

# THE JOURNEY OF POST COLONIALISM ON THE VEHICLE OF SCIENCE – FICTION :THE CALCUTTA CHROMOSOME

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Science fiction is a sort of fictions distinguished by principles of expansion and colonization, but it also has the great potential to imagine “otherness” and other ways of living traditionally. Since long postcolonial approaches to science fiction seems unnoticed. What makes science fiction so strongly identified as a literature of empire and expansion, and how this might be resisted and subverted from within the genre itself need to be examined effectively. This paper argues that representations of technology are keys to an idea of postcolonial science fiction as they identify the genre as Westernized, but also provide the main imaginative power of science fiction as a mode of writing.

All those stratagem value additional thought, but depictions of technology are the means to an idea of postcolonial science fiction. It is the genre’s appeal towards technology that brings out this novel as a literature of empire, but it is technological imagination of the science fiction that provides the means of inquiring the relationship between technology and Western views that apparently support the genre.

Unlike other literatures, Science fiction concentrates on images of science and technology; that is, not only on how they are now but also on how they could be. As a contrast, postcolonial writing conventionally points towards language, narrative and discourses as a means of pass power between the colonizer and the colonized. The roles and representations of complicated technology are frequently ignored. Yet, thinking back to Nalo Hopkinson’s quotation about “massa’s tools building her a house of her own”, it is significant that the colonizer’s power is represented by an image of organizing technology to occupy and possess the land.

Postcolonial writing often deals with a dual- commitment; the wish to weaken the main rules of the empire, and the wish to find expression beyond or away from those rules. The representation of technology is the key to this dual- commitment; it recognizes the genre as Westernized, but also provides the chief imaginative power of science fiction as a form of writing. There is great likelihood for postcolonial approaches to science fiction based on analyzing images of technology. In a science fiction, technology provides both the means of writing back to the authority of empire, and writing forwards with new paradigms.

The cross-examination of race, bias, social growth, development and invasion are not new in writing of science fiction, and since the past few decades a small number of critics have started studying the work of individual authors, like Amitav Ghosh or Kim Stanley Robinson, from the perspectives of postcolonialism ( Claire Chambers, "Postcolonial Science Fiction: Amitav Ghosh's *The Calcutta Chromosome*", and Elizabeth Leane, "Chromodynamics: Science and Colonialism in Kim Stanley Robinson's *Mars Trilogy*"). But this complex bond of ideas has not yet been brought together in a reliable form as a microscope through which can analyze the genre.

“Ghosh makes a unique experiment in ‘*The Calcutta Chromosome*’ by combining various themes and techniques. He integrates literature, science, philosophy, history, psychology and sociology”. [R.K. Dhawan, 26].

Attributing the label of science - fiction to the novel ‘*The Calcutta Chromosome*’, becomes more intricate. According to Samuel Delany’s definition of the genre, Ghosh’s novel can easily be classified as science fiction as it deals with what could have happened: that which is neither impossible nor substantially probable. The only rule governing the response to science fiction ... is that its actions must be in accord with what we know of the physically explainable universe. [Wolfe 18]

Wolfe identifies five icons that the writers of science-fiction repetitively make use of in their writing. They are the spaceship, the city, the wasteland, the robot and the monster. It depends on the writers. Some may make use of only one of these icons, while others may use all of them.

The *Calcutta Chromosome*’s identity of science - fiction is to some amount of demand, when considering the Wolfe’s science-fiction framework. While in several ways, the novel is obviously interested in the effort to make the unknown known, it reckons on few if not any of the icons that Wolfe considers essential to science-fictions. Out of the five icons, the city is only icon that is present in the novel. Of the two cities in *Chromosome* - Calcutta and New York - the latter is the only one of real interest in terms of science -fiction iconography since the scenes set in Calcutta take place either in the distant past (late 19th century) or recent past/almost present (1995).

Eventhen the 21<sup>st</sup> - century New York which Ghosh has portrayed in the novel, hardly fits with the traditional science - fiction city. According to Wolfe’s point of view, cities present in a science fiction have a number of unique characteristics, few of which *Chromosome*’s New York possesses. For instance, the city is generally a limited area from which one must escape the “conformity of [the] densely urban environment,” a conformity that is enforced by “a governmental system in which the police play an increasingly important role”. When Antar thinks of departing from New York to Egypt, it is not the New York City that stops him from his desire but it is his commitment to the International Water Council and his dependence on their retirement fund. Moreover, even though there are some domineering forces present - Antar’s pay is held up for doing his personal reading while working, for

example - none of this authority is imposed neither by the government nor by its police agents on behalf of the city or country.

Ghosh's idea of the 21st century resembles a McLuhanesque "global village" much more than it does a series of closed and protected city states. Chromosome's New York appears to have no defensive any kind of frontier, its population being apparently much more international and heterogeneous than native-born and homogeneous. The regular customers at the Penn Station coffee shop include a Sudanese bank-teller, a Guyanese woman and Bangladeshi man, while the apartment building, where Antar resides, has attracted the "Middle Eastern and Central Asian families - Kurds, Afghans, Tajiks and even a few Egyptians". Eventually, despite the traits it may or may not share with the conventional science - fiction city, Chromosome's 21st-century New York has such a limited presence and direct relevance to the overall narrative that its importance as an icon is strictly negotiated.

Ava's existence has some science - fiction implications. She is certainly more advanced than most of the people working with computers out of their homes today. For example, in fifteen minutes she is able to trace a lost e-mail by "sifting through about six thousand eight hundred and ninety-two trillion cunabytes, roughly eighty-five billion times the estimated sum of every dactylographic act ever performed by a human being," and reconstruct it "by running the retrieved fragments through a Storyline algorithm". But at the end, even Ava is a feeble resistant of Chromosome's science - fiction identity since the fact remains that the majority of the story occurs without Ava and her technological advancements, regardless of her importance in helping Antar unite the dissimilar remains of the story; it is Murugan the science historian, who rather using conventional techniques like archival research, unites the story together.

Eventually, few of the apparent science - fiction predictors are in fact necessary for the total structure and plot of the novel. The city and the advanced setting give an interesting background for the story but they are mainly needless to the novel's final ending. Actually, the only indispensable science - fiction device which is vital to the plot is the knowledgeable, all powerful computer; it is Ava who at the end joins the pieces of information together for Antar and the reader.

As Ball suggested, with such delicate associations to science fiction, it might be correct to consider Chromosome within a post-colonial framework. In their 1989 overview of post-colonial writing, *The Empire Writes Back*, Bill Ashcroft, Gareth Griffiths and Helen Tiffin identify a number of persistent themes and icons that characterize post-colonial literatures, a number of which are found in Chromosome also.

Post-coloniality is the theme which is undividable from Indian literature in English, has been approached in the present appreciable science fiction also, but from a very novel viewpoint. John C.Hawley mentions the two thematic points that could be drawn from the novel as highlighted by Paul Kincaid: "the role of the colonist who exploits but is largely ignorant of local culture and knowledge" and "the very different attitudes to knowledge and research in East and West." A usual post-colonial fiction would give a point of freedom to the colonizer

to describe the pains of the colonized subject as an exploited subaltern. But here there is a very unintelligible group of Indians who are far advanced of the colonizers that is the privileged group of British scientists, in the provisions of scientific research. In fact, Ronald Ross is no more a puppet in the hands of this group headed by Mangala, who actually feeds the necessary information and intelligence to Ross and his other team members. This secret society is more advanced in the intellectual power of the scientists who have access to the latest technological developments. They have discovered already what Ross and team are under pressure to understand. Thus in this novel, it is the subaltern who is on the upper crust, in contrast to the privileged. And the fact that it is a woman, who leads the research work, implies the conquest of twice colonized woman and that also one of them from an oppressed backward class of sweepers.

As a result, the female subaltern in the pretext of Mangala is given a power, which is an authoritarian one. In order to show the victory of East over West and give solace to the apprehensions of the colonized, Ghosh has used the mystical and superstitious observances of the colonized India. Ghosh would have made an attempt to bridge the gap between the privileged and the subaltern class, the colonizer and the colonized by employing these observances. John Thieme emphasizes this point: “The Calcutta Chromosome and the possibility of effecting the ‘interpersonal transference’ of knowledge occupies a central role in this investigation, since such transference would erode the barriers between elite and subaltern classes, between the purveyors and recipients of knowledge, everything about Ghosh’s novel seems to be working towards this end.”

Using a house as an image is a good illustration of a recurring post-colonial trope found in Chromosome. There are three houses or buildings that might be read as metonymic structures in the text. The first image is Antar’s crumbling house in New York, symbolic in many ways of Antar’s nomadic existence in the 21<sup>st</sup> - century United States. When Antar arrived at New York with his wife for the first time, the building was full of apartments swarming with “large, noisy” families and was full of life. However, at the time when the reader meets Antar, most of the apartments - and the families that once lived in them - have been replaced by “warehouses and storage spaces,” and the building is now more closely coupled with sickness and death than with life. When Antar ruminates on the people who were once the residents of the building, and those who come most readily to mind are those who were somewhat diseased or who have suffered untimely deaths. His wife and unborn child are killed by “an amniotic embolism ... in the thirty-fifth week of her pregnancy”. The chess player who is a neighbor began to “waste away” one summer while the woman who lived in the apartment below is murdered by the delivery boy who thrashed “her head in with a cast-iron skillet”. The moribund and sickly ambiance of the building reflects Antar’s own sluggish and diseased existence. Antar has been abandoned and isolated like his home by the modern age.

The second house which has some representational importance in the novel is the colonial “bungalow” where Ronald Ross lived in while working in Secunderabad. Through Murugan the house is set up as an evident symbol of colonial ending: “He calls it a bungalow, but don’t let him fool you: this place has a couple of dozen rooms, and half an acre of garden.

Then there are the servants' quarters, way out back, where you can hardly see them: a long, low line of rooms. The rooms are pretty small, but some of them have six or seven people living inside and some have whole families in residence”.

The structure of the house is of minimum importance to the incidents happened in the novel. However, by dwelling on this insignificant detail, Murugan indicates that the colonial inequalities that may seem to be of less important may in fact be pivotal for the understanding of the track of events in the novel.

The houses and buildings are of scrupulous value in post-colonial fiction according to the editors of *Empire*, whether they are being bulldozed or under construction, an image that Ghosh sets right at the core of the novel. The “large, old-fashioned colonial mansion”, as the title suggests.

“number three Robinson Street” that Romen Haldar is renovating and allowing his group of counter-scientists to use as a meeting place is the same house where Ronald Ross lived in while working in Calcutta at the beginning of the century. Here, it is difficult not to read some post-colonial significance into the fact that Indians and Nepalese have dismantled the house's interior and that “the entire construction gang was living in the gutted shell of the house”. The deconstruction of a colonial building by formerly colonized people who were using the building to celebrate their markedly Indian and non-colonial achievements in the area of malaria research forms the centre of the novel.

There is more than just the essential image of the house to provide weight to the impression that the novel is at least to a degree post-colonial in nature. The substitute history that the novel proposes and its re-working of the ‘official’ metanarrative is also a common theme in post-colonial literatures. By re-elucidate the historical pieces of details the novel is able to undermine the authority of colonial narratives. The novel presents not only the official history of malaria research as a highly structured introduction, but it also suggests that this pretense was constructed by the colonized who used the colonizers as ignorant forfeit in their plot.

Furthermore, Ghosh, like a number of other post-colonial writers, dislocates the conventional twofold between the centre and the border in deconstructing one history and constructing another. The ‘marginal’ and the ‘variant’ characterize post-colonial views of language and society as a consequence of the process of repeal. The syncretism is licensed by the departure of the ‘centre’, and with no ‘centre’; the minor becomes the determining component of actuality.

Chromosome subverts the ‘centre’ by spotlighting on the actions of minor characters. For example, Murugan, the character at the centre of the novel, is marginalized in numerous ways by society, both eccentric and “ex-centric”. The scientific community “brand[s] Murugan as a crank and an eccentric” because of his extreme theories and the History of Science Society subsequently takes “the unprecedented step of revoking his membership”. His conduct is portrayed by his equals at LifeWatch to be “erratic and obsessional”. Besides, all the way through the novel his “psychological ‘normalcy’” is also called into question; Murugan himself indicates that his spell of syphilis and malaria might have in some way would have

affected his brain, and at the end, Antar finds him in a refuge. Despite Murugan's eccentricity, most of the details and events which form the core to the progress of the story are filtered through him.

Like Murugan, the group of counter-scientists who occupy both the pivot of the novel and the centre of malaria research and discovery function and exercise their power on the margins of society and scientific discussion. Mangala, the woman in charge, is characterized by the colonial scientists as contradictory to the psychological rules – “don't pay her any attention;” With a twinkle, Cunningham said to Farley, “she's a little touched ... you know”. Similarly, the work she is supervising is frequently set up in dual conflict to the conventional centre. For Murugan, just as there are “matter and antimatter,” “rooms and anterooms and Christ and Antichrist,” there are “science and counter-science” practised by “fringe people, marginal types [who are] so far from the mainstream you can't see them from the shore”. The detections of the counter-scientists always take place outside the scientific centre, revolutionary alternatives to the ‘accepted’ European scientific experiments. Murugan even employs the “Other Mind” theory to explain their work - a tag filled with post-colonial implications. Murugan - a marginal character on his own right - who places these people as trivial says a great deal about how they removed far away from the centre.

Ghosh establishes a particular connotation to the association between the margin and centre in the novel through Farley's visit to Cunningham's lab to test Laveran's theories. While Farley was in the lab, he becomes an immediate spectator to the counter-scientists' literal dislocation of the centre and the transfer of power towards the margins. During Farley's first day in the lab he observes, through a mirror image in his glass of water, that it is Mangala, who according to Cunningham, who is “not all there” who is selecting the slides and ultimately organizing the lab. He decides to return the following day, and to find out what Mangala and Lutchman are doing. Farley becomes aware of “a great deal of activity in a nearby anteroom”, on his arrival to the lab on the next day. He sees nothing of importance in Cunningham's slides the previous day, just as the slides that are outcomes of experiments made in what “was once one of the best-equipped research laboratories in the whole Indian subcontinent”. Very soon Farley comprehends that all important experiments going on in the laboratory is taking place in the anteroom of the lab. After threatening them that he is going to stay there all night, he sees Lutchman snatching “up a set of clean slides,” then slipping “away to the anteroom”:

Once Cunningham has gone, Farley made a tour silently across the laboratory. He compressed himself against the wall like a lizard and moved stealthily towards the door of the anteroom until he had planned himself in such a position from where he could watch into the anteroom without being found out by anyone else. Farley had strengthened himself for anything; he is going to face there but to be shocked he was not ready for what he saw next.

The partition between the main room and anteroom serves as the metaphorical binary conflict between margin and centre becomes literal. This minor room and the counter-science taking place therein have acquired the central importance and in turn dislocated the colonial lab and its conventional approaches to science through its power of right.

The most interesting aspect of Ghosh's novel is not the extent to decide whether it is either a science-fiction novel or a post-colonial text but the ways in which Ghosh brings the two very different conventions together to create something new - a fusion novel that draws attention to diverse themes by throwing them in a new light. Its fusion can be investigated through a number of examples, but it is the use of silence in the novel that serves as the key to perceiving its amalgamation. Ghosh rocks conventions at the bottom of this science-fiction and post-colonialism against each other, through silence and succeeds in problematising the ideas of borders and hurdles and the known/unknown twofold in both of the literary traditions. Silence in *Chromosome* is both a science - fiction barricade that must be triumphed over in order to reveal the anonymous and a post-colonial means of opposing the leading communication and shielding information against unnecessary corruption.

Wolfe finds in science fiction the frequent images that he traces to the "image of the barrier". Indeed barricades are not exclusive to science fiction; including Ghosh's previous novels, post-colonial texts, are stuffed with impediments of various kinds. In an interview with Ghosh, Eleanor Wachtel comments that "Borders, boundaries - whether real or imagined, natural or artificial, whether political or social - the boundaries and borders that divide people and places figure very prominently in your work". Although *Chromosome* does not depend on any of the specific images usually employed by science - fiction writers to represent the blockades, it still has the central image of a barrier at its core. According to Murugan: "the first principle of a functioning counter - science would have to be secrecy ... It would have to use secrecy as a technique or procedure. It would in principle have to refuse all direct communication, straight off the bat, because to communicate, to put ideas into language, would be to establish a claim to know - which is the first thing that a counter-science would dispute".

The counter-scientists' quietness and mystery create a blockade that Murugan and Antar use the whole novel endeavoring to smash through. Murugan is especially interested in the unspoken "new knowledge" that the counter-scientists are protecting behind their stillness.

As well as, silence being an example of a barrier in the science-fiction tradition, is also a common trope of confrontation in other literatures. In post-colonial texts, it may take many numbers of different forms trusting the writer and the particular tradition out of which they are writing. In all the post-colonial civilization the word leads to knowledge, which provokes questioning and generates change. The collection of post-colonial literature is flourishing with examples of the apprehension that the dominated will gain knowledge and automatically, authority.

Michel Foucault's theories about knowledge and power are particularly useful for understanding quietness as a means of undermining oppressive power structures. The novel is swarming with people and organizations engaged in a Foucauldian endeavour to collect and classify as much information/knowledge as possible. The International Water Commission, through Ava and Antar, are in the process of generating a huge collection of information/knowledge with the expectations that they will be able to use it for their advantage in the future: They saw themselves making History with their enormous water-

control experiments: they wanted to record even every minute detail of what they had done, and what they are inclined to do. Instead of having a historian sieve through their dirt looking for connotations, they wished to accomplish it themselves: they wished to bundle their dirt with their own explanations.

Murugan is occupied in a related practice of recording the progress of Ronald Ross's research on malaria. Murugan guesstimates that Ross has "spent about five hundred days altogether working on malaria. And ... I've tracked him through every single one of those five hundred days: I know where he was, what he did, which slides he looked at; I know what he was hoping to see and what he actually saw; I know who was with him, who wasn't with him".

For sure, the only reason Murugan has been able to enumerate Ross's life is that Ross himself wrote down everything: "This guy's decided he's going to rewrite the history books. He wants everyone to know the story like he's going to tell it; he's not about to leave any of it up for grabs, not a single minute if he can help it".

In this environment of pre-occupied information of collecting and sorting, quietness becomes one of the effective means of resistance. To speak in this atmosphere is to be extolled into the leading conversation. In the novel, the contrast between Murugan's experiences and those of the counter-scientists illustrates very clearly the prospective efficiency of using quietness as a way of demanding words.

The scientific establishments' 'rules' always remain in the region of Murugan and the counter-scientists, and almost in their respective activities. As Foucault points out, there is no difference between the European scientific tradition and any other dominant power composition. To him, Science has become a symbol of power. It is not sufficient to say that science is a set of procedures by which a proposal may be untrue, errors demonstrated, myths demystified, etc. Science also works out power: factually, it is a power that forces you to say certain things, if you are not to be disqualified not only as being wrong, but, more seriously than that, as being an impostor. Science has become institutionalized as a power through a university system and through its own constricting apparatus of laboratories and experiments (Kritzman 106-07).

Murugan offers his knowledge to various examiners including Antar and Urmila for most part of the novel. In his efforts to make people appreciate his theories he tenders his knowledge to the scientific community willingly which in turn leads to his inscription by the leading discussion. Both the summary of his research in an article entitled "Certain Systematic Discrepancies in Ronald Ross's account of Plasmodium B" and its revised version "An Alternative Interpretation of Late Nineteenth-Century Malaria Research: is there a Secret History?" have marked him as "a crank and an eccentric" by the scientific establishment.

Murugan is no longer a threat being placed as an out of the ordinary from accepted norms; reduced in importance, he is no longer treated gravely. For instance, there is little protest, when the History of Science society cancels his membership. He speaks "openly about his notion of the so-called 'Other-Mind' leads "to his estrangement from several of his friends and associates". The more he talks the further the establishment pushes him from the centre.



Ultimately, voicing his theories directs to Murugan being stamped as not of sound mind and kept in “the Department of Alternative States”. At the end of the novel, although his theories seem to be correct in the context of the novel, substantiating his views and opinions and offering proofs makes him totally ineffective.

The supreme strength of *The Calcutta Chromosome*'s lies in its success at combining the post-colonial with science fiction traditions. The familiar post-colonial tropes of borders and confrontation become strange and beg a closer examination as they are placed in the science-fiction structure that Ghosh sets up. Ultimately, the novel forces the readers to abandon their pre-conceived notions regarding the arbitrary classifications of literature. There is no reason a post-colonial novel cannot employ science-fiction tropes or vice versa. The Success of *The Calcutta Chromosome* lies in its ability to manipulate effectively the strength of a given genre or tradition and themes to tailor best to one's eventual objectives.

Amitav Ghosh has been passionate of science fiction. *The Calcutta Chromosome* though it communicates concerns arraying from post-colonialism, history and the tight spot of the subaltern is essentially envisaged as a science fiction. Joydeep Banerjee reviews *The Calcutta Chromosome* and comments:

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

## WORKS CITED

Adas, Michael, *Machines As The Measure of Men: Science, Technology, and Ideologies of Dominance* (Ithaca: Cornell University Press, 1989).

Amitav Ghosh, *The Calcutta Chromosome: A Novel of Fevers, Delirium and Discovery* (New Delhi: Ravi Dayal Publisher, 1996) 232.\*

Ashcroft, Bill, Gareth Griffiths and Helen Tiffin. *The Empire Writes Back*. London: Routledge, 1989.

Ball, John Clement. "Malaria Mystery." *Rev. of The Calcutta Chromosome* *The Toronto Review of Contemporary Writing Abroad*. 16.1 (Fall 1997): 105-08.

Chambers, Claire, "Postcolonial Science Fiction: Amitav Ghosh's *The Calcutta Chromosome*", *Journal of Commonwealth Literature*, 38.1 (2003), 57-72.

--. *Discipline and Punish*. New York: Pantheon Books, 1977.

13. John C Hawley, 163.

R.K. Dhawan, "Introduction" *The Novels of Amitav Ghosh* ed. R.K. Dhawan (New Delhi: Prestige Books, 1999) 26.

Foucault, Michel. *The Order of Things*. New York: Pantheon Books, 1970.

Ghosh, Amitav. *The Calcutta Chromosome*. Toronto: Vintage, 1995.

Headrick, Daniel R., *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York: Oxford University Press, 1981).

Hopkinson, Nalo and Uppinder Mehan, eds., *So Long Been Dreaming: Postcolonial Science Fiction and Fantasy* (Vancouver: Arsenal Pulp Press, 2004).

John C Hawley, *Contemporary Indian Writers in English: Amitav Ghosh* (New Delhi: Cambridge University Press India Pvt. Ltd., 2005) 6.

John Thieme, "The Discoverer Discovered" *Amitav Ghosh: A Critical Companion* ed. Tabish Khair (New Delhi: Permanent Black, 2003) 139.

Joydeep Banerjee, novels <<http://living.oneindia.in/home-n-garden/reviews/2008/amitav-ghosh-novels-130508.html>>.

Kritzman, Lawrence D., ed. *Foucault: Politics, Philosophy, Culture*. New York: Routledge, 1988.

Leane, Elizabeth, "Chromodynamics: Science and Colonialism in Kim Stanley Robinson's *Mars Trilogy*", *Ariel*, 33.1 (January, 2002), 83-104.

Wolfe, Gary K. *The Known and the Unknown: The Iconography of Science Fiction*. Kent, Ohio: Kent State UP, 1979.

#### Internet Resources:

Amazon.com. "Reviews of The Calcutta Chromosome" <http://www.amazon.com/exec/obidos/ASIN/0380975858/r/002-1912044-0805200>

Aull, Felice. "Review of *The Calcutta Chromosome*" <http://endeavor.med.nyu.edu/lit-med/lit-med-db/webdocs/webdescripts/ghosh1134-des-.html>