Chapter III

3. Fantasy : Science and Fantasy

Ghosh's novels, which are both Indian and global in perception and treatment, represent a fresh trend in today's postcolonial literature. His novels may be noted for their simultaneous probing into the chronicles of nations and private lives, the reality of the fictional and the fictionality of the real, the empirical space as projected by the Atlas and the subjective space as surface in the individual's memory and consciousness, specific dates and events, the fluid continuity and repetitive sameness of events through time. It also includes science and fantasy. In fact, Ghosh’s novels elaborately deal with science and counter-science, fact and fiction, reason and superstition and so on.

Being an Indian, Ghosh was once escorted to test a diesel pump of Indian origin by Mabrouk, Shaikh Musa's nephew, to check and comment up on the machine. Ghosh relates: "A hush fell upon the courtyard as I walked up to the machine; a dozen heads craned forward, watching my every move. I went up to the machine's spout, stopped beside it and peered knowledgably into its inky interior" (AL 73). Ghosh admired himself in being an Indian outside India. He admits:

I stayed up a long time that night, marveling at the respect the water-pump had earned me; I tried to imagine where I would have stood in Jabir's eyes if mine had been a country that exported machines that were even bigger, better and more impressive--cars and tractors perhaps, not to speak of ships and planes and tanks. I began to wonder how Lataifa would have looked if
I had the privilege of floating through it; protected by the delegated power of technology, of looking out untroubled through a sheet of clear glass. (AL 74)

On the other hand in Reason, Ghosh gives a true picture of the Indian society engaging itself in superstitious activities in the village. He brings out the naked picture of the evils of dowry: "Especially after his marriage, when he was given, or so people said, a television set, a refrigerator, a car, and a several lakhs of rupees along with a wife (CR 151). Ghosh also brings out the effects of deep rooted orthodoxy of Indian situation. The conservative family of Jeevanbhai Patel, a Gujarati Hindu family, did not approve of his marriage with a Bohra Muslim girl and ultimately he left for Durban in South Africa.

In Reason, Balaram turned to phrenology because this appeared to him to be a field of study that bridged science with personality. Balaram asks: "Don't you see? said Balaram.... In this science the inside and the outside, the mind and the body, what people do and what they are, are one. Don't you see how important it is" (17). From the moment on, he began discovering meaningful bumps on heads that confirmed the very personality traits that he had observed in the individuals. In college, Balaram and his two friends, Dantu and Gopal, started an organisation called the Rationalists. They proposed to find universal principles of reason to explain all phenomena, just as Balaram's later interest in the dubious science of phrenology purported to do. Thus, when the plane crashed into Bhudeb Roy's school burning more than half of it to the ground, Balaram argues that if “it has no meaning, why would it happen? of course it has a meaning, but the meaning must be read rationally?” (CR 86) but Gopal retorts: "Chance doesn't have a meaning - that's why it is chance" (CR 90).
Balaram's fascination with science generates much of the novel's debate about the materialistic scientific reason of the west. Balaram argues that "science does not belong to countries. Reason does not belong to any nation. They belong to history - to the world" (CR 54). Balaram is a product of western education. He has internalised the notion that western science transcends national boundaries in its search for truth. However, Balaram's scientific reason is contested by other voices. His friend Gopal historicizes the practice of reason and views it as a source of power. He contends that "even reason discovers itself through events and people" (CR 38). Gopal has a notion that scientific reason is a product of history and society. In a sense, Balaram's attitude towards science evinces a hybridizing tendency. He unwittingly challenges western scientific discourse. He receives many different scientific notions originating from the west with the same indiscriminate rupture. His admiration for discredited sciences such as phrenology and criminology indicates the heterogenous and socially determined tendencies of western scientific discourses. His enthusiasm for a practical, accessible brand of science is evident in his argument that reason should be tempered with passion and should serve humanity. He feels that "reason, science and all the rest [...] are to mean anything, they must have the power to move people" (CR 50). However, his ambition to have a pragmatic view of science in the pasteurian mould is overrun with absurd concerns, such as his campaign for clean underwear and violent passion for carbolic acid. Claire Chambers in "Historicizing Scientific Reason in Amitav Ghosh's The Circle of Reason" says: "It is a curious anamoly that Balaram who is portrayed as a well-read science enthusiast and a patriotic Indian, is unaware of the racist arguments which victorians induced from phrenology and criminology" (51).
In *Reason*, Balaram’s carbolic acid functions as a structural dimension and a metaphor. It runs through the novel like a cleansing mechanism. Balaram uses it as an effective disinfectant to keep the settlements of the refugees clean and free from dirt, disease and death. It also works as a psychological therapy. It is also used as a means of awakening the dormant villagers against the repressive suffocation unleashed by the village strong-man, Bhudeb Roy. Alu carries on his uncle's mission of cleanliness and introduces it in al-Ghazira. Even in al-Ghazira they are chased for their gospel of physical and psychological purity.

In fact, Balaram is a modern paradox of fact and fiction. Though his activities are based on a rationalistic mode, he has a great obsession with phrenology. He estimates his acquaintances and aptitudes with phrenology in mind. He takes Gopal as a man who has destroyed the knowledge of his own body. In a satirical way he says: "The truth is your mind is nothing but a dumping-ground for the west" (CR 53). Joydeep Banerjee in *The Novels of Amitav Ghosh: A Critical Study* says: "But, Ghosh, through this fog-in-the-well intellectual inertia of Balaram sees the alienation of science from rationalism in our society in all its glorious ironies" (27). Balaram believes that science should not exclude the common people. That is why, when he sends Alu to start weaving, he admits:

> Man at the loom is the finest example of Mechanical man; a creature who makes his own world as no other can, with his mind. The machine is man’s curse and his salvation, and no machine has created man as much as the loom. It has created not separate worlds but one, for it has never
permitted the division of the world. The loom recognizes no continents and no countries. It has tied the world together with its bloody ironies from the beginning of human time. (CR 55)

Balaram has the feeling that weaving is integral to science. It has changed again with computers. He admits that weaving is reason,

It is a glory, history in parts; a story of greed and destruction. Every scrap of cloth is stained by a bloody past. But it is the only history we have and history is hope as well as despair.

And so weaving, too, is hope: a living belief that having once made the world one and blessed it with its diversity, it must do so again. Weaving is hope because it has no country, no continent.

Weaving is Reason, which makes the world mad and makes it human. (CR 57-58)

Ghosh in Chromosome takes up the issue of the malarial fever colouring it with mysticism and mystery, supernatural and superstition, calling it the theory of science and counter-science:

Let me put it like this, Murugan said. “You know all about matter and anti-matter, right? And rooms and anterooms and Christ and anti-Christ and so on? ...Now let’s say there was something like science and counter-science? Thinking of it in the abstract, wouldn’t you say that the first
principle of a functioning counter-science would have to be secrecy? The way I see it, wouldn’t just have to be secretive about what it did (it couldn’t hope to beat the scientists at the game any way); it would have to be secretive in what it did, it would also have to use secrecy as a technique of procedure. It would in principle have to refuse all direct communication, straight off the beat, 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.” (CC 88)

Murugan further explains:

Not making sense is what it’s about, conventional sense that is. May be this other team started with the ideas that knowledge is self-contradictory, may be 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. May be they thought that knowledge couldn’t begin without acknowledging the impossibility of knowledge. (CC 88)

Thus, he arrives at the working hypotheses “If it’s true that to know something is to change it, then it follows that one way of changing something—of effecting a mutation, let’s say—is to attempt to know it or aspect of it.” (CC 88) With this, Ghosh emphasizes secrecy, mystery and self-contradictory knowledge and confronts what he calls conventional science with the ingenious knowledge and method of the uneducated Indians.
The novel documents a series of interrelated moments wherein each character feverishly attempts to reach the core of his quest, his mission: Antar the Egyptian computer clerk, sometime in the early 21st century, struggles to trace the adventures and disappearance of L. Murugan; Murugan’s search is centred around the missing links of malaria research conducted by Ross between 1895-99; Ross becomes a symbol of scientific research that happily culminates in a discovery; Urmila’s ‘little research’ on Phulboni and his fictional character, Laakhan, guides her to reach the eye of a greater mystery; Sonali’s quest for Romen Haldar ceases with the unveiling of Laakhan’s mystery; Grigson’s exploratory mission to establish Latchman/Laakhan’s true identity remains unaccomplished as he realizes that the knowledge would endanger his life; Farley’s discovery of Mangala-Lutchman mystery remains buried as he disappears in a ‘rarely used station: Renupur’; Mangala and her subordinate, Laakhan’s search for ‘immortality’ is rewarded though its continuity is suggested; Mangala’s experiments with counter-science through the principles of ‘silence and secrecy’ practised in India and Egypt, is of course, the primary quest presented in the novel. Mangala’s mission meticulously manipulates other quests and characters. The mysterious progress of her experiment negates all direct communication of the discovery. The truth has to be discovered by someone totally unrelated with the exercise. Ultimately Urmila becomes the chosen person. Murugan enlightens her, “‘Don’t you see?’ he said. ‘You’re the one she’s chosen’” (CC 254). Having performed her role successfully Mrs. Aratounian moves towards her final destination, Renupur. Urmila takes on the role of Mangala and Mrs. Aratounian. The fictional reincarnation reflects the Goddess myth. Despite the story of the complex quest one gets the feeling that all the characters are controlled by the
spirit of the Great Goddess, the archetypal mother revered by all forms of life. The chain reaction initiated by Mangala is continued by Mrs. Aratounian and then by Urmila, a never ending process. Ghosh has assigned a superior role to women. The sustained note heard through the allegory insists the presence of a secret spirit that acts through different chosen people to unravel the mystery: disease and its cure, problem and its solution. It is congenially tuned to man’s betterment. The message of Indian philosophy pertaining to the eternal human quest has been woven into the fabric of the novel by Ghosh.

All performers are explorers of some mystery; consciously or unconsciously. They move towards a preordained direction of truth. The interest of the novel, however, lies neither in the mystery and discovery of a scientific truth nor in the ancient confrontation between good and evil but in the hidden signs that powerfully evoke the superiority of one particular culture. The novel suggests the conflicts, the problems but not all the solutions. Despite the eerie atmosphere, one must avoid labelling Laakhan and Mangala as dangerous elements. They do not represent evil. Persons like Farley or the upper-caste station master of Renupur or Countess Pongraez disappear in a perplexing manner because they are out to interfere with the mysterious life of the central characters, Laakhan and Mangala. Ghosh enigmatically suggests that the repositories of truth and higher knowledge can be a dhooley bearer and a sweeper woman. He demolishes the ancient myth of inter-dependence between class superiority and a right to knowledge. Because of this radical social view, the offensive station master is annihilated either by Laakhan or the guardian supervisor of secret knowledge for opposing Laakhan/knowledge. Twice in the course of the novel, Laakhan is portrayed as a lantern bearer or
metaphorically, a knowledge carrier (CC 80, 229). Phulboni’s adventures of Renupur dissolve the boundaries between the real and the unreal. It is difficult to ascertain the veracity of the encounter and yet, the authentic ambience of the entire drama is accepted by the Hindus (Murugan, Sonali, Urmila), Muslims (Saiyad Murad Hussain alias Phulboni and Antar) and Christians (Mrs. Aratounian and Countess Pongraez). In fact, Ghosh universalizes the theory of transmigration of souls and the right to knowledge irrespective of class, creed and cultural separation. Ross endeavours to solve the mystery of malaria through reason or science. Mangala attempts to find a cure for syphilitic paresis through counter-science or faith. The author seems to conform with the Indian philosophical thought that emphasizes the realization of True Knowledge/Being either through Tarka-analysis and reason--or Bhakti-faith and devotion. Ross is the leader of the former method while Mangala and Laakhan are of the latter.

The mystery of the novel accentuated by the use of Magic Realism dissolves the boundaries between the physical and spiritual truths and explores the possibilities of existence of various levels of consciousness. The power of folk medicine acquired through trial and error and practised by Mangala is ratified by Ghosh. The rustic infiltration into the world of knowledge to control the ultimate transcendence of Nature is an endeavour to improve the theory of migration of soul. According to Indian faith, human soul migrates from one body to another but the movement is controlled by a super-power. Mangala, a human, attempts to carry out the same exercise on her own, “because she thinks she’s a god and what that means is that she wants to be the mind that sets the thing in motion. The child in the Kalighat episode informs Urmila. “Today is
the last day of puja of Mangala-bibi. Baba says that tonight Mangala-bibi is going to enter a new body” (CC 194). This conscious exercise surely grants greater power to man. The author draws upon the Indian myth of Ganesha to explain the theory of transposition of personality. Thus, in the novel, the ancient and yet a probable theory has been applied. Here, one can find a balance mixture of hard scientific facts with folklore, Valentinal philosophy of Abyss and Silence, spiritualism of the Theosophical Society, Hiduism and the faith of Coptic Christians but also a covert suggestion of Indian supremacy in the world of knowledge and science. Ghosh’s fictional universe is a microcosm of the real universe ordained, controlled and guided by the Spirit (female in nature), that nurtures and destroys, symbolized by the clay doll, a figurine with painted eyes, a pigeon on one side and microscope on the other hand. In fact, this is not only a ‘mystery thriller’ but a philosophical novel and a fantasy.

L. Murugan is an employee of Life Watch-an organization connected with the water council. In the beginning, the readers are informed through Antar that the Indian Police is obsessively searching for Murugan and it is then suggested that Murugan is missing rather than dead. He has certain peculiarities which make him an odd person, rather a unique personality. His friends call him ‘Morgan” (CC 29), and describe him as a ‘Corky little roaster of a man’ (CC 29). He talks with fondness and combativeness. He has argumentative power and incessant unstoppable fluency. He is, even, supposed to be Life Watch’s principle archivist. He is a graduate student of Suracure where he discovers the great love of his life: ‘the medical history of the malaria parasite’. As a student, he had spent several years teaching in a small college in upstate New York, where he got interested in a highly specialized subject: “the early history of malaria research” (CC 30).
It becomes the mission of his life to which he devotes his entire life and undertakes a hazardous quest in the complicated world of science. It also points out the obsession of Murugan’s life. During his intellectual explorations about the discovery of malaria parasites, he forms certain assumptions. The prime assumption is that certain things occurred simultaneously when malarial parasite was being discovered. The second assumption is that Ross could have succeeded in discovering an antidote for syphilis, had his attention not been diverted by certain individuals. This is what forms Murugan’s scientific quest. He, especially, comes down to India and digs out the concealed facts and brings out the missing links along with the truth. The missing links and concealed facts create an element of suspense in the narrative and make it a fantasy – scientific fantasy.

Murugan’s quest centres around the research career of the British poet, novelist and scientist, Ronald Ross. Murugan thinks that there are certain gaps which he feels need to be filled up. He knows quite a lot about Ross but he is still not satisfied with the information that he has. He is aware of certain important facts of Ronald Ross’s life viz- Ross’s birth in India in 1857, his being awarded the Nobel Prize in 1906 for his work of the life-cycle of the malaria parasite. But, Murugan is interested in the malarial parasite because he is prompted by an inner urge to uncover the story of Ronald Ross and his findings. He is not only interested in the known part of the story but also in some unknown parts of his research career. Being an Indian by birth, he is fascinated by the obscure aspects of Ross’s research career. This leads Murugan to his obsessive nature in the subject. He writes an article on his own research entitled: ‘Certain Systematic Discrepancies in Ronald Ross’s Account of Plasmodium B’. The title of the article itself
is suggestive of the emphasis on discrepancies rather than on any other aspect. It clearly shows that the world does not have the complete picture of Ronald Ross’s life and research. It is Murugan’s firm belief that the world is not fully aware of all the details about Ross’s discovery. He wants to present the entire picture of Ross’s research career. In order to do so, he undertakes such a hazardous quest right from the United States to Calcutta at the cost of his own career. Unfortunately, the article written by him receives a very poor response. He revises the whole article with a new caption: ‘An Alternative Interpretation of Late 19th Century Malaria Research: Is there any secret History?’ He does not find much of a difference. On the contrary, people think that Murugan is eccentric and a crank.

In 1989, he enters into correspondence with The History of Science Society for proposing a panel on early malaria research for the Society’s next convention. Though it is rejected, he continues to correspond till he is threatened by the Society through a legal action against him. They prohibit him from attending further meetings. Then, he finally gives up trying to argue his case in public. But the approach makes him obsessional and it results in his increasingly erratic behaviour. It is about this time that he begins to speak openly about his notion of the so called ‘Other Mind’, a theory that holds that some persons had systematically interfered with Ronald Ross’s experiments to push malarial research into certain directions, while deviating it from others. This theory makes him unpopular among his friends and colleagues. The turning point comes in 1995, when he begins to lobby to be sent to Calcutta, the site where Ross carried out his experiments and discoveries. He is particularly interested in reaching Calcutta before August 20th, the day which Ross had designated as ‘World Mosquito Day’ to commemorate one of his findings.
His organization is rather reluctant to let him go to India but at last permits him on a meagre salary. To Murugan’s great delight, the paper work is completed just in time to allow him to reach Calcutta on August 20, 1995.

Ghosh sheds light on Ronald Ross’s personal life through the conversation between Antar and Murugan and shows how Ross is provoked by his father to take such a quest. Before that he wasted his time on cleaning up epidemics, playing tennis and polo, going on holidays in the hills etc. His father is a General in the British Army in India. He advises Ross to join the Indian Medical Service because of the bright prospects awaiting him there. Following his father’s advice, Ross joins medical college in London. He goes on doing other things also. Medicine is the last thing on his mind but he gets into the Indian Medical Services. Then he comes to India. He settles down and has kids too. Again, according to Murugan, Ross was interested in playing tennis, riding and the same old habits along with the medical service. The information conveyed by Murugan clearly suggests that he was a man of diverse tastes. And one fine morning, he gets out of bed and finds himself being bitten by the ‘Scientific bug’. The idea of malarial parasite sticks in his mind due to this. Inspite of plenty of hazards, he goes on doing his research work. And it so happens that he beats Laveran’s and Koch’s and Grassi and the whole Italian Mob. In his research, he leaves them all behind. He is in the forefront and beats the Governments of U.S., France, Germany and Russia. This is the official story conveyed by Murugan to Antar in the United States.

The major thrust of Murugan’s quest lies in the parallel research work going on along with Ronald Ross’s scientific research. In order to know this fact, he visits India.
During his conversation, he talks about the discrepancies in Ross’s research career. In order to establish his point clearly, Murugan states the example of Julius Von Wagner Jauregg who won the Nobel Prize as a psychologist. He had a couple of run-ins with Freud. He had discovered that artificially ‘induced malaria could cure syphilis - at least in the dementia paralytica stage when it attacks the brain. But Murugan thinks that it was already discovered around the time of Ross’s discovery.

Murugan also relates the story of malarial research to Antar by throwing light on Ross’s meeting with Patrick Manson in May 1895. Manson, known for his research on elephantiasis, had written a book on malaria and the bug which causes elephantiasis. He wants Ross to do research on malaria. So, he assigns the work to Ross. As he is guided by national consideration, he does so. There are some people who worked before Ross. Murugan says that in the 1840s, Meekel stressed the traits of malaria. For forty years, no one could figure out what this stuff was. The breakthrough comes in the 1880s. Alphonse Leveran, a French Army surgeon in Algeria finds out this. So, Laveran puts two and two together. He faxes the Academy of Medicine in Paris, telling them that he had found the cause of malaria. But Paris does not buy it. Some of the biggest names in medicine get busy refuting Laveranity and this includes Pasteur. They are totally against Laveranity. In 1886, Camilo Galdi shows that Laveran’s parasite grows inside the red blood cell, eating its host and shitting black pigments. He demonstrates that the recurrence of malarial fever is linked to this pattern of a sexual reproduction. But, Ross rejects Laveranity. He spends several months on catching a glimpse of it and does not succeed in it. He publishes an article in which he proves that Laveran was a victim of
hallucination. His first observation of the bug is in Manson’s tale. Manson sends him hustling back to India to look for the venter. He gets into the ship at Madras and takes a train and joins his regiment, the 19th Madras Infantry. He comes to Secunderabad and lives in a neighbourhood, called Begumpette. Here, he begins to offer money, one rupee per prick. There is so much malaria here but nobody is willing to offer him a single drop of blood. Suddenly his luck changes. On May 17, 1895, he gets his first perfect case of malarial parasite – a patient called Abdul Kadir. He writes to Manson about the wonder case and it keeps him engaged for a considerable time. Kadir’s blood guides him through all the critical phases of his research. This what forms the gist of the correspondence between Manson and Ross, communicated by Murugan to Antar.

On May 25, 1895, exactly at 8 p.m. Lutchman walks into Ross’s life—a miracle. It is the second case that Ross receives. As usual, Ross performs certain experimentations on him. Latchman is a healthy looking young man and a government servant. It is through this experiment upon Lutchman that Ross proves that malaria is spread through the mosquito dust. Murugan does not easily accept Lutchamn’s arrival as an accident. He sees a preplan in his arrival. It is this doubt that compels Murugan to find out the truth behind this accidental arrival. According to Murugan, Latchman even helps him in certain complex matters which frustrate him but along with it Lutchman also (mis) guides him: “That the malaria venter might be one particular species of mosquito” (CC 65). Ross easily gives in to the story and Lutchman makes available certain kinds of mosquito-anapheles and succeeds in his plan without realising the purpose behind Latchman’s parallel experimentation. On August 20, 1897, Ross makes his first breakthrough.
very clear to Murugan that Latchman was not an innocent creature. He had joined Ross with an intention to fulfil certain goals.

Murugan’s doubt about Latchman is presented in the novel through the conversation between Antar and Murugan. Murugan, while replying to the query of Antar about Lutchman, observes: “I have got some leads, too many may be. As I see it, he is all over the map changing names, switching identities. My suspicion is that he was the point man for whoever was the real brain behind the scheme” (CC 74). While mentioning Lutchman, he shows his views about Lutchman with the remarks of Grigson, the linguist who easily points out the region from which Lutchman hails. The disclosure annoys Lutchman, and he makes an attempt on Grigson’s life. To forewarn Ross, Grigson wanted to write a letter but he writes it down in his diary. This further strengthens Murugan’s doubt.

Murugan tries his level best to satisfy Antar’s queries. In order to convince Antar, Murugan lays bare his theory of Counter Science. According to him, the major principle of Counter Science is secrecy. It has to use secrecy as a technique or procedure. The counter scientists believe that to put the ideas on a piece of paper in the form of language is to establish a claim to know. And this is the first thing Counter Science disputes. In answer to the question of Antar, why does Lutchman along with his party want Ross’s help?, Murugan replies that Lutchman and his supporters are working on a mission which could be beyond the comprehension of a trained mind. The method has a lot of glitches because they have not got the right equipment. In order to overcome such glitches, they use the data of scientific approach, and therefore they need the help of Ronald Ross.
Hence, the purpose behind the Counter Science project sends Lutchman as one of the members to exploit the situation. In this way, Murugan puts forward the rivalry between the scientific approach and that of the indigenous one.

In Murugan’s views, the Counter Science has its own theory. It talks about the most revolutionary medical technique of all time: “the ultimate transcendence of nature” (CC 90). It is about the interpersonal transference. Murugan thinks that if information can be transmitted chromosomally from body to body, the spirit can also be transmitted from body to body. To find out the truth, Murugan undertakes such a journey all the way from the United States to Calcutta. He says:

“See why I have to go to Calcutta Ant!”

Murugan shouted, as they bore him inexorably towards the entrance. “If there is a Calcutta Chromosome. I have got to find it. I guess I need it more than you do’ (92).

So, the idea of this search becomes the haunting object for Murugan. He is obsessed by the desire to unravel the mystery of Lutchman and his followers. The conversation now goes on to internet between Antar and Murugan. It seems that it is a mutual sharing. Both are trying to perform a quest in the field of Science and Counter Science. It seems that there is some occult power in whose hand Murugan is an instrument.

While presenting other details, Murugan also narrates to Antar the stories of Ross’s predecessors, how they conducted the experiments in the laboratory set up by D.D. Cunningham. One of them is the story of Elizah Farley of John Hopkins in Baltimore.
Murugan gets details from a letter written by Farley himself addressed to Opie (from Eugene Opie’s private papers in Baltimore). According to the letter, Farley had worked in the same lab in which Ross had worked. But Farley was Ross’s predecessor. Farley had already found out about the role of the so-called ‘flagellae’ in sexual reproduction long before Mac. Cullen, by visiting Calcutta. He had learnt it from Lutchman and his followers. It is the most surprising thing that they had found out before the great scientist could find it out. It explicitly means that the Counter Science was more powerful and innovative as well as intuitive than its counterpart. It is Farley who knew about the fact and also a group consisting of the Counter Science namely Lutchman and Mangala.

When he goes to work in the laboratory of D.D. Cunningham, the lab seems to him housed in an old fashioned bungalow. There he feels that he is minutely observed by two Indians – a male and a female, who use the laboratory. Farely introduces them as an assistant and a washer-woman. Farley, while busy doing his work, observes the Indians engaged in some secret activity. He is more surprised to find the woman to be better equipped than her male counterpart. On the very next morning, Farley encounters a group of people in the laboratory along with the patient of syphilistic dementia. Farley happens to know that Mangala, the washer woman, treats the patient of syphilistic dementia and tries to keep it a secret activity. Farley also gathers that it is Mangala who has a special breed of pigeons containing the Laveranity. Mangala provides the slide to Lutchman for handing it over to Farley. And to Farley’s surprise, Laveran’s rods appeared. When Farley shows his curiosity to Lutchman for knowing something more about this, he is tempted by Lutchman who asks him to visit Renupur. While he undertakes the journey, he is found dead on the railway track the next morning. Thus, the mystery remains a mystery.
This is how one happens to know that Murugan possesses the detailed history of malaria parasite and the complicated path of research but his life in Calcutta is a quest for the missing links between these facts. It is rather a search for Counter Science. Hence, Murugan’s quest is invested with the elements of suspense, occult and witchcraft. These elements are so powerful that the reader is carried away by the narrative. Ghosh treats both the 19th and the 20th century stories quite beautifully. He juxtaposes them well and underlines the element of similarity in the happening of the events. He presents a picture of how the 19th century characters are implanted in the 20th century by the spirit of, as Ghosh calls it, “The Calcutta Chromosome” (CC 92).

After having projected the background of the research history, it would be worthwhile to look into the happenings which take place in a day’s time on Murugan’s arrival in Calcutta on 20th August 1995. After leaving his luggage at the Robinson Street guest house, Murugan visits the memorial of the British scientist Ross. He is thrilled on reading a small inscription: “In the small laboratory seventy yards to the southeast of this gate surgeon- Major Ronald Ross J.M.S. in 1989 discovered the manner in which malaria is conveyed by mosquitos” (CC 21). While he is there, it is raining heavily. Hence, he has to take shelter under the gates of Rabindra Sadan auditorium. The auditorium is vacant but the microphone is on. He happens to meet two women there who are the reporters of the magazine named Calcutta. They are introduced as Urmila Ray and Sonali Das. Murugan gathers information from the ladies that there is an award ceremony for Phulboni, a writer to mark his eighty fifth birthday. He also gathers that ‘Phulboni’ is his psuedonym. His original name is Saiyad Murad Husain. Later on, it is revealed that
Sonali Das is Phulboni’s daughter. She is now working as a reporter of a famous magazine Calcutta. She was married to Roman Haldar - a builder and the owner of a big hotel in Calcutta, While Urmila Ray, a middle class lady, earns her livelihood by representing Calcutta, the daily. For her family’s sake, she is still unmarried.

When his meeting with the ladies ends he goes to P.G.Hospital where Ross’s lab is located. On his way, he is chased by a boy with a painted T-Shirt and a gap-toothed face. The boy, who chases him, resembles Lutchman. Murugan knocks the boy down from the wall. The toy in the hand of the boy shatters into pieces. The image of the toy resembles the image of Mangala, the washer woman in Cunningham’s lab. He gathers that Mangala is worshipped as a goddess who could cure syphilis. Murugan at once realises that he is chased by the boy and he wants to dodge him but does not succeed easily. This boy in 20th century is rather the implantation of the spirit of Lutchman or Laakhan who encounters every one of them in different forms with the help of “Calcutta Chromosome”. Murugan also happens to encounter Mrs. Aratounian and Roman Halder. Mrs. Aratounian is the owner of Murugan’s guest house who later on films out to be Mangala. Roman Halder who has become a wealthy man had come to Sealdah station without a coin in his pocket. Hence, it becomes clear that the spirit of Laakhan is implanted in the 20th century into the body of Roman Halder.

Murugan, now, easily gets the clues of the unsaid, the unexplored and the missing. In the evening, he visits Robinson Street. There is a power cut. He unknowingly, enters the under-constructed hotel of Roman Halder where he locates the same person wearing a T shirt and a missing tooth. It creates an element of suspense and mystery, and fantasy in the mind of Murugan.
Sonali has a good flat with a male servant to look after it. The servant is a boy who resembles the boy who chases Murugan. Then Sonali and Urmila come to Robinson Street hotel. Urmila wants to know about Phulboni. She asks Sonali whether Phulboni has ever talked about Laakhan. Hence, one feels that there exists some mystery in all those whom Murugan encounters, and all of them bring him closer to all those people who were in one way or the other connected with the Counter Science approach. Phulboni told a story to his mother asking her not to communicate it to anybody else. But she precisely did the reverse and hence forth he never visited her again till her death. Soanli is told the story by her mother before she died.

On his return, Murugan meets Mrs. Aratounian. Both Mrs. Aratounian and Murugan show their acquaintance with Sonali and Urmila who are standing near the entrance of the Rabindra Sadan auditorium. But Mrs. Aratounian is rather annoyed with Phulboni for he had a connection with Mangala and herself because she is supposed to be the reincarnation of Mangala. Urmila happens to be instrumental in the story of Roman Halder and the fish seller. The wrapper in which the fish is wrapped is the piece of the document which reveals the missing links of the Mangala-Lutchman story. This incident links Urmila up with Murugan’s quest because Roman Halder is the reincarnation of the Laakhan in the 20th century. The chain of incidents dealing with the occult becomes credible because they take place in a country like India which believes in the transmigration of souls.

Murugan’s story in the guest house is also not free from the touch of occult. It is through mysterious hallucination that Murugan is informed about the procedures and circumstances through which Ross had succeeded in discovering the malarial parasite.
Murugan is so obsessed with the quest of the malaria parasite and its missing links. The suspense part of the story is that he sees the pieces of the test-tube there. He watches them in delirium, the people around him, are from both the centuries. He sees D.D.Cunningham, Mangala, Laakhan, Urmila, Mrs. Aratounian and Ronald Ross. It explicitly shows that there are really connections between the two centuries. On the whole, it is made clear that some occult power is at work which includes Murugan in its mysterious scheme. Hence, through the device of hallucination, Ghosh links up the events of the past century with those of the present one.

Sonali’s visit to Robinson Street hotel is an important event for the theme of quest. Sonali finds a lot of people in the room. The way to reach the room is difficult to climb. There is also a middle aged woman. Sonali has a feeling of having met her earlier. The lady takes out a small clay figure and touches it to her forehead. Then, raising her voice, she speaks out an archaic Bengali: “The time is here, pray that all goes well for our Laakhan, once again” (CC 140). Soon, Sonali happens to see the body and loses her consciousness. The clay figure is the same which Murugan had broken from the hand of the boy in the printed T. Shirt. Soanli is surprised to find that the lady resembles Mrs.Aratounian and the body which is addressed as Laakhan is that of Roman Halder.

Urmila has completed her routine work but she is worried about the fish. To her great surprise, she happens to see a fish-seller who resembles the boy in the hotel of Robinson street, a boy in Sonali’s house, a boy who was chasing Murugan and also Laakhan. She purchases fish from him which later on, turns out to be unworthy for eating. The fish is bundled in a newspaper and wrapped in a plastic bag. The newspaper is
entitled as: The Colonial Services Gazette. The date-line is ‘Calcutta, the twelfth of January, 1898’ (CC 148). The page contains routine announcements. One of them is: ‘Leave approved for Surgeon Colonel D.D. Cunningham, Presidency General Hospital, Calcutta, January 10-15’ (CC 148). The next page contains a hand written message with an elaborate and unfamiliar logo: ‘South-Western Railways’. The words are: January 10, 1898, Passanger list, Compartment-S’ (CC 148). Urmila notices the underlined name. ‘C.C.Dunn, Esq.’, (CC 148). When she puts aside the page, she notices another page of The Colonial Service Gazette dated 30th January 1898. It reads:

The public is notified that Surgeon Colonel D.D. Cunningham is currently on leave pending his retirement. He will be replaced by Surgeon Major Ronald Ross of the Indian Medical Service. (CC 149)

One doesn’t fail to notice that the gap of 100 years is cemented up through this device. It seems that some incomprehensible power is working there. It is rather the Counter Science which seems more powerful than science in the Indian scenario. Some supernatural power wants connections to be established between the 19th century scientific inventions and the 20th century miraculous events. Urmila too is one of the puppets in the hands of this supernatural power.

Feeling cheated, Urmila rushes to find out the fish-seller because the fish is not worth eating. Since, the fish-seller had mentioned the name of Roman Halder, Urmila arrives at Roman Halder’s place. Here she comes to know that Roman Halder is away to attend an urgent meeting in Bombay. In answer to the question why Murugan asks for the
pieces of newspaper, he replies: “You want an explanation’ he said ‘You’re going to get it. But I’m going to choose the weapons and the venue” (CC 157). Thus, Urmila is led away to P.G. Hospital. There, Murugan shows her an inscription. She gets angry at herself because though having passed that way a thousand times, she had not noticed it. Murugan also points out the home where Lutchman used to stay and carry out experiments. Murugan tells her that the lab was previously run by D.D. Cunningham whose name is there in the wrapper. He even informs her that D.D. Cunningham had travelled under the pseudonym of C.C. Dunn. When Urmila asks him how he knows about it, he replies: “Because someone wanted me to...” (CC 168). This understatement makes sure that there is some mysterious power working under the surface. It is perhaps the element of occult which works as a super-power to make human beings perform certain things as wanted by them. Murugan even mentions the message sent anonymously pertaining to malaria in Egypt. This occurrence is also a part of the occult world. The message consists of the surrealistic story of D.D. Cunningham in the pseudonym of C.C. Dunn in which Mr. Dunn is found stark naked in the end.

Urmila expresses her curiosity to understand the mystery. In response, Murugan explains that the whole occurrence is a small part of the major scheme. He admits that it is beyond his comprehension. Urmila thinks that it is simply a co-incidence but to Murugan’s mind, it is a strategy. According to Murugan, their presence is simply a hint to make the story credible. He even believes that their roles can be very small. The mysterious people may assign further roles to some other people because what he thinks is:
... These guys aren’t going anywhere in a hurry. They have been planning carefully, selected clues for last century or so, and they once in a while for reasons of their own, they choose to draw them to the attention of a couple of chosen people. Just because you and I happen to have been included doesn’t mean they have closed the list. (CC 180)

Murugan also concludes that the process is likely to continue even after them. The objectives of those people may be to find out some previously unreported stains of malaria or perhaps the technology which can easily convey their story to the person whom they want to convey it or perhaps a technology that will be a lot more efficient in mounting it than anything available right now. It seems to Murugan that they are even waiting for both. After having heard all these facts, Urmila starts thinking about the involvement of the fish-seller, Roman Halder, Sonali Das, Phulboni himself, her parents, her brother and sister etc. In the major scheme, according to Murugan, all these including himself are puppets in the experiment by the mysterious forces. Hence, Murugan’s meeting with Urmila, the phone-call, the fish-seller, the pieces of newspaper, Roman Halder’s house and his disappearance, Sonali’s visit to Robinson Street Hotel and her glance at the boy of a printed T-Shirt and gaped tooth, everything is a part of a conspiracy by an incomprehensible power.

Murugan and Urmila have a sexual intercourse too. Their erotic sexual intercourse seems to both of them like an experiment. And this small experiment is a microcosm of the bigger experiment performed upon them. After the completion of this affair, Murugan draws an image of a woman. He explains to her that she is a demi-urge of
Ross’s discovery. He firmly believes: “My guess is that she’s the one behind this whole experiment” (CC 188).

Ghosh, here, employs a new device. The role of speaker and listener gets changed: Urmila now tells the story, once told by Phulboni to Sonali, to Murugan. He is surprised because the image of a woman in the story resembles the image in the mind of Murugan. Even Phulboni is surprised when he knows that the same incident had occurred at Kalighat. The real woman existed and this resembled the story of Phulboni, ‘The Bather’s Discovery’. He, himself, was puzzled about which came first. His fantasy comes into horrified reality. When Murugan and Urmila go to Kalighat, they see, to their dismay, that there are plenty of images like that to offer as homage to the woman. A small girl conveys them the thrilling news that this is made for puja. She says: “Today is the last day of the Puja of Mangala-bibi. Baba says that tonight Mangala-bibi is going to enter a new body” (CC 194). This fact convinces Urmila that Murugan’s theory of the Counter Science works very well. Murugan also has a feeling that his hypothesis is ultimately coming true. The reader even feels that Murugan would definitely be able to complete the quest one day. Such incidents in the novel emphasize the presence of the supernatural power which strengthens the belief in counter science.

In answer to Urmila’s queries, Murugan discloses to her that Lutchman is an assistant of Cunningham, working under the instruction of Mangala. By mentioning the name of Mangala, Murugan relates that Mangala to the Mangala-bibi mentioned by the six year old girl who is about to change the body in a puja. Here also the element of incarnation is high-lighted. According to the letter of Farley, Mangala is found at the
Sealdah Station by Cunningham. She is poor and probably suffering from hereditary syphilis. Farley even believes that she is ahead of Cunningham in her intuitive understanding of the fundamentals of malaria problems. She takes to the whole lab like “a duck to water” (CC 202). She has bigger things in mind then the malaria bug. Murugan names it as: “The Calcutta Chromosome” (CC 203).

Mangala uses malaria as a treatment for syphilis. The same justification is declared by Julius Von Wanger Jauregg, the Nobel Prize winner, in 1927. He says that artificially induced malaria can cure syphilis. Mangala is doing it with pigeons. Murugan’s presupposition is that as syphilis is cured by artificially induced malaria, the same is the case with the “Calcutta Chromosome” (CC 203). But it is so obscure that it is difficult for everyone to grasp it. He presents the whole process:

One of the reasons why “Calcutta Chromosome” can’t be found by normal methods is because unlike the standard chromosomes, it isn’t present in every cell. Or if it is, its so deeply encrypted that our current techniques can’t isolate it, and the reason why it isn’t present in every cell is because unlike the other chromosomes it is not symmetrically paired. And the reason why its not paired is because it doesn’t split into eggs and sperms. And guess why that is? I will tell you. It’s because this is a chromosome that is not transmitted from generation to generation by sexual reproduction. It develops out of a process of combination and in particular to every individual. That’s why it’s only found in certain kinds of cells; it simply isn’t present in regenerative tissue. It only exists in on-regenerative tissue: in other-words, the brain. (CC 206-207)
The quest of Murugan is to find out the person concerned. Murugan even stresses that only a person like Mangala, completely out of loop, scientifically speaking, would be able to find out. For a conventional scientist, it is hard to believe in. But Mangala wants to prove herself to be a god rather than a scientist. Hence, she does not opt for the Nobel Prize and provides the whole credit to Ronald Ross.

Lutchman is ubiquitous. He works as Mangala’s assistant and becomes instrumental in pushing forward Mangala’s plan. He has used an assumed name. Murugan has found out that his real name is ‘Laakhan’ and that he belongs to Renupur. Laakhan has a connection with Phulboni. He also has an identification with Roman Halder. His presence becomes explicit in the story of Phulboni’s visit to Renupur and encountering an incident at the Renupur railway station. His typical physical appearance also makes him unique. He has only four fingers on his left hand. He has also an identification with a gap-toothed boy, a printed T-Shirt boy, a fish-seller boy, a boy in Sonali’s house etc.

In order to know more about Lutchman to Laakhan, one has to listen to the story of the station master. In the story, Laakhan kills the station master when the station master tried to kill him. From that time onwards, there is no station master at Renupur. The station master who meets Phulboni is none other than the ghost who attempts to kill Phulboni. There Phulboni comes to know about Laakhan and writes a collection of short stories named ‘Laakhan’s Stories’.

After finishing the story, Urmila suddenly remembers Sonali Das. Murugan tells Urmila that he has seen Sonali at Robinson Street hotel. On the way to Robinson Street,
Urmila asks Murugan why he is so much inclined towards knowing about Mangala and Laakhan. In reply to that he says that his undertaking of such a hazardous quest is an outcome of the fact that he himself had been a patient of syphilis. Now, he has got rid of it entirely. But he feels that he himself is involved in this process. Having reached the Robinson Street hotel, they find Sonali in a sub-conscious state. When she regains consciousness, she tells them that she has seen Roman Halder’s body but the people around the body address it as Laakhan’s body. And the lady near the body is Mrs. Aratounian. This clue provides evidence that Murugan’s theory of “Calcutta Chromosome” has worked. The spirits of Mangala and Laakhan are reincarnated in Mrs. Aratounian and Roman Halder respectively. Here, Murugan’s quest is almost completed. His presumed theory has worked efficiently and his mission to Calcutta is satisfactorily over.

One more mystery is added to the bundle of mysteries. From the clerk, they come to know that Mrs. Aratounian has gone to Renupur from Sealdah which confirms the accomplishment of Murugan’s mission. They also happen to know that she has told even Phulboni to join her. Therefore, it is explicit that Phulboni is an integral part of the whole set-up. Sonali, in the end, admits that Phulboni is her father and joins them to meet Mrs. Aratounian and Phulboni at Sealdah Station. Hence, all the threads are bought together to create a cohesive whole. On the way to Renupur, Murugan comments on his role in the mission:

My part was to tie some threads together so that they could hand the whole package over in a neat little bundle some time in the future, to whoever it is they are waiting for. (CC 253)
By telling this, Murugan suggests that Urmila is the one who is chosen for it. He touches his forehead to her feet and begs her not to forget him: “‘Don’t forget me’, he begged her, ‘If you have it in your power to change the script, write me in. Don’t leave me behind, Please’” (CC 254). By promising to take them wherever she goes, Urmila is identified with Mangala.

Ghosh concludes the novel by showing again getting in touch with Antar’s screen. When he moves the headgear, Murugan appears near the auditorium along with two women in saree like Urmila and Sonali but they are Tara and Maria. Yet another mysterious element is added, “that Tara and Maria have taken over the roles of Urmila and Sonali. When Antar tries to change the head, he is stopped by a restraining hand. At the back, Tara, utters: ‘Keep watching, we are here; we are all with you’ (CC 256). There are voices everywhere saying the same thing. It means that the role of Murugan has now shifted to Antar. Here, the novel ends with Antar who completes the teleology of a good beginning, middle and end.

**Chromosome** records the facts of Indian life. It also details the effect of colonization. Ghosh details the colonial ambiance of Secunderabad “[...] it’s straight out of one of those BBC rent-a-serials; sprawling colonial bungalow; white washed walls; mile high ceilings, cool, dark interiors, elephants parked in the drive way, turbaned servant salaming the Sahibs, doped out of Punkahwallahs stirring the air with palm-leaf fans, polo ponies, tennis rackets, cummerbends, the whole fucking paratha” (CC 75). He also details the economic condition of India through the diary notes of Ross which indicate “This is 1895; one rupee can buy a family of four enough rice to last a month” (CC 60). It is a
fusion of past present, and future – nineteenth, twentieth and the early twenty-first centuries.

In Chromosome, Ghosh mixes science with history. Ghosh narrates: “They saw themselves making History with their vast water-control experiments: they wanted to record every minute detail of what they had done, what they would do. Instead of having an historian shift through their dirt, looking for meanings, they wanted to do it themselves: they wanted to load their dirt with their own meanings” (6). Ghosh with the historical consciousness re-creates the ambience of Kolkatta of the 1990’s. It has the distinction of feeding the poor and needy amidst lavished, gracious, multistoreyed buildings. He describes the Race course, the lustrous Maidan, the Victoria Memorial, St. Paul’s Cathedral, the New Market, Grand Hotel, Popular Metro and Globe Cinema Halls and so on. Ghosh also wants to create the reminiscences of Kolkatta’s well-known coffee House in New York through Antar where “His eyes began to glaze over at the thought of the steaming cup of sweet, dark tea that was waiting for him at the noon-lit doughnut shop in Penn Station; of the other regulars who occasionally dropped by to sit around the plastic-topped table [...].” (CC 11).

In Chromosome, the two worlds of science and counter-science, European rationality and Indian mythos are brought together under the background of Calcutta. In doing so, Ghosh is attempting to read reality. In Reason, science becomes an attempt to arrange the world into meaningful patterns, but Chromosome has history, malaria, colonised India with Indians. In fact, Ghosh’s characters are alienated from the bondage of conventional social relationships. Antar is a Coptic Christian from Egypt, orphaned
early and a childless widower working alone from home. Murugan is a South Indian Hindu, born and brought up in Calcutta and a lone researcher with Life Watch. Urmila is an outsider even at home. Sonali’s parentage and lifestyle are anything but conventional. The foreigners, Ross, Grigson, Cunningham embody the continuous interest of the west in the spiritual quest of the East. They assert the superiority of the colonized world over the colonizers.

In *Chromosome*, the narrator discovers a forgotten monument in Calcutta, built in the memory of one Sir Ronald Ross, who was awarded the Nobel Price for his discovery of the Malaria parasites. Besides Murugan explains that the sudden interest of all European countries in finding a cure for malaria was not to save human lives but it was to ensure unrestricted expansion of virgin territories. Ghosh writes; “The mid nineteenth century was when the scientific community began to wake up to Malaria. Remember this was the century whole Mother Europe was setting all the last unknowns: Africa, Asia, Australia, the America’s even uncolonized parts herself” (CC 47). The novel also conveniently fits with the Third world counter-narrative to the Raj enterprise. However, Ghosh gives a complicated twist in the story. True to the novel of fantasy Ghosh constructs a secret history of medical research. It is as Babli Gupta in “Enigma as Ontology in *The Calcutta Chromosome*” says: “Sir Ronald Ross, it appears, had been manipulated all along to make the necessary deductions, while the actual guiding spirit operating behind the scene was a low-born scavenger woman called Mangala hand-picked and trained as an assistant by Ross’s predecessor Dr. Cunningham to help him in his laboratory” (208). Further, Bapli Gupta writes: “What follows is a dark and disturbing chronicle of how Mangala, as the
presiding Deity and her accomplice Laakhan-modelled on the mythic Lakshman, loyal second-in-command to Rama, manage to outwit, unseat and annihilate those who could stand in the way of Ronald Ross inheriting the mantle of prized laboratory of Dr. Cunningham. This includes their benefactor Cunningham, a host of other scientists, missionaries or curious individuals who accidentally stumbled upon their stealthy designs” (208). The novel presents the world of mysteries rather than reality. Mangala’s real talents are equal to that of a magician. Ghosh admits: “She was not carrying a shit-load of theory in her head, she didn’t have to write papers or construct proofs” (CC 203). In Murugan’s words: “We are talking about a microscopy which was still an artisanal kind of skill at that time. Real talent could take you a long way in it... Unlike Ross she didn’t need to read a zoological study to see that there was a difference between Culex and Anopheles, she’d have seen it like you or I can see the difference between a dachstund and a doberman” (CC 203). However, the element of fantasy is divided into two in this novel. It is as Babli Gupta relates: “The grisly scenes where Mangala decapillitates pigeons shivering with artificially induced Malaria as a last-ditch effort to cure or at least mitigate the effects of syphilitic paresis tells only half-the story. The other half concerns the diabolic secret aspirations for a kind of immortality acquired through a technology of interpersonal transference of intelligence through the chosen people” (209). Further, Babli Gupta relates: “The female extraordinary, we are told, has stumbled upon the unique combination of genetic chromosomes and special intelligence which produce the rare Calcutta Chromosome. The unique chromosome makes it possible for information to be transmitted chromosomatically from one body to another there by ensuring the preservation and continuity of their lineage from the pre-Christian era into the future”
It is a fantasy which subjects itself to experiment the exchange of information from one body or mind to another Chromosomally. It is a cerebral excitement. Pradeep Trikha in “The Calcutta Chromosome: A Literary Touchstone” too avers: “The Calcutta Chromosome has the content of cerebral excitement because it is swathed in mysteries and secrets; many explanations are buried in the text and it is not easy to have all answers” (258).

Chromosome is set in Calcutta at some unspecified time in the future. It is a medical thriller that dramatizes the adventures of apparently disconnected people who are brought together by a mysterious turn of events. It is based on the life and time of Sir. Ronald Ross, who achieved a breakthrough in malaria research in 1898. The Calcutta of Ronald Ross is well separated in time from the Calcutta that Murugan visits, but the New York of Antar and the Calcutta of Murugan seem to overlap in time.

In Chromosome, “Ghosh holds that science not only reveals reality but also, at times, creates it. At the other end of this scientific knowledge lies the unknown, the unarticulated truth. What drives the narrative forward is Antar’s curiosity and Murugan’s skepticism which is fuelled by the author’s highly imaginative concept of an alternative reality” (Banerjee, The Novels of 118). It is a novel of fevers, delirium, and discovery. It suggests that the contemporary world can be best understood only by the inner realities of human existence mixed with bizarre incidents and unexpected turn of events. It puts forward the paradox that life finds sustenance through counter-science, through secrecy and science, and silence and rejection of rationality. Ghosh’s fantasy works out even in research made by the Austrian psychologist and scientist, Julius-Von-Wagner who was
awarded Nobel prize in 1927 for his discovery made along the same line as that of Mangala in *Chromosome*. Ghosh details: “In fact, until antibiotics, the Wagner – Jauregy process was very much a standard treatment; every major VD hospital had its little incubating room where it grew a flock of anopheles. Think about it, hospital cultivating diseases. But on the other hand, what could be more natural than fighting fire with fire?... This is the only instance known to medicine of using one disease to fight another” (CC 205).

Commenting on this, Babli Gupta in “Enigma as Ontology in *The Calcutta Chromosome*” wonders:

> Whether this tongue-in-check account is a fact or humorous exaggeration, is besides the point. It serves the purpose of redefining attitudes to practices and rituals which are normally frowned upon as regressive primitivism and blurs lines between science and magic. Mangala and Julius-Von-Wagner become unlikely partners in their scheme for the manipulation of malarial fever for inducing a state of dementia which could stage miracles. The delirium, which is a form of dementia opens the road to discoveries which plump the unconscious, is a twin-edged weapon. It can lead to cure or for perpetuation of obsession of a dangerous kind. The Mangala’s creed uses it to transpose thoughts and intelligence of one human being into another, by bending the walls of the mind through the fever. Any resemblance of this to modern techniques of controlling the brain is intentional to the author’s design of pulling-out the dividing line between the conscious and unconscious, sane and insane, known and unknown depths of the human mind. (210)
Further Gupta relates:

Ghosh’s accomplishments in the technique of writing can be seen in the way he marshals arguments and data to make this bizarre theory sound almost believable. The narrative is densely packed with information painstakingly gleaned from the study of computer science and Microbiology to make the implausible sound convincing enough at least to sustain our interest in the story. The medical history helps to underscore the thematic relevance of the novel. Microbiology and Cybernetics are areas in science, all set to overhaul the face of the twenty-first century. The intelligence of Master-computers and inventions in Genetic Engineering have accomplished thaumaturgic feats, more amazing than Mangala’s rites. (210)

Some characters in the novel Laakhan/Lutchman and Mangala, the two mainstays of the secret society, lived in the 1890s, but continue to exist through their 1995 incarnations. This secret is revealed by Sonali Das to Urmila and Murugan in chapter Forty-One. It was just a coincidence that Sonali went to Robinson Street in search of Romen Haldar. She found there the smoke, the people, the boy, the woman in the saree, the fire, the body of Romen. The woman was Mrs. Aratounian, the incarnation of Mangala. She touched the body that was lying in front of the fire and called him Laakhan. Phulboni wrote a number of short stories titled The Laakhan Stories. The stories are very short and they all feature a character called Laakhan. In one he is a postman; in another he is a village schoolmaster. People dismissed these stories by saying that it was some kind of elaborate allegory.
Urmila suspected that there was something more to it. Mrs. Aratounian advised her to borrow the book from the National Library. They discuss the stories. Mrs. Aratounian says that the stories are a message to someone; to remind him of something—some kind of shared secret.

Laakhan and Mangala and their different selves—Romen Haldar and Mrs. Aratounian—are pivotal to the plot since they play the role of Fate or chance. The delineation of the plot and characters of the novel are controlled by the members of the secret society. Chance meetings are rarely so; the reality is that the secret society has decided upon a certain sequence of events. Murugan says this to Urmila: “Someone’s trying to get us to make some connections; they are trying to tell us something; something they don’t want to put together themselves, so that when we get to the end we’ll have a whole new story” (CC 179) When they come to the end, the story of Phulboni, Romen Haldar and Mrs. Aratounian reveals that, like the people of the secret society in the 1890s, they are also planting carefully selected clues to the chosen people—Urmila and Murugan. This group supplied some legal-size photocopy of a page of very fine English newsprint to Urmila. It was The Colonial Services Gazette, in which she read about Colonel D.D. Cunningham and his false name, C.C. Dunn, how Cunningham took five days’ leave in the middle of January 1898, boarded a Madras-bound train in the false name of C.C. Dunn. The book also reveals how he met Mme. Salminen. Similarly, Murugan has also been able to piece together the puzzle because the society has provided him with evidence as they had done with Ross.
Anthropologists do not merely note down facts of what they observe; rather, they construct accounts of their experience of other people’s experience. And these accounts are thus fictions; fictions in the sense that they are something made, something fashioned—the original meaning of fiction—not that they are false, unfactual, or merely as if thought experiments. Ghosh, in *Chromosome*, joins history and anthropology to produce fiction. This feat marks him off from other Indian novelists writing in English. Assisting Mangala is Lutchman/ Lachman/ Laxman/ Laakhan/ Lokkhon, appropriately named after Rama’s brother in the *Ramayana*, and as historical a figure as Mangala, Ross, Farley, Grigson or Cunningham, and so another mark of the blend of fact and fiction that distinguishes both the method and the meaning of the novel. The variations on his name as he appears and reappears through the novel form again an ironic comment on the paradoxical relationship between language and reality and on Western notions of scholarship as exemplified in Grigson’s linguistic research. Like Mangala, he adopts different personae through the ages, appearing even in Phulboni’s fiction, and he continues her hunt in various ways. He guides Ross to his discoveries, he frightens away Grigson, who might have posed a threat to Mangala-bibi’s experiments, he manages to dispose of Farley, he is with Phulboni at Renupur station from where Farley had disappeared, he is Sonali’s servant and Urmila’s fishmonger, and appears in Antar’s life in New York as well. Equally, Urmila too becomes a means of fantasy like that of Mangala and Laakhan. She is for reincarnation, which is also a means of fantasy in *Chromosome*. Commenting on Urmila’s reincarnation as Mangala, Babli Gupta in “Enigma as Ontology in The Calcutta Chromosome” raises a question:
The anti-climactic back-slide undermines interest in the narrative that centres on the elaborate preparations for Urmila’s reincarnation as Mangala. Urmila is also the same of the mythic Lakshman’s much-neglected wife. She is a typical middle class Bengalee elder sister, sacrificing herself for her traditional male-dominated household, till she rebels and takes upon herself aspect of the vengeful goddess Kali. The suspense surrounding her ‘Avtar’ and the possibilities of developing her into a full-fledged character are wilfully negated as the narrative comes to an abrupt halt on the eve of her reincarnation. It is never known how she used her new found powers, if she had used them at all. Murugan, the companion who helped to instigate her revolt and assisted the preparations for her transmogrification had pleaded with Urmila to save him from impending madness minutes before his disappearance: ‘Don’t forget me.’ he begged her, ‘If you have it in your power to change the script, write me in. Don’t leave me behind. Please.’ (253) But Urmila as deity was either helpless, or worse, had punished Murugan for daring to investigate and illumine the enigmas of the dark world. It is Murugan’s sudden departure which leads Antar to reconstruct his story on his Computer and ultimately discover him locked in a mental asylum. The Computer and its fancy gadgetry have the wizardry to transpose Murugan’s grotesque visage across the continent, into another world, but cannot find an answer why the man should have ended the way he did-naked, covered with his excrement, with maggots in his hair and permanently hand-cuffed. Moreover, how can a
mad man in this helpless condition have the power to control Antar’s movements, unless he had acquired magical powers himself. What are we as readers, to make of a world where the mad cannot change their own destiny but still can make scientists dance to their tune?. Is Murugan warning Antar about his impending fate or merely indicating the powerlessness of the powerful? (212)

The fantasy element in *Chromosome* makes Ghosh commit intentional fallacy. It is willingly done to make the novel cloudy with elements of suspense and thriller. Tapan K. Ghosh also in “A Journey to the Unknown : A Quest for Immortality in *The Calcutta Chromosome*” points out some mysteries, fantasies, errors in *Chromosome*. He says:

Despite touches of science and philosophy, fantasy and reincarnation theory, it is difficult to find any deeper significance in this highly innovative science fiction. The novel is written in a light mood. The narrative often distracts the mind which spills over with questions that remain unanswered. The disappearance of Phulboni and Mrs. Aratounian, both of whom are inextricably linked to the secret religious cult that Murugan finds himself up against, remains shrouded in mystery. The identity of the gap-toothed, emaciated boy who walks in and out of Murugan’s and Sonali’s life, also remains an unresolved puzzle. There are also some factual errors. Urmila, the reporter of Calcutta, says: “Ma Shoroshoti would play a note or two on her sitar.” (192) But Saraswati’s instrument is Veena, not sitar. These minor blemishes not- withstanding, *The Calcutta Chromosome* is a highly
readable novel. The judicious mix of fact and fiction, philosophy and science, mystery and humour, the memorable portraits of nineteenth and twentieth century India (Farley, Grigson, Cunningham, Phulboni, Mrs. Aratounian, film star Sonali Das and her lover Romen Haldar, and Urmila the journalist), the enviable scholarship and painstaking research that have gone into the story, and the felicitous use of American colloquialisms (‘grab-a-bite,’ ‘dickhead,’ cocky little rooster,’ ‘Are you kidding’? etc.) and Bengali phrases (‘shorshe-ilish,’ ‘dhakai parotha,’ ‘urrui-pishi-kirmi-pishi’ etc.) have made it a delightful novel that moves the reader’s mind and orients his thoughts in a new direction. Finally, the intrusion of the supernatural into the practical world of science and technology adds an extra interest to the book. “...everything is other than what it appears to be, a phantom of itself,” (129) writes Elijah Farley, the baffled American missionary doctor from Calcutta to his erstwhile colleague Eugene Opie in John Hopkins University hours before his disappearance. Whatever their outward appearances may be, it is possible, the book suggests, to imagine familiar incidents and characters as something different, something even monstrous and dreadful. There are worlds at the periphery of this one about which we know very little until we are catapulted in them. Amitav Ghosh has cast the incidents of everyday life in a vortex of Gothic imagination that transplants them into a weird, uncanny and unfamiliar world. (255-256)
Indira Bhatt in “Disappearances and Discovery : The Calcutta Chromosome” says:

“When one asks the question of why and what direction the events lead to, one feels baffled. A mystery novel would have clues that lead to the solution. Here the novelist has wonderfully and vividly created the mysterious happenings and has attempted to relate them, only to arrive at nothingness” (239). Because it is a world of mystery. It has an overdose of fantasy. The readers are not given time to wonder whether it is a well-researched novel in science or the world of mysteries and counter-science. Babli Gupta in “Enigma as Ontology in The Calcutta Chromosome” admits:

This is the world of mysteries rather than rationality, where Mangala’s real talent becomes those of magician rather than of an artisan. The counter-science may have extraordinary powers to overturn science but their motives like that of their counterparts are self seeking rather than humane. (209)

Further, Gupta relates

The desire to escape tyranny of knowledge and yearning to experience the truth beyond knowledge through intuition, spiritual seances or medically engineered dementia, found as full measure in this mystery tale is evidence of a definite incline towards mysticism, with shades of Neo-Platonism brought in to bind the ancient with the modern. (211)

Hence, Chromosome can be taken as a novel of suspense, thriller and fantasy. It narrates science and counter-science, medical and spiritual, mysticism and spiritualism and so on. It is mysterious and in a sense unbelievable, yet believable.
References


