

# The role of news paper cutting in Decoding Malaria Research in the Calcutta Chromosome by Amitav Ghosh

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The Calcutta Chromosome by Amitav Ghosh is the blending of a medical thriller, a ghost story, a scientific quest, a detective story, a science fantasy, and a scientific discovery that delves into spiritualism of mantras, tantric rituals, and superstitions, transmigration of soul, religious beliefs, interpersonal transference and which Ghosh uses history and anthropology to produce Ghosh as a researcher records the details from the past, the historical facts about malaria and the scientist Sir Ronald Ross, who was awarded the Nobel Prize for his findings on malaria fever. This sets off the action of the novel, and takes the creative artist to the science laboratories, makes use of scientific vocabulary, the theory of science and counter science for the investigation. Ghosh through the character of Murugan demonstrates his reading of the journals of the Nobel Prize winning bacteriologist, Ronald Ross; and reconstructs the events of the 1890, that in his research on Ronald Ross some people were helping him to find the malaria parasite. Murugan firmly believed in the theory of the so called "Other Mind" (Ghosh, 2008) a theory that some one had systematically interfered with Ronald Ross's experiments to push malaria research in their direction while leading it away from others.

The Calcutta Chromosome begins with a poem by Ronald Ross, the Nobel Prize winner for Medicine in 1902 for discovering the malaria parasite. The action of the book begins in New York, into the future not too far away on August 20, identified as "Mosquito Day". On this particular day, in 1898; Ronald Ross made his discovery of the malaria parasite in the blood of an Indian named Hussein Khan in his laboratory at Calcutta. The bacteriologist is very close to the people of Calcutta as he did his research in this city. His memorial is there at the entrance of the P. G. Hospital. Except for this fact, Ghosh deviates from the known account of this event and begins his work of undoing the story around Ross. Ghosh has divided the book in two parts: "August, 20; Mosquito Day" and "The Day After". The action of the first part begins in New York in the twenty first century, in the apartment of Antar, a programmer and system analyst at the International

Water Council. He generally works at home, his retirement is just a year away. After his retirement he plans to return to his native Egypt. "For years he'd been dreaming of leaving New York and going back to Egypt". (CC, 5) He works at home with the powerful search engine computer system named the Ava/le, or simply Ava. Antar finds an ID card that has been partially destroyed. He wants to find out the information from that ID, so he proceeds with the help of Ava. While reading out the information on Ava, Antar enters into his childhood memories and his hamlet in Egypt. He remembers about al - Magari and her research of examining the dirt. This sets the tone of the novel and gives the hint that, it is about research.

The action of the novel now shifts backward, to just one day before Murugan went missing. Murugan is seen at the Presidency General Hospital in Calcutta. He is a medical historian and his hobby has made him an expert on Ross and his research into malaria. He has written an article on the malaria research, "Certain Systematic Discrepancies in Ronald Ross's account of Plasmodium B" (CC, 32), but his article is rejected. He writes to the 'History of Science Society' proposing a panel for malaria research. But soon here too he gets frustrated. Then he begins to speak openly about his notion of the malaria research and the theory of "Other Mind" that some persons might have helped Ronald Ross to push his malaria research into the right direction and led him to win the Nobel Prize.

Murugan visits the P. G. Hospital where he listens to Phulbont, a famous writer, who says that, "every city has its secrets, the voice began, 'but Calcutta, whose vocation is excess, has so many that is more secret than any other.'" (CC, 22) He also speaks on the cult of silence. Murugan encounters two fascinating women Sonali Das and Urmila Roy. They are both journalist and work for 'The Calcutta' a journal. Murugan then visits the small laboratory of Ross where he had discovered the malaria parasite in 1898. Murugan catches a glimpse of a gap-toothed face with a printed T-shirt following him all the time.



Murugan meets accidentally Urmila who searches for a young boy offering to sell her fish. The fish has been wrapped in a page of "The Colonial Services Gazette, 'in beautiful Gothic characters. Beside the name was a dateline: 'Calcutta, the twelfth of January, 1898.'" (CC, 153) announces the transfer of D. D. Cunningham from British Army Medical Services. He is replaced by Ronald Ross. This puzzle is unraveled by Murugan. He provides the full history to Urmila about Ronald Ross and his malaria research. He unleashes his pet theory to Urmila. He suspects that Ross's experimentation is someone else's attempt to bring about a particular mutation in particular mosquito. So the hint to his experimentation is given by the other mind- Mangala and Laakhan. Both Mangala and Laakhan had been recruited from Sealdah railway station by D. D. Cunningham. Mangala was expert in curing the syphilis with help of malaria. While Laakhan was the man who suggested to Ross that it was only a particular kind of mosquito, the anopheles that was important to the transmission of malaria. So these tribal villagers with their indigenous knowledge helped Ronald Ross to find out the malaria parasite.

The main narrative of the novel involves a re-examination of the history of late nineteenth-century malaria research by Murugan. He is obsessed by the history of malaria research, which leads him to the conviction that Sir Ronald Ross, the British Army Medical Scientist who was awarded the Nobel Prize in 1902, for Medicine for his work on the life-cycle of the malaria parasite, was not his achievement. Murugan believes that the real history of malaria has been systematically erased by the colonial society. Pradeep Trikha points out that, "Ghosh undertakes the task of historian and depends on his intuition in order to identify the subject of study and his individual judgments over the central issue of the novel." Murugan devotes himself to uncover the hidden truth behind the malaria research and medical historiography. Murugan is the mouth piece of Ghosh and undertakes the task of historian. From this point the novel uncovers its intricate network of traces, the parallel-quest stories and the medical contemporaries of Ross.

Murugan first encounters in the novel through the mediation of Antar, a New York based computer systems operator and a former colleague of Murugan. Murugan has been reported as missing: he is seen last in Calcutta on 21 August, 1995. Antar's quest for Murugan leads the reader to a number of parallel quest-stories which range from those of Ross and his medical

contemporaries of late nineteenth century through Antar's pursuit of Murugan and the resources of Internet.

Murugan revises the article on malaria research which bears the title "An Alternative Interpretation of Late 19<sup>th</sup> Century Malaria Research; is there a secret History?" (CC, 32) but it receives more hostile reception as compared to the earlier version. Even the request of Murugan to the 'History of Science Society' to propose a panel on early malaria research for the society's convention is rejected. When his proposal gets rejected he sends long E-mail messages to the members of the review committee. The society takes the unprecedented step by dismissing his membership and warns him to take the legal actions if he tries to attend the further meetings. These things make him erratic and obsessed in behaviour.

The organization and the members of Life Watch try to dissuade him from going to Calcutta and try to pursue his project of malaria research. But it is in vain. he reaches Calcutta on August 20, 1996. He visits the red brick buildings of P. G. Hospital and the small laboratory where Ronald Ross, I.M.S. in 1898 discovered the malaria parasite. Murugan expresses his doubt regarding the achievement of Ronald Ross: "His stuff on malaria was about the only cutting-edge work he ever did. And even that was freak one-off things." (CC, 46) Ronald Ross came to India in the summer of 1895, in the army camp at Secundarabad and in 1898 he discovered the malaria parasite. So Murugan questions about the actual time spent by Ross in the laboratory in these three years. Ronald Ross was interested in playing tennis and polo, going on holidays in the hills, went picnicking, liked the night out on the town, liked to write novels and poems; wrote a couple of medieval romances. Medicine was the last thing in his mind. And one morning he was bitten by the science bug. Murugan expresses his anxiety about the research of Ross:

He looks in the mirror and asks himself: what's hot in medicine right now? What's happening on the outer edge of the paradigm? What's going to bag me a Nobel? And what does the mirror tell him? You got it: malaria - that's where it's at this season. (CC, 47-48)

Ross was at an age when most of the scientists begin to think about their pension and funds. Ross even hadn't handled his microscope since he left medical school. There were number of scientists who were far ahead of Ross in their research; these scientists included Laveran Robert Koch, Russian Duo, Danilewsky, and Romanowsky. They even had not heard the name of



Ross until he came into the light by discovering the malaria parasite. All these details make Munigan to express his doubt regarding the discovery of Ross. Therefore, he decides to solve this scientific puzzle of the century. Shubha Tiwari points out one of the features of the book that,

The most unique feature operating in the text of the novel is its questioning of the past. Our historical fixities are questioned. Ghosh is obviously skeptical towards the towering attitude given to a certain period or event.

Ghosh provides the detail history of different scientists and their research related to malaria this way or that way. Manson was one of such great scientists; he lived in China; he wrote the book on filarial, the bug that causes elephantiasis. Filarial is caused by mosquito. It was proved by Manson in 1895 while in 1840's a scientist called Meckel found microscopic granules of black pigment in malaria patients. In short he found the symptoms of malaria like black spots, some round and crescent shaped. Near about forty years no one figured out this stuff. It was in 1880; Alphonse Laveran, a French army Surgeon of Algeria found the cause of malaria and it's a critter, a protozoan, an animal parasite. He faxed his discovery to the Academy of Medicine in Paris; a protozoan critter but Paris did not buy it. In 1886, Camillo Goli found that Laveran's parasite grew inside red blood cell. So it becomes quite clear that it was Manson who first conceived the connection between malaria and mosquitoes; and it was Manson who first gave Ross the idea. Brinda Bose comments on the historical element in the novel that,

Ghosh's fiction takes upon itself the responsibility of re-assessing its troubled antecedents using history as a tool by which we can begin to make sense of- or at least come to terms with our troubling present.

Ghosh reassess the history of malaria research and makes the sense. In Begumpeth, Secunderabad Ross had begun to offer money for samples of malaria blood, one rupee per prick. On May 17, 1895, he got his perfect case of malaria; a patient called Abdul Kadir. Ross had flattened one of Abdul Kadir's mosquitoes and found as many as sixty parasites in a single field. He got excited and wrote a letter to Manson about the crescent sphere transformation of the parasite, on June 26, 1895. So for few months the blood of Abdul Kadir had guided him in the critical phases of his research.

Anyway, in May, 1895 Lutchman entered into the life of Ross. On Lutchman Ross performed various experiments, he asked him to drink cocktail. Lutchman

was a "dhooley bearer". (CC, 65) Due to the cocktail of dead mosquito concoction Lutchman got fever next morning, 99.8 ° Ross wrote the notes and thought that malaria might be spread through mosquito dust. But very soon, the next morning Lutchman showed no sign of malaria, thus there was the end of mosquito dust theory of Ross. Once again he turned back to Abdul Kadir. While searching for the malaria parasite and malaria patients, Ross went to Westbury coffee estate in a valley, where he himself got malaria for the first time in his life. It was Lutchman who "succeeds in planting a crucially important idea in his head: that the malaria vector might be one particular species of mosquito." (CC, 68) On one hand Ross worked on malaria, like wise his assistances, the team of counter scientists, Mangala and Lutchman worked with plasmodium falsciparum in different way. They did not tell it to Ross because it was against their religion. They were developing the most revolutionary medical "technology for interpersonal transference." (CC, 93)

W.G. MacCallum, a doctor and a research scientist contributed a lot in malaria research in 1897. He showed the Laveran "rods" in the parasite. He wrote a paper on that subject and presented at Toronto. Then he worked with the team of researchers at John Hopkins in Baltimore. The members of the team were Eugene L. Opie and English Monroe Farley. Farley visited one of his colleagues in the medical service, D. D. Cunningham, F.R.S. a scientist was in charge of a laboratory in Calcutta. The facilities in that laboratory were the best in the whole continent of Asia. On his visit Farley was informed by Cunningham that due to some reason, he was to leave Calcutta. Farley, in that laboratory met the attendants Mangala and Lutchman. Farley was astonished to see the knowledge of Mangala regarding the slides containing Laveran rods. He also found that Mangala cured the diseases of the people who were suffering from syphilis. Syphilis was cured by malaria. Mangala killed the pigeons for the slides on which Farley found the Laveran rods. By that discovery Farley wanted to make his team famous but unfortunately in his journey to Barich he disappeared mysteriously never to be seen again. John Thieme throws light on the subversion of colonial history and suggesting the alternative,

*The Calcutta Chromosome* is more overtly fictive, but again it interweaves a network of traces- from the history of late nineteenth-century malaria research, theological movements, generally deemed to be heretical in the west and slightly futuristic information



technology inter alias- to provide the possibility of an alternative subaltern history, which exists in parallel with colonial history as an equally (or possibly more) potent epistemological system, albeit one which has traditionally operated through silence rather than articulation.

The uneducated Mangala and Lutchman kept their research secret. The source of their strength was silence. Silence was a religion for them. They believed that knowledge is self contradictory. So these tribal thought that malaria was spirit possession. They were highly superstitious. Mangala had achieved a remarkable success in curing the syphilis patients with the help of malaria. She herself suffered from syphilis. She was going on in the right direction in malaria research due to her instinctive understanding. She had also developed the technique of transforming malaria from a pigeon to a patient of syphilis. In this case Babli Gupta observes that,

The chance discovery of marginal figures, lost in time, becomes the occasion for researching the historical past of ancient civilization with their richness and complexities, to trace their inevitable destruction at the hands of the European conquerors, who were more able and organized but not for that reason more civilized than the ancients.

Ghosh provides the marginal history and subverts the colonial history, suggesting the alternative one, in

which the marginal figures are acknowledged and given the central place.

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