallery, glowing orange against the velvety darkness of the room...She noticed that the smoke was even thicker here than it was below; trapped by the ceiling...she spotted...a strangely motley assortment of people: men in parched lungis, a handful of brightly painted women in cheap nylon sarees, a few young students, several prim-looking middle-class-women...people you would never expect together...Then ...a woman...looked very familiar; Sonali was certain she was someone she had once known but hadn’t seen in years...she was carrying a bamboo bird-cage...Then reaching into the bag...she took out two scalpels and a pair of glass plates...Suddenly Sonali...caught a glimpse of a body, lying on the floor.

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. (137-140)

Such passages like Sonali’s visit to Romen Haidar’s house (when a religious ceremony was taking place inside it) and Urmila and Murugan’s visit to Kalighat are very crucial to the understanding of Amitav Ghosh’s novels and their style. The manner of description of an event, incident or especially a visit to a place often encountered by the characters has the force of the novelist’s innate observation of every minutest detail relating to the collapse of the building The Star and Alu’s speech before the people of Ras in The Circle of Reason and Deeti’s visit to the Opium factory in Sea of Poppies.
In another instance, when Urmila and Murugan go in the streets of Kalight to ask about the image of microscope, Urmila’s sensitivity is foregrounded:

...she remembered a narrow alley, winding through low, tin-roofed sheds, pavements that were lined with rows of grey-brown clay figures, some just torsos, full-breasted but headless, with tufts of straw blossoming out of their necks, some legless, some without hands, some with their arms curved in phantom gestures around invisible objects-weapons, sitars, skulls...She had watched in amazement as breasts and bellies took shape under the craftsmen’s kneading fingers, wondering at the intimacy of their knowledge of those spectral bodies. (191)

Amitav Ghosh, thus, presents the hidden but sublime agenda of the silent group (through silence and tantric rituals) alongwith picking up the extraordinariness in the humdrum of ordinary life.

Another link to the rituals of tantra is shown in the novel through Murugan who introduces a countess who was oriented towards spiritual transformation. He works on the malaria archive and searches into the North Africa and Middle East files. He tells Urmila about “one Countess Pongracz” who was a disciple of a guru called Mme Liisa Salminen and leads a group called “the Society of Spiritualists.” She recorded the incident of a weekly séance of some Spiritualists with Mme Salminen on January 12, 1898. A man who arrived in this meeting, was “in a state of extreme emotional distress” and whispered to Mme Salminen about his suffering which the Countess caught “a few disjointed syllables,” ‘Great distance... see you...dreams...visions...death...implore you...madness...annihilation’(173). The Countess shared a particular interest of her guru,

...it was her belief that violent passion, when efficiently channeled, can create the condition for what she called ‘psychic breakthroughs.’ The assembled company during a séance would join hands and ‘attempt to bring their powers of concentration into focus’...to produce some of the ‘manifestations’ of psychic energy...such phenomena as table-tapping, automatic writing, incorporeal voices...(174)
Mme Salminen and Mr Dunn “appeared to have fallen into a kind of trance” and then her “head was flung back against the chair, suddenly and violently...her hair flowing loose, her mouth slack and open, trailing ribbons of sputum...Mr Dunn fell to the floor, screaming... Save me...from her...pursuit...beg mercy...” A peculiar feature of such hallucinations is that “even in that darkness which was not merely the absence of light, but rather its opposite, an antithesis that could only be conceived in the inner eye of the mind: even in this blank darkness they could see C.C. Dunn...struggling; the agonies that passed over his face; they watched his futile attempts to fight off whatever it was that had tied him upon this rack of torment...but never once did they glimpse or even imagine the agent of his anguish...” (175-176). It is here that an important link is made when Valentinian cosmology is referred in which the Silence is venerated as the ultimate deity who represents truth. It justifies the whole underground network of the marginalized people who are silent about their discoveries and doings with truth embedded in their clandestine activities.

The novel also explores the subversion of the binary of language and silence. In the novel, the language has to deal with the act of telling anything through written or spoken words. The novel suggests that this act of putting anything into writing inevitably distorts the truth of the thing it seeks to describe. This is well exemplified by Murugan while explaining to Antar the logic of the counter-scientific cult:

Maybe this other team started with the idea that knowledge is self-contradictory; maybe they believed that to know something is to change it, therefore in knowing something, you’ve already changed what you think you know so you don’t really know it at all: you only know its history. Maybe they thought that knowledge couldn’t begin without acknowledging the impossibility of knowledge... (88)

Murugan does not specify writing and language but the “impossibility of knowledge” is implied to have arisen from the need for knowledge to be transmitted by language. Murugan points out that language is insufficient to explain phenomena and inevitably changes the thing that it attempts to describe. He confirms this by arguing that the secret group “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” (88).
The elusive group of Mangala was using Ross and left only inconspicuous signs of its existence without leaving any person with its motives or plans behind its actions. One of the characters in the novel describes Mangala as the one “who has so long eluded me: Silence herself. I see signs of her presence everywhere I go, in images, words, glances, but only signs, nothing more…” (The Calcutta Chromosome 122). Throughout the novel, the group is never defined straightforwardly. Even the characters in the novel are only able to find vague textual traces of it, despite their frantic search. This is consistent with Levinas’s idea of silence as “the inverse of language: the interlocutor has given a sign, but has declined every interpretation” (Totality and Infinity 91).

Mangala’s group did not intend to enable anyone to form any interpretation by giving any sign because the group was afraid of becoming “known” through this interpretation. The fact that it is symbolized by a clay figurine also highlights the silent feature of the group, which is represented through an image instead of language. Of course, the outside of language cannot be reached by using language, but it can be approached, or staged and hinted at, to the extent, this is possible.

The novel also straightforwardly explores the workings of the counter-science group. The “first principle of a functioning counter-science [has to be] secrecy…” (88) because this group believed that “to know something is to change it,…one way of changing something- of effecting a mutation…is to attempt to know it, or aspects of it” (88). The people in this group “haven’t [hadn’t] got a whole lot going for them: they’re fringe people, marginal types; they’re so far from the mainstream you can’t see them from the shore” (89).

Amitav Ghosh seems to imply that we can only know through language. Consequently, in knowing the world, scientifically or otherwise, we simultaneously change it by projecting onto it ideological meanings carried by language. In the novel, knowledge, which is conceived as discursive, is strongly linked with the concepts of agency and voice. The project of the group, targeted at the moment of crossing to an alternative mode of being, proceeds through moments of mutual discovery. The borderline between the discoverers and those who are discovered is extremely porous. In the narrative, no person discovers the other person without that other person simultaneously discovering him/her. This guarantees voice and agency to every
character and no-one becomes reduced to the position of the passive object of knowledge, to be appropriated to the discourse of the observer. This is phrased by Murugan as follows in novel, “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” (The Calcutta Chromosome 303). The Other is not reduced to a passive object by discursive representation, but retains its subjectivity and agency.

This is made more evident through the extensive use of the moving of personality traits or “matching symptomologies” (107) of people between different minds and bodies. It is idealistic to see the self being substituted by the Other. Through such substitution, the questions of voice and agency and notion of discreet subjectivities would have no meaning. Thus, there is nothing in totality of the discreet intentional subject which leads to an important subversion in the novel, that is, the dismantling of the solitary self.

The novelist seems to argue that any claim to knowledge- whether it be historical, scientific or aesthetic- is a construct, dependent on its cultural origins. It does not imply that attempt to achieve knowledge is useless but one must recognize the limitations of one’s attempt from the beginning. Significantly, Murugan arrives at the contradictory, yet insightful realization that “knowledge couldn’t begin without acknowledging the impossibility of knowledge.” In other words, all this can be seen as one strand in understanding the novel better. The novel focuses on the postmodern realization that the Enlightenment pursuit of knowledge has imploded. (qtd. in Mark Nunes).

It is the real understanding of the limitations of language that leads Murugan to this momentous recognition. The novel examines the idea that narratives, even such apparently factual ones as histories, are “not at all transparent either in terms of language or structure” (Hutcheon 105). Amitav Ghosh plays with the idea of unreliable evidence and the problems of fashioning history out of written documents. Antar rarely constructs his alternative histories out of straight forward texts, however. He has to interpret bizarre objects such as an identity bracelet, a bottle of correcting fluid and even scraps of newspaper.
Such instances continue the suggestion found in *In an Antique Land* that all historical narratives seek to make sense of textual and non-textual traces, and to make a coherent story out of silences or fragments. Amitav Ghosh himself emphasizes this connection in an interview in which he states, “I think the main influence on this book was *In an Antique Land*.” He argues that the beginning of the novel is intended as a parody of his previous work, “You remember *The Calcutta Chromosome* begins with a guy finding in cyberspace a tiny clue, and then he goes off chasing it. So in some ways it’s also a kind of private joke on myself” (qtd. in Claire Chambers, ‘Network of Stories’ 59). It is important to notice that Murugan’s research is being lampooned here. All researchers slant their research towards their own biases and interests and Murugan is an extreme example of this. He is intended as a caricature of the kind of obsession demonstrated by the narrator of *In an Antique Land*.

Amitav Ghosh is preoccupied with the notion that language is not a neutral reflection of reality, but in fact forever shapes our views of reality. In an interview, he argues that in the English language, the word “colonialism” has no nuances of apartheid, but these suggestions are present in all Hindi or Bengali discussions on the subject. He also claims that “a language is not just a discourse; it also contains within itself certain political perceptions, certain metaphysical perceptions” (qtd. in Claire Chambers, “Network of Stories” 60). Perhaps for this reason the counter-scientific group rejects language, choosing to work instead with silence, gestures and indirect communication. Indeed Murugan describes the group as “a crowd for whom silence is religion.”

A very significant character of the novel, Saiyad Murad Hussain, popularly known as Phulboni, needs to be discussed here because he is the one who craves for whole of his life to be a part of this secret silence of the group. He knows it very well that inclusion into the group will assure his life after the death. He always seeks “the unseen presence that reigns over this silence, striving to be taken in, begging to be taken across…” (27).

He firmly believes Silence to be animated, having spirit and voice of its own. His passionate appeals to the goddess of Silence are shared at an award ceremony, “By every means available, I have sought her, the ineluctable, ever-elusive mistress of the unspoken, wooed her, courted her, begged to join the circle of her initiates” (104).
He has written a collection of stories, *The Laakhan Stories*, in which Laakhan a character comes in varied forms. Mrs Aratounian tells Urmila that the “stories were a message to someone; to remind them of something- some kind of shared secret”(94).

It is due to his stories that Urmila (who is doing research on his stories) can see the relation of the image of microscope in the stories of Phulboni. She recalls one of his stories to Murugan about a woman, who while bathing is saved from drowning by “something solid, something abrasive, something with redeeming, saving, life giving edges, something blessedly hard…she screams: She saved me…her fist…has fastened upon an object, a polished grey stone with a whirl of white staring out of its centre like an all-seeing eye…”(189-190).

Phulboni once encounters a little shrine and when he enquires about it, he is told a story “that was very much like his own, yet the man...had never read anything he[Phulboni] had ever written...Phulboni…was no longer sure which had happened first or whether they were all aspects of the coming of that image into the world: its presence in the mud, the writing of his story, that bather’s discovery or the tale he had just heard, in Kalighat”(190).

It is through his speech that the novelist makes the reader conscious of the ability of the secretive group hidden from normal eyes but working far ahead of their times. Jenni G. Halpin opines, “Conjoining the novel's first intimation of a cult of Silence with the unique identity of Calcutta itself, Phulboni continues to prepare the way for the reader to understand Murugan's explanation of the cult” (25).

As already stated by Murugan time and again, silence was like a religion to the group. Phulboni makes his speech, hinting at the attempts of this group to be silent and even then remaining satisfied in the course. It may be hinted at the attempt of the novelist to make Murugan’s revised history of malaria research as plausible to the readers by Phulboni’s lecture:

Every city has its secrets…but Calcutta, whose vocation is excess, has so many that it is more secret than any other. Elsewhere, by the workings of paradox, secrets live in the telling: they whisper life into humdrum street corners and dreary alleyways; into the rubbish-strewn rears of windowless tenements and the blackened floors of oil-bathed
workshops. But here in our city where all law, natural and human, is held in capricious suspension, that *which is hidden has no need of words to give it life*; like any creature that lives in a perverse element, *it mutates to discover sustenance precisely where it appears to be most starkly withheld*—in this case, *in silence*.(21) (italics mine)

Phulboni is desperate to understand silence and he often refers to a goddess of Silence whom he begs to enlighten him,

As a tree spreads its branches...to court an invisible source of light, so every word I have ever penned has been written for her. I have sought her in words, I have sought her in deeds, most of all I have sought her in the unspoken keeping of her faith...[To her] I make this last appeal: ‘Do not forget me: I have served you as best I could.’(104-105)

This speech demonstrates the paradox that writing can be a quest for the perfection and profundity of silence. Phulboni’s argument that “every word I have penned has been written for her” evokes thoughts that can not be articulated in language. It is the job of literature to try to enunciate these unspeakable ideas in new ways.(105)

Silence, as George Steiner reminds us, is the ultimate, yet impossible aim of literature. Steiner argues that human discourse is at once restricted but simultaneously suggestive of that which transcends it (60). Michael Wood agrees that the transcendence of the word is “what literature longs for”, but emphasizes that this is an impracticable goal, not only because of literature’s dependence on language, but also “because a complicated fidelity to silence is one of literature’s most attractive attainments”(1).

Phulboni recognizes this “complicated fidelity” between language and silence, indicating that the two are inseparable: “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” (*The Calcutta Chromosome* 24). Here, the word appears as a permanent obstruction to clear understanding. Phulboni implies that language severely restricts our vision of life, filtering out images that it cannot interpret, like a veil covering the eyes.
Phulboni’s invocation to the goddess of Silence has several effects. Firstly, it evokes Valentinian cosmology, a worldview in which Silence is deified as a goddess and juxtaposed with a male god, represented by Abyss (The Calcutta Chromosome 177). The second-century thinker, Valentinus, reportedly came from Egypt and formulated a heterogeneous type of Gnosticism in which myths from both East and West were intertwined. (Roukema 129-130). Gnosticism was a multifarious heretical movement of the second-century Christian Church, teaching that esoteric knowledge (gnosis) of the supreme divine being enabled the redemption of the human spirit.

The movement incorporated such sects as the Manicheans and Mandeans, as well as Valentinians, but these schools of thought were all predicated on the gnosis, or secret knowledge, that the cosmos was essentially dualistic. John Thieme provides a comprehensive account of Manichacism, both as a religion and a powerful metaphor in postcolonial studies (see also Jan mohamed). Gnostics believed that the world was a flawed, created by the “demiurge”, a lowly creator god, but that man contained a divine spark of substance from a higher god. Gnosis or insight into the obscured relationship between man and God was said to precede redemption from the cycle of death and rebirth, enabling the initiated to find residence in the heavenly realm.

The novel’s extensive references to Gnostic and Valentinian thought sheds light on the thematic concerns of the novel. The Gnostics’ reverence of Silence reverberates with Amitav Ghosh’s argument about the call for a space in literature to recognize the gaps and silences in its framework. Furthermore, the Gnostics’ emphasis on a concealed knowledge which should be kept undisclosed evokes the counter-science group’s need for silence and absolute prudence among its followers. The word “gnosis” itself indicates a dynamic process of knowing rather than completed, unconditional knowledge. While the Gnostics perceived their knowledge as whole, divinely authorized wisdom, they also viewed it as “experience, a lived experience of spiritual regeneration” (Filoramo 39-41).

This stress on the instability of knowledge once again links the Gnostics with the counter-scientific cult which also believed that knowledge constantly changes as soon as it becomes known (The Calcutta Chromosome 103-104). Another reason of Gnosticism’s relevance to the novel is that it is a religion that has been written out of history and has been hidden as a religious movement by the distorting lens of
Christianity. Throughout this novel and his entire oeuvre, Amitav Ghosh is interested in people who have not had a voice in conventional and accepted histories. The references to Gnosticism, thus, fit with his effort to recover the scattered or destroyed textual remnants of such groups as colonized, neglected and migrated peoples (throughout his work), rebellious religious groups (such as the Vachanakaras who reformed Hinduism, as represented in *In an Antique Land*) or practitioners of pseudoscience (Chambers “Historicizing”).

Another crucial strand that Phulboni’s invocation to Silence holds is to remind the readers that many people do not have access to written language and also that there are countless books that were never written, due to illiteracy, poverty, or social pressures (Olsen:6). This is reminiscent of the silence of Ronald Ross’s real laboratory assistants (Chambers “Science Fiction”). Without education or financial independence, men such as the real life Lutchman (fictionalized as Laakhan in the novel) who might have become talented scientists, were confined to the margins of history.

A final perspective on the novel’s exploration of silence is found in the notion that silence may be the only appropriate response to incidents of great trauma and suffering. Amitav Ghosh's preoccupation with silence in this novel may be a response to the economic and social suppressions of colonialism. Amitav Ghosh's creation of a space for silence in this novel may come as a reminder that we should not “speak for” the subaltern, but rather recognize, with Spivak, the unrepresentable aspects of the Other's experiences.

Ronald Ross’s verbosity and eagerness to record everything for posterity is contrasted with the mysterious silence of the counter-scientific cult. The passionate determination of the former to make his name in the chronicles of Western science is satirically contrasted with the Indian group's more metaphysical goals. Laakhan's and Mangala's momentous fusion of science with religion implies an almost complete denial of Western rationality and the notion that man is the “measure of all things” (*The Literature of Silence* 6). Their secrecy and refusal to articulate their scientific findings suggest that language has become meaningless and redundant, and that it is no longer possible to “know” anything with certainty.
Amitav Ghosh's image of networks of stories interlaced with silence thus forms a powerful plea that knowledge be regarded as a dynamic process, rather than a fixed entity. It is not that Amitav Ghosh is opposed to knowledge, but that in this novel, he indicates that all knowledges, whether concerning science, history, or geography, are in fact provisional, they are stories still being told, still mutating. Amitav Ghosh seems to suggest that it is only when one recognizes that scientific practice or any claim to knowledge are in fact processes akin to story-telling, that one can actually set off on the evolving course of knowledge. To return to the epigraph, the phrase “the impossibility of knowledge” (*The Calcutta Chromosome*, 104) indicates

Amitav Ghosh's another important point that full knowledge is never possible to be achieved: there will always be silences and gaps in our narrations of knowledge. As a novelist, Amitav Ghosh foregrounds fiction as an important instrument of knowledge transmission, highlighting in particular the modes open-endedness and ability to encompass many different viewpoints. Although his fiction is always grounded in extensive factual research, as in the case of the representations of Ronald Ross, he always returns to the novel as the most apposite literary mode for imparting his non-hegemonic “not-knowledge.”

A decisive thread to the complete understanding of the novel is the analysis of the relationship of Urmila and Murugan. Urmila feels a very unusual comfort in Murugan’s company in the short time that she spends with him. She stops getting worried about her routine life and responsibilities and experiences an unnamable bond with totally a new and different person who has suddenly appeared before sometime:

…never met this man [Murugan] before, this man sitting pushed up against her now, his leg against hers. He wasn’t like anyone she knew, but…it was nice to meet someone new…and then to her surprise…she was touching him…his thigh was against hers, pleasantly warm, not clammy…How odd to think that all that separated them from her and Murugan was a paltry little wall, just one little wall, yet it did the job just as well as if it was the Great Wall of China…In a way it was like being in a test-tube: that was probably what it felt like, to know that something was going to happen on this side of the glass but not on the other; that there was a wall between you and everyone else…It would
be like an experiment too...the feel of him between her legs...the sense of something animated deep inside her. What other word could there be for it, but 'experiment', something new, something which she knew was going to change her even if it last for a few minutes, or even seconds; something that was happening in ways that were entirely beyond her own imagining, and which she was powerless to affect in any way. (182-183) (italics mine)

Urmila realizes this sudden surge of physical comfort as a kind of experiment which is altogether new and is bound to bring change in her life. The novelist underscores the altering effect of this new kind of experiment on the minds of the characters without letting them rush forward in the coarse physical attraction arisen out of infatuation.

The language used in the above quoted passage is quite remarkable as can be inferred from a specific choice of the words used for physical gratification. The words like “test-tube”, “experiment”, “this side of the glass” remind the readers of what John Donne did with his conceits by juxtaposing different and diverse experiences together. Here, Amitav Ghosh demonstrates the act of physicality in the images of test tube and experiment. He gives centrality to experiment. The lexicon of experiment with the image of test-tube seems to advocate the choice of words with the thematic concern of the novel (which is definitely science).

The language of science is brought in the process of love-making emphasizing the transformation that has ushered in the personality of Urmila. She acknowledges the new truth that she has witnessed in the company of Murugan. The physical comfort which is “pleasantly warm, not clammy” refreshes her senses with the “surprise” “to meet someone new” and enables her to empathize with Murugan who is totally involved exposing the real truth in the research history of malaria.

She also feels herself with Murugan “like being a test-tube” and feels like “something was going to happen on this side of the glass” as it happens in an experiment that a new thing is produced. Her new self is the product of this experiment. She feels a new self in her body who is all passionate and curious as Murugan himself is to find all the traces of the mystery of the silent group. The feeling of empathy in Urmila makes her think that something productive is taking shape as a part of the process of the experiment.
Thus, the progression in this chapter highlights that there are innumerable issues in the novel regarding Indian folk culture and tradition, obsession of one’s research, articulatory power of women and a secret working of silent group. These issues and concerns are woven into a network of stories which are simultaneously unravelled in the course of the novel. The argument of this chapter draws the attention of the readers towards the obsession of a researcher whose degree of involvement takes him to the point of fever. This fever takes the form of such a delirium that upsets everything to give place to the novelty and innovativeness. This is the fever of identification which is achieved through empathy. Silence, in the foregoing discussion in this chapter has been pointed out as being venerated as a religion of counter-science with its references to a few characters and Gnostic and Valentinian thought. The novelist brings to the front the unknown and unrecorded genius of Indian subaltern group and dispenses it with due recognition. The novel also witnesses the darkness and mystery of tantras that are an integral part of Indian folk culture. The complex plot and sub-plot of the narrative explores the deeply inter-related knowledge processes at the heart of a culture and the blurring of boundaries between science and religion.