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Emplotting the Postcolonial: Epistemology and Narratology in Amitav Ghosh's *The Calcutta Chromosome*

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Abstract: The plot of Amitav Ghosh's *The Calcutta Chromosome* is so complex that there is little consensus among scholars on what actually happens in the novel. Following in the footsteps of Rabindranath Tagore, Satyajit Ray, Renu, and J. P. S. Uberoi, Ghosh dramatizes the encounter between Western science, with its accompanying epistemology, and Indian tradition. The novel challenges the relentless West-driven search for knowledge, epitomized by the supercomputer named Ava, and suggests that only different epistemological premises, based on silence, can counteract Western rationalism. The novel's literary technique mirrors this preoccupation in that it tells a story from two different viewpoints, one of which remains silent throughout. Narrating the viewpoint of a silent agent raises a number of problems as to the reliability of the narrator, who properly speaking is only a "guesser." The whole narrative revolves around a foundational mystery that remains unknown to all characters. In order to do so, the implied author must write about something of which he too remains ignorant. This paradoxical condition calls for a revision of the traditional writing agents as described by Wayne C. Booth, so that it is necessary to include the figure of the archiauthor behind the traditional implied author. This may explain a reticent narrative that relies heavily on the reader's intelligence. Furthermore, my narratological reading highlights two themes formerly neglected by scholars, namely that subalterns' cosmopolitanism in the future is rooted in our colonial past and that the interpersonal transference envisaged by the novel merges different people in one body, thus challenging the Western obsession with individualism.

Keywords: *The Calcutta Chromosome*, Amitav Ghosh, narratology, epistemology, Indian literature in English

> Someone is 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.
>
> Amitav Ghosh, *The Calcutta Chromosome* (217)

I. Introduction

The first characteristic that strikes the reader of Amitav Ghosh's *The Calcutta Chromosome: A Novel of Fevers, Delirium & Discovery* (1996) is the overwhelming complexity of its plot, which recalls highly elaborated works like those of Jorge Luis Borges or Vladimir Nabokov. An interpretation of this plot demands a narratological reading, and yet Ghosh scholars seldom rely on narratology in their analyses. I engage in a narratological reading that moves along the lines of "theorypractice" as envisaged by James Phelan and Peter J. Rabinowitz and that was later actuated by Phelan in his *Living to Tell about It.* I explore the connections between themes and narrative techniques, believing that although thematic and narratological criticism are often distinct, a novel's text remains the privileged site of their encounter because no novelist or reader can shed either. Phelan argues that every narrative text presents mimetic, thematic, and synthetic aspects; the first term refers to the narrative situation and characters, the second touches on themes that are relevant also outside the narrative text (and possibly in the author's and readers' lives), and the third relates to the text as an aesthetic artefact. Most criticism of *Chromosome* concentrates on the second axis, while the other two are often overlooked. This neglect of the first and third axes may be due to the ambiguities of the novel's plot and the difficulty of ascribing the text to any given literary genre. While this independence from the constrictions of literary genres is often hailed as a positive aspect of the novel (Ramraj; Piciucco), it poses major problems in terms of reading modes. Every genre shapes its reading public; we know

how to respond to a detective story, science fiction, speculative fiction, historical novel, or dystopia (all of which are descriptors that have been applied to *Chromosome*), but we are ill at ease when it comes to a blend of all these. Should we, as readers, respond to *Chromosome* as if it was science fiction or as if it was a roman à clef? What implied reader should we try to emulate? While I think that a narratological reading can help address these questions, most critics (including myself elsewhere) have preferred to stick to the reassuring fact that this is a postcolonial novel by an Indian author and have focused on its postcolonial and postmodern themes. I take this as a starting and arrival point of this essay in the hope that a plot analysis may shed more light on this remarkable aesthetic construction as well as on a thematic interpretation.

The most relevant critical efforts to interpret *The Calcutta Chromosome* have focussed on the revision of history (Chambers, "Postcolonial"; Thieme), the alienation and empowerment of subalterns (Khair; Mathur; Huttunen), the relationship between power and knowledge in a colonial context (Ghosh-Schellhorn; Bruschi; Mondal; Goh; Ambethkar; Fendt), the politics of power in the Indian metropolis and transportation (Romanik; Leer), and even environmental issues (Roos and Hunt). Only a few marginal notes have been devoted to the novel's plot and narrative techniques. Very few critics have tried to relate these themes to the text's overall narrative design with the notable exceptions of John Thieme, Isabella Bruschi, and Julia Fendt, who offer very perceptive insights but do not delve into the plot's intricacies. No one has ever noted that half of the novel is told in second-degree narration. Indeed, the novel is so concerned with the postmodern condition in its relationship with post-human ethics, the colonial past, and the politics of knowledge that the fictional invention may well appear less consequential.

Thus, the plot itself has been seldom, if ever, discussed in detail. Tabish Khair, for instance, singles out Ghosh's novel because it grants agency to the subalterns and offers a first-class plot, "that rare commodity in Indian English Fiction" (309), but he does not discuss the latter. Martina Ghosh-Schellhorn offers a very detailed analysis of the plot within the nineteenth-century chronotope, including a genealogy of avatars, but does not explore the other two chronotopes. Thieme and

Bruschi perceptively argue that the novel's plot is not a mere "scaffold" to sustain the themes dealt with but a sort of looking glass in which the issues raised by the novel are aptly reflected. The intricacy of the plot, they suggest, places the reader in the same position as some of the characters; the novel not only shows and tells, it puts the audience that seeks the narrative truth in the same predicament as the characters. The reader is not simply invited to enjoy the peripeteia of the protagonists; s/he must turn into a researcher who, at the same time, becomes the object of an experiment. The reader ends up resembling the fictional Ronald Ross, the Nobel Laureate malaria scientist of whom the ever-sarcastic biographer Murugan bluntly says: "He thinks he's doing experiments on the malaria parasite. And all the time it's him who *is* the experiment on the malaria parasite. But Ronnie never gets it; not to the end of his life" (Ghosh, *Calcutta* 79; emphasis in original). The trick is not solely on Ross; in different ways, other researching characters like Murugan, the novelist Phulboni, Urmila, and the Egyptian IT clerk Antar are also unwittingly manipulated. However, readers who, unlike Ross, are willing to give up their arrogant eagerness for knowledge and humbly accept that their knowledge must be limited will eventually discover that they have become the recipients of other minds and outlooks (Vescovi, "Decostruzione"). Thus, readers acquire a double viewpoint as researchers into the story and witnesses to a fictional experiment on themselves.

II. Intellectual Tensions

In her seminal paper on intertextuality, "Networks of Stories: Amitav Ghosh's *The Calcutta Chromosome*," Claire Chambers offers a few narratological insights, maintaining that Ghosh's novel is conceived as a series of knots in a network of stories—very much like a digital hypertext—that extend well beyond the boundaries set by the volume's covers. She identifies some of the subtexts and discusses their relationship to the novel's themes.[1] However, she limits her research to fiction, leaving a relevant part of the "network" still unchartered; I endeavour to point to a few more relevant texts and try to elucidate the narrative strategy used in their emplotment. From an epistemological viewpoint, the novel addresses one of the most poignant contradictions brought

about by Indian intellectual exposure to Western thought: namely, how to investigate facts and produce knowledge (in the humanities as well as social sciences) in a way that is not derivative but distinctively Indian. As historian Dipesh Chakrabarty argues in his *Provincializing Europe*, Indian intellectuals have appropriated Marxist paradigms almost uncritically, without considering how Marx's own intellectual makeup is rooted in the very European enlightenment used to justify the colonial enterprise and, Ghosh would add, racism (Ghosh and Chakrabarty). On the other hand, rejecting Marxism would mean renouncing the most important tool for seeking social justice for millions of Indian subalterns. Nowhere is this contradiction more visible, argues Chakrabarty, than in the anthropological or historical assessment of religious practices. The modern Marxist historian cannot accept supernatural causes for historical events, but those subalterns whose stories he or she sets out to recount very often ascribe major events to transcendental agents. If the modern historian wishes to inscribe these stories into the paradigms of world history as his or her peers understand it, s/he has to explain events like rebellions or communal struggles as having socio-economic causes. However, in order to do so, s/he must reduce the subalterns to passive objects of research, silencing or overwriting their comprehension of their own deeds. Chakrabarty traces the genealogy of this contradiction to the Bengali Renaissance in the mid-nineteenth century and the cultural compromises of the *bhadraloks*, the Bengali upper middle class that made the Renaissance possible. The problem is both cultural and political: on one hand, the bhadraloks' cultural commitment to Western episteme and Hindu tradition sought uneasy combinations in ideologies such as the Brahmo-samaj; on the other hand, their allegiance and friendship with English intellectuals clashed with independence movements like Swadeshi and Swaraj. These tensions are more or less overtly represented in Rabindranath Tagore's prose writings, like his short story "The Hungry Stones" (which Ghosh translated into English); *Ghare Baire* (*The Home and the World*, 1916), which deals with the Swadeshi movement; and *Jogajog* (*Relationships*, 1929), in which the protagonist is irredeemably caught between her traditional Hindu faith and two kinds of secularism: her husband's and her brother's.

III. Indian Humanism

Film director Satyajit Ray, who, along with Tagore, is one of Ghosh's major inspirations, represents those very tensions in many films, including the transposition of Tagore's *The Home and the World* (1984) and *Ganashatru* (*An Enemy of the People*, 1990), an adaptation of Henrik Ibsen's 1882 drama of the same title, which tells the story of a physician who discovers that the holy water distributed to the pilgrims of a certain temple in Calcutta is actually infected; when he publishes the results of his water analysis, the outraged mob nearly lynches him and his family. Ray's films are yet another subtext that intersects the poetics of *The Calcutta Chromosome*, as Ghosh recognizes. In an essay on Ray, Ghosh writes: "Looking back now, I am more than ever aware of the part that Ray played in shaping the imaginary universe of my childhood and youth. I see this even in such details as my interest in science and science fiction; in ghost stories and the fantastical" ("Satyajit Ray"). The Bengali director, Ghosh maintains, is important because of both his films and his place in the Bengali literary tradition:

> That he could exert such great influence was due in part to the fact that his work extended and developed the legacy of the generations preceding his. His greatness as an artist is in no way diminished by the fact that he was a rivet in an unbroken chain of aesthetic and intellectual effort that stretches back to the mid-nineteenth century—a chain in which I too am, I hope, a small link. ("Satyajit Ray")

Tagore's and Ray's aesthetic reflections on the Indian path to political, social, and philosophical modernity provided Ghosh with inspiration and narrative techniques. Further insights come from another Indian intellectual. J. P. Singh Uberoi, who was a professor of sociology at the University of Delhi when Ghosh was a student there between 1975 and 1980, offers interesting reflections on the relationship between India and Western science. Unfortunately, Uberoi is undeservedly little known outside India, so I shall offer a short outline of two books that he published at the end of the 1970s, *Theory of an Alternative Science* (1975) and *Science and Culture* (1978). Originally a Punjabi, Uberoi studied

natural sciences in Manchester before he moved to social sciences and became a professor at Delhi University. In his writings, he complains that Indians have not been able to transcend the dominance of Western science. By "science" he does not refer to any sort of specific discipline but "to the world view and life-world of a nation, an age or a civilization"; that complex of disciplines that provide "answers to the questions: what is the world and its reality (cosmology); what is man (ontology); and what is truth (epistemology)" (*Science and Culture* 16). Indian theorists, Uberoi laments, are thus reduced to either performing menial work within a given framework or critiquing the biases of Western paradigms. He further criticizes the dichotomies on which Western science is based, particularly the East versus West dichotomy posed by Émile Durkheim, the Left versus Right dichotomy championed by Marx, and the Modernity versus Tradition dichotomy inaugurated by Max Weber. Uberoi maintains that Europeans and Americans have developed a kind of veneration for a scientific system that is very efficient from a technical viewpoint but rather misleading when it comes to seeking Truth:

> No one should believe in the magic of modern Western science, powerful though it appears, nor should anyone bow before its superior intellectual authority, magisterial though it seems. I would rather say that Western science at some point took the wrong direction in the intrinsic sense; and that its findings, theories and techniques in all its various branches are largely untrue, misleading and senseless for mankind as a whole. (*Science and Culture* 15)

Instead of searching for the relationships between the whole and its parts, like the great Indian linguist Pānini or Goethe as scientist did, positivist Newtonian science breaks things apart in order to describe the simplest possible components. Every branch of science is studied independently of the others, and sciences themselves are organized according to a hierarchy (first cosmology and physics, then inorganic chemistry, botany, zoology, anatomy, physiology, psychology, and anthropology) whereby matter comes first and each branch is determined by the previous ones; no discipline is allowed to assert anything on the higher

hierarchical levels. The material world is separated from the spiritual one, and no one who studies the former is supposed to say anything on the latter. The idea that there may be a spirit that unifies the different approaches to nature is the realm of mystics, who are tolerated but not entitled to any scientific truth. Thus, every specialist knows more and more about less and less. Uberoi maintains that, on the contrary, the true aim of science should be to discover organizing principles, like Goethe did in his studies on botany, anatomy, and physics (incidentally, he is credited with actual discoveries in all three branches).[2] Instead of brutalizing nature in order to describe it, an Indian path to science should investigate the main principles according to which the natural world works. It is no accident, Uberoi believes, that Western positivism created the atomic bomb, a project imbued with racism, another product of Western dichotomies. J. Robert Oppenheimer, who was a Jew, first planned the bomb to be used against the Germans; failing that, the bomb was used against the already discomfited Japanese. To the Americans, Hiroshima and Nagasaki were more important as scientific experiments than military targets. Bacteriological and chemical weapons invented by Europeans were used in Korea and Vietnam—always against other races. Uberoi sums up his analysis: "In a wider sense, I have argued that the positivist foundations of modern Western civilization were inherently divided against themselves but externally united against the non-elite, i.e. against the common people and against the non-Western world" (*Science and Culture* 85). Indian babus, Uberoi claims, have bought positivism without realising that racism, positivism, and capitalism are ultimately one and the same thing. However, following the Indian philosophical and spiritual tradition, a few great men like Mahatma Gandhi have been able to withstand this force; hopefully, he concludes, postmodernity will create a more holistic view of science in which humans will not have to give up unity in knowledge, and the subject and object of science will not be considered separate entities.

Uberoi belongs to and speaks to the Indian elite, but there is yet another influence on Ghosh that is visible in *The Calcutta Chromosome*: the story of the subalterns. Ghosh has been interested in the subject since the inception of Ranajit Guha's famous Subaltern Studies group:

he published a scholarly version of his travelogue *In an Antique Land* called "The Slave of the MS. H.6" in the group's eponymous journal. *The Calcutta Chromosome* argues that not only has the Indian elite been silenced by Western epistemic models, but there is a huge group of subalterns—in fact the vast majority of the Indian population—that have been silenced by colonizers and the Indian elite. These people's histories and lives have been absolutely necessary to the construction of the empire and the development of Indian civilization as we know it, but their contribution is rarely recognized. What makes this recognition almost impossible is that, as Gayatri Spivak famously wrote in that same *Subaltern Studies* journal, subalterns cannot speak. *The Calcutta Chromosome* merges into one single holistic narrative all these considerations about the agency of Western science; the Indian relationship with Western science and its epistemology; the role, agency, and predicament of silent subalterns; and a speculation about what the world may become.

IV. The Form of the Novel

In spite of their different languages and artistic mediums, Tagore, Ray, Uberoi, and Ghosh share a common preoccupation with the questionable origins of the Western episteme and its connections with colonialism and racism. *The Calcutta Chromosome* updates the discourse and dramatizes how this episteme extends to post-modern systems, be they water control or electronic networks. The novel's narratological organization is consistent with this critique of Western epistemology in two ways: firstly, it problematizes the notion of narrative truth by staging the consequences of actions and facts which remain unknown and unknowable and dividing authorship among different entities. Secondly, it challenges narrative agency by creating a number of unreliable narrators who appear to be rhetorically manipulated by other agents. Ghosh posits a multifaceted fictional truth that is ultimately unattainable and describes the efforts of different characters who try to pursue it. Thus, the novel creates a number of different fictional truths that no logic can accept simultaneously and points to a story that is probably a mystery unknown to the author himself. By ignoring significant parts of the plot, Ghosh

debunks the boundary between author and reader, who eventually share the same epistemic position, from which they can contemplate a variety of attitudes and declare their limits. The text's obscurity is not reticence or postmodern hermetism; it reflects the unattainability of any ultimate Truth and the silence that characterizes the actions of the subalterns, and points to the actual author's ignorance of his own narrative world. This ignorance, far from a fault, is a kind of negative capability and a reflection on the limits of knowledge. According to this program, every piece of information conveyed in the novel seeps through a series of narrators characterized by different mindsets and biases and whose narrations serve different purposes—veiling and revealing some parts of the plot and eventually failing to offer a comprehensive and coherent picture to the narrative audience.

The seemingly absurd idea that the author, even the implied author, does not know his own story can be explained thanks to an adjustment of some principles of narratology. I will refer chiefly to Wayne C. Booth's notion of implied versus real author and to Wolfgang Iser's and Umberto Eco's somewhat parallel concept of implied versus actual reader, as revised by Rabinowitz and Phelan in their studies on character narration. Rabinowitz distinguishes four different kinds of readers for a narrative text: the flesh-and-blood audience, the authorial audience (those intended by the author), the narrative audience (those intended by the narrator, who read the novel as if they live in the fictional world), and the ideal audience presupposed by a narrator (those who understand and react to the narrator exactly the way s/he desires). To these Phelan proposes the addition of a fifth figure, the narratee, who does not necessarily coincide with the ideal audience of the narrator ("Rhetoric/Ethics").

Tackling the issue from an epistemological viewpoint, one might say that in a classical novel—e.g., most Victorian novels—the knowledge gained by the authorial audience eventually parallels that of the implied author, while the knowledge of the narrative audience parallels that of the narrator. The flesh-and-blood reader should strive to emulate those reading models. In *The Calcutta Chromosome* things are far more complicated; the reader is under the impression that there is a fictional

truth that is sometimes to be learnt from the text, sometimes to be surmised, and sometimes to be accepted as unknowable. However, there is no certain way for the narrative audience to decide when a piece of information is reliable or when they are expected to make connections or simply guess. Undecidability is not new in the novel, but there is a difference between the undecidability of, say, *Great Expectations* and that of *Chromosome.* Surely Charles Dickens had an idea of what could happen to Pip and Estella after the end of the novel but chose not to tell it explicitly; and within the narrative, Pip and Estella certainly know, even if Pip decides not to disclose whether they get married or lose contact with each other. Victorian readers were probably disappointed by Pip's reticence, but their confidence in the existence of one truth about the epilogue of Pip and Estella's story was not shaken. Readers are aware that Pip knows the truth and could choose to recount it. In *The Calcutta Chromosome*, no character knows the whole story for certain. The epistemic premises of the novel demand that some details are not imagined even by the author—for instance, what exactly happened in Renupur, how the process of "getting across" takes place, or the motives of the "other group" (which probably do not coincide with Murugan's somewhat selfish quest for immortality).[3] If Ghosh imagined these details, he did so as a reader rather than the implied author. Indeed, in order to turn the problem of how knowledge changes facts into fiction and of how a fact changes when it is known through different approaches, the implied author cannot presume to conceive the subject of his story in its entirety. By imagining what Murugan calls the "Calcutta chromosome"—actually a chromosome only "by analogy" (Ghosh, *Calcutta* 212), in fact the equivalent of the human soul, or a part of it—from Murugan and Mangala's standpoints, Ghosh creates two different stories and two different representations, because each story changes its object. In other words, since the novel is about the unknowability of things, its implied author must be as ignorant of the truth behind the phenomena as the narrative and authorial audiences; otherwise, he should take a position and offer either a ritual-sectarian or scientific knowledge of the plot. By abstaining from doing that, the implied author asks the narrative and authorial audiences to come to terms with their own limitations

at both the narrative and "real world" levels—or, as Phelan would put it, on the mimetic and thematic axes. However, true to the humanistic "chain" that links him to Ray, Tagore, Bankimchandra Chatterjee, and the Bengali Renaissance, Ghosh is not a radical postmodernist,[4] and there is no reason to posit that what is unknown and inconceivable does not exist. Interpersonal transference "happens" even though most people in the novel are unaware of it, and fictional events "happen" in the fictional world even though they are not narrated (Prince). Contrary to the Derridian idea about the centrality of text and context, Mangala's group proclaims the epistemological power of silence. Western epistemology relies on communication—primarily writing—as a way to share, validate, and disseminate knowledge; an uncommunicated piece of information is regarded as no information for all practical purposes. Ideally, sharing discoveries serves the purpose of turning isolated scientists into a connected network of researchers with a common aim. Actual competition among researchers may hinder this scheme, but it nonetheless remains a major theoretical foundation of soft and hard sciences alike. Thus, voicing one's discoveries is a way to validate knowledge and put it to practical use. The counter-science group imagined by Ghosh, on the other hand, relies not on communication as a heuristic procedure but on silence and secrecy. They fear that voicing an intuition will inevitably change it, crystallize it, and eventually make it less effective. According to Murugan, counter-science adepts use silence as a tool to discover things. Obviously, their method is never stated and their stance cannot be explained logically (i.e., through a logos/discourse) but can only be regarded as an esoteric ritual. Counter-science exists, though silently and unbeknownst to the official (i.e., Western) science, and so does the "chromosome" for which the "other group" does not even have a name. Hence, we must postulate the existence of a narrative truth, a kind of Kantian *noumenon*, which is unattainable not only for the narrators but also for the implied author. The implied author's ignorance of key elements in the plot poses some theoretical problems. The chromosome and all it entails—including Phulboni's narrative, the fate of Antar's family, Farley, or Mrs. Aratounian, and other cruces of the novel—have a very tangible narrative existence. Even though no entity has narrating

agency over important parts of the plot, some entity must have invented them. Therefore, the implied author must posit an archiauthor who has perfect knowledge of the subject, although it has no narrative agency.[5] Before discussing the role and function of the archiauthor in this novel, I will introduce a few other instances of narrative complexity.

V. The Complexity Principle

The novel's subtitle—*A Novel of Fevers, Delirium & Discovery*—may refer to all axes of narrative, as James Phelan constructs them, namely thematic, mimetic, and aesthetic (Phelan, *Living to Tell* 49–53); indeed, this pattern is repeated thrice in the novel. The first time it refers to Ronald Ross—to the actual malaria fever, his delirium of omnipotence, and his discovery of the malaria vector. The second time it refers to the modern researchers—both Murugan and Antar are actually feverish at the end of the novel when they discover the "chromosome" and what it means to them. The third time, the triad is applied to the reader: the narrative infuses the fever of research, getting readers lost in a maze of seemingly unconnected details—the "sound and the fury" of multiple unreliable narrators—and eventually allows readers to glimpse the final discoveries. The number three recurs at different levels in the structure. I suspect that it derives from the philosophical necessity of counteracting what Uberoi calls Western binaries. To be consistent, a counter-epistemology that is made into a narrative must deploy a structure that runs counter to the traditional oppositions.

Thus, multiplicity and complexity seem to be the organizing principles of the novel, where the shifting chronotopes and shifting narrators play a key role. There are at least three time layers, which account for the past, the present, and the future: the nineteenth century, when Ross discovered the vector of malaria; 1995, when the action takes place in Calcutta and when Antar and Murugan first meet in New York; and the early twenty-first century, when Antar finds the ID card that sets the quest in motion. I refer to the mid-1990s as the present because these are the years when the novel was written, but the story is almost entirely told from the vantage point of the late 2010s or early 2020s. Likewise, the action takes place in three main locations: India, Egypt, and New

York. Although the story is told from the New York chronotope, India is by far the most central location and the only space that contains multiple chronotopes: Calcutta in 1995, Secunderabad-Calcutta-Madras in the 1890s, and Renupur in the 1930s. Additional settings include Egypt in the 1950s, New York in the 2020s, and cyberspace in the 2020s. All these chronotopes are connected to one another through characters who eventually gather around Antar, both physically and virtually. To make things even more complicated, however, not only are there three different chronotopes but the narration moves abruptly from one to the other, offering the reader scrambled bits of news. This non-linear arrangement of different stories in a network, as Chambers aptly calls it ("Networks"), is one of the principal devices that places the reader in the position of researcher rather than mere spectator. The pleasure of reading coincides with the pleasure of discovering new items and providing (i.e., often imagining) missing links—digging up the bones and assembling the dinosaur.

This complexity principle, at the structural level, mirrors the themes explored by the novel and is also echoed in the fictional world. For example, when Murugan tells Urmila how he read a post on an internet forum about an isolated outbreak of malaria in Egypt, he points out that the message "had been routed and re-routed so many different ways" that it was impossible to trace the actual source (Ghosh, *Calcutta* 206). Likewise, the novel unfolds through such a complicated series of embedded narrators that it is nearly impossible to understand who has inventive and narrating agency, what his or her biases may be, and how reliable each narration is.

Thus the choice of narrating agents becomes yet another instance of complexity and reverberates in all three levels of narration—plot, themes, and aesthetics. As a novel that deals with power structures and speaking agency, *The Calcutta Chromosome* cannot take the issue of narrating agency lightly. Thus, there are a few diverse focalizations and narrators who relate things they have heard from others. As a result, their reliability is seriously undermined. Readers are therefore compelled to make sense of the various odds and ends they are offered, sifting through them like archaeologists and trying to get at the fictional truth. The nar-

rators are not, as it may appear, loosely juxtaposed to one another; on the contrary, the novel contains a hierarchy of embedded narrators that highlights their respective narrating agency. Likewise, since the novel aims to describe the impossibility of relating any ultimate truth through a traditional narrative, even authorial agency is split and divided among different agents.

VI. The Archiauthor

A chart of the narrative agents may help to steer through the subtleties of the plot, starting with that hitherto untheorized entity that I call the archiauthor. The implied author of *Chromosome* occupies a position akin to that of a Cubist painter; the artist only captures some disjointed features of a human figure, taken from different perspectives. If we speculate about what might have been in the painter's mind we face two possibilities: either the painter is portraying a model and therefore knows how that person looks in three dimensions, or the painter invents only the painted traits, thus pointing to a whole that he or she has never seen and possibly never imagined. The latter describes *Chromosome*, in which the author points to something that he does not know and has never beheld.

The archiauthor does not coincide with the flesh-and-blood author or the concept that both Booth and Phelan develop, the implied author;[6] nor does it coincide with Ansgar Nünning's notion of the structural whole. The archiauthor is defined by its inventing agency, which the structural whole does not possess. While the implied author is anthropomorphic and has absolute knowledge and control over the whole artistic creation—including *fabula*, *sjuzhet*, choice of narrators, and philosophical and political issues—the archiauthor is hierarchically superordinate but presides over only part of the *fabula*[7] and is a function of the text disconnected from the narrative process. Indeed, the archiauthor does not communicate with any audience; in fact, it has no counterpart in the audience, whether real or theoretical. It does not perform any aesthetic or rhetorical function. The archiauthor is a creative but non-narrative agent; ideally, its perfect knowledge is what readers must aim at, although only a part of its fictional creation may

be described in the text. What we read in *Chromosome*, for example, is simply the tip of the iceberg of a more comprehensive construction. The implied author invents only the phenomena of his or her narrative construction, while the archiauthor invents (and therefore knows) the *noumena* that remain unexpressed. Sometimes phenomena appear identically to every character and it is therefore of little consequence for readers to imagine the *noumena* behind them. Other times, as in Ghosh's novel, characters perceive the phenomena in different ways and the narrative leaves readers longing to know the *noumena* as the archiauthor envisaged them. It is true that an archiauthor may be postulated for narratives that do not tell the whole narrative truth, such as Nabokov's *Pale Fire* or ghost stories like Henry James' *The Turn of the Screw*; in these novels, however, either the narrative audience or characters within the narrative know the truth that is hidden to the authorial audience. Those who live in the fictional world in which Kinbote writes his commentary to a poem called *Pale Fire* know whether Shade ever existed and whether Zembla is the creation of a maniac or a place to which they could fly. *The Calcutta Chromosome* is different: no character can claim a comprehensive knowledge of the counter-science and its workings nor of the plot's upheavals. At the end of the narrative, a clever reader may infer pieces of information which remain untold—e.g., Antar's age, why Cunningham sought out Madam Salminen, why Countess Pongrácz became an archaeologist, what happens during interpersonal transference—but it is impossible to get at the narrative truth in its entirety, even though the novel invites speculation. I am not referring to a narrative truth that cannot be told, either because it is impossible to describe or irrelevant (Prince), but to actual fictional facts that would be relevant in order to explain some of the novel's mysteries and therefore belong to the world of the novel.

There is also another reason why we need the archiauthor. Because the narrative is structured like a mystery/detective novel, the elucidation of these mysteries becomes part of its pact with the reader;[8] readers legitimately expect to have them explained. In traditional novels, the mystery is eventually revealed, and the narrative audience gains the knowledge possessed by the implied author who conceived it. The mys-

tery is therefore related to the author in three ways: the author invents it, knows it, and has it told. In the case of *Chromosome*, the implied author, consistently with Ghosh's critique of Western episteme, works under constraints which do not allow him to form a perfect knowledge of the plot. For this reason, he cannot conform to the generic norms and the usual proceedings of a traditional mystery novel—or science fiction, dystopia, or historical fiction for that matter. Still, since actions have taken place and objects exist in the narrative world, someone must have invented them. I call that someone the archiauthor.

Depending on our philosophical or religious attitudes, we may believe that the world as we know it has been created, that it simply exists by chance, or that it does not exist at all and is an illusion. Nevertheless, we cannot escape the hard reality that whatever exists in a fictional world that does not exist in the outside world has been invented by someone. If we accept the existence, for the authorial audience, of something that the author of *Chromosome* cannot know, then by necessity we must posit a creator for this: the archiauthor. Between archiauthor and implied author there is a relation akin to that we see between focalizer and narrator. The former sees, the latter tells.

VII. Narrative Agency

Following down the flowchart of narrative creation in *Chromosome*, below the archi- and the implied author, we find an arranger[9] of the chapters, two external semi-omniscient narrators, and several internal narrators of various degrees. The arranger, like an editor or a montage director, decides which parts of the story are to be told, by whom and in what order and, possibly, what must be cut. Eventually the story is told by actual narrators whose narratives are sometimes embedded into one another, sometimes overlap, and at times leave significant gaps in accordance with the arranger's design. Not all narrators are given the same status in terms of agency and reliability: none is really omniscient—though an external omniscient narrator is simulated by Mangala's group—some tell their own stories, some (like Phulboni) tell their stories through other people, some are reticent, and some are biased.

The novel opens and closes with one external narrator describing the events that happen in the New York chronotope—that is, what I called the future. I will call this narrator number one. As the story unfolds, another external narrator recounts the story of the Calcutta chronotope—the present. I shall call this narrator number two. Number one sticks to Antar's point of view and only reports other voices when Antar is listening to them; it may go back and forth in time only insofar as it follows Antar's memories. Narrator number two moves effortlessly through the various viewpoints. Eventually we discover that all of number two's viewpoints belong to people who are not yet in the secret society but will eventually be included—Countess Pongrácz, Sonali, Urmila, and Murugan. Murugan, embedded in number two, narrates the nineteenth-century events, while Urmila provides a few missing links by relating two stories heard from Phulboni; one of these stories took place years before in a remote railway station called Renupur and was disclosed to her by Sonali, who had heard it from her mother. The three women admit that they do not know all of the story or understand its significance, and even Murugan, the narratee, fails to see its connection to his quest.

The marked difference between the two external narrators, together with the ring structure of the composition, suggests that the sequence taking place in Calcutta in the 1990s is a second-degree narrative that begins when Antar, in the very last chapter, wears his "Simultaneous Visualization headgear" (Ghosh, *Calcutta* 310) to view the story as it was prepared for him by Mangala's assistants—probably with Lucky's technical supervision. As soon as the video starts in chapter forty-five, we learn that Antar is watching the events that happened in August 1995 as they were told in chapter five. The whole sequence is very filmic, possibly in order to suggest a camera eye. Chapter five reads:

> Walking past St. Paul's Cathedral, on his first day in Calcutta, August 20, 1995, Murugan was caught unawares by a monsoon downpour. He was on his way to the Presidency General Hospital, on Lower Circular Road, to look for the memorial to the British scientist Ronald Ross. . . .

> He hadn't far to go when the rain caught up with him. He felt the first drops on his green baseball cap and turned to see an opaque wall of rain moving around him, across the green expanse of the Maidan. (23–24)

In chapter forty-five, this story becomes:

> Slowly and deliberately, Antar reached for the headgear, slipped it on and clicked the visor into place, in front of his eyes. He tapped a key and suddenly a man appeared, walking down a wide road, beside a gray cathedral. He was wearing khaki trousers and a green baseball cap. It was Murugan. He stopped to look over his shoulder: dark threatening clouds were approaching across a wide green expanse. (311)

Antar's experience is recounted by narrator number one. Narrator number two may be considered the voice of Silence, which comes from cyberspace and is created expressly for Antar by Mangala's secret silent sect. As further narratological proof that this is a second-degree narration, we should consider the chapters in which Murugan and Antar appear together; these pages always feature Antar's point of view. The point of view only shifts to Murugan when Antar is not present—i.e., in narrator number two's story. This interpretation seriously undermines the reliability of the two main narrators, both number one because it is focalized through Antar, so that its narrative is almost autodiegetic, and number two because it is created by "the other group."

The chart of narrating agencies is a sort of *mise en abyme*: narrator one tells the story of Antar, which develops over two days, and follows his train of thought from his present state in New York to his past life in Egypt and New York, including his final act of wearing the Simultaneous Visualization gear; here narrator number two takes over as if in inverted commas, leaving parts of his narrating agency to Murugan, Urmila, Sonali, and Phulboni, who also relate stories heard from other sources. The arranger scrambles pieces belonging to the extradiegetic narrator number one and the intradiegetic narrator two, creating the *sjuzhet* of the novel. Thematically, this arrangement highlights the paral-

lels between the three chronotopes and emphasises the continuity of colonial and postmodern epistemes. The arranger's presence casts further doubt on the narrators' reliability, especially that of number one, as it is highly probable that some parts of Antar's memories, especially those that might have linked him to Mangala's group, have been suppressed during the editorial process. In fact, the work of the arranger parallels that of those who have prepared the movie for Antar; indeed, the arranger prepares the narrative material for the readers who will eventually find themselves part of the experiment.

The final scene in the novel, in which Antar sees the whole story from the start, may represent for the reader that "perfect moment of discovery when the person who discovers is also that which is discovered" (Ghosh, *Chromosome* 260). Antar learns that he had a stronger connection to Mangala and her group than he thought. He must have come in contact with Mangala, alias Countess Pongrácz, as a boy of fourteen in his native village, but he failed to see the relationship between his past and Murugan's story when they first met. We can conclude that Antar discovers that, in a way, he has always been a member of the society, though his grasp of it had nothing to do with Murugan's or Phulboni's. As a boy living in an Egyptian hamlet, he certainly could not know about Ross' discoveries, "chromosomes" that transfer personality, or the Valentinian cult, which is another way of describing the same phenomenon. If he understood anything at all of personality transfer, his knowledge must have been of the ritualistic sort, like the Kalighat people's. Ironically the chromosomic version of the story is important only to Murugan, since this is the way he learnt about the secret society and the way he, with his Western rationalistic mindset, could manage this knowledge. Ross's work is not equally important to any other member of the society—Countess Pongrácz obviously had a completely different take on the "chromosome," and so did Phulboni, who was probably unaware of Ross.

In accordance with the vow of silence, none of the members of the group is ever granted narrating agency. Yet all of the characters whose viewpoints are taken up over the course of the novel end up joining Mangala's group. Only Phulboni is a partial exception to this rule in

that his viewpoint is taken into account when Urmila recounts his stories—but at that point he has not yet been reinstated into the group. Phulboni possibly became part of the sect at the time of his adventure in Renupur, but he was ostracized since he had broken the vow of silence by telling Sonali's mother about his experience; he subsequently tried to pursue the religion of silence through his esoteric writings. During his speech in the auditorium, Phulboni talks about silence in esoteric terms that are reminiscent of Valentinian Gnostic cosmology.[10] Eventually Mangala, alias Mrs. Aratounian, forgives him and they leave together for Renupur. Thus three main characters, Mangala-Mrs. Aratounian, Laakhan-Romen, and the boy at the station, remain mostly silent not only in that they do not say much but also because their points of view are never considered, while the narrative takes up the points of view of characters—Antar, Murugan, Urmila, Sonali, and, partially, Phulboni—who are not yet part of the secret group. All of these people are cognizant of some part of the story that no one, possibly not even Mangala, comprehends in its entirety. The truth about the sect is known to the sect as a whole in a non-verbal way but to none of its affiliates if taken singularly.

Given the secrecy of Mangala's group, it is impossible to know exactly how its members are co-opted. Murugan, for instance, understands that he has been merely instrumental in serving some of the society's ends—possibly hooking up Antar—whereas others may have been chosen out of affection, like Sonali, or because their profiles suit the needs of the society, like computer expert Lucky. However, nothing can be known for sure and, like Murugan, the implied reader is compelled to "guess wildly" (Ghosh, *Calcutta Chromosome* 247) in order to work out some kind of pattern—that is, to work his or her way up to the knowledge of the archi- and implied authors. Interpretation then requires two usually unrelated practices: close reading and wild guessing, a kind of correlative of the two knowledge modes presented in the novel, rational-analytical and ritual-supernatural. What follows is a speculation about some of the archiauthor's designs triggered by two questions: Why did Mangala-Pongrácz-Aratounian-Tara take the trouble to go to New York and befriend Antar? What happens to the individuals involved in the process

of "getting across"? In fact, both questions come down to one: Who is who in the novel? That is, which characters from the nineteenth century are still active in the twentieth and twenty-first centuries, and under which names?

VIII. Guesses on the Plot

To the foregoing questions, the text provides some clues if not a proper answer. A crucial point in determining the relationship between the various epochs is the characters' age. Antar's age is never stated, nor is the date of the action in the future; yet at the beginning of the novel we learn that he cannot afford a reduction to his retirement benefits because his retirement is "only one year away" (5). In the United States, where Antar works, the average retirement age is sixty-five, though we may imagine that in the future it may shift a little. Thus Antar is likely no younger than sixty-four and hardly older than sixty-nine. Antar first encounters Murugan in 1995, immediately before Murugan's departure for India; when they meet, they are both in their "early forties" according to Antar's estimate (48). Through a simple calculation, we may conclude that Antar was born some time in, or soon after, 1950. If so, the twenty-first-century part of the novel takes place roughly between 2015 and 2020. Such a span of time could account for the major changes that have taken place in computer technology and the water control system. According to this timeline, Antar went to study in the former USSR in the early 1970s when the Cold War was at its height. He probably got his job in the US in the late 1970s and lost his wife in the 1980s, a few years before meeting Murugan.

Almost casually, we learn that, in his school days, Antar was the brightest boy in his village (which is consistent with his later enrolment in a Russian scholarship program) and was hired by a Hungarian archaeologist who was excavating in the village where he lived, on the edge of the desert. The villagers could not pronounce the woman's name, so they simply called her "al-Maghari," the Hungarian (6). The woman appeared to be very old, her skin "as brittle and closely veined as a dried eucalyptus leaf" (6). A few pages later, we also learn that Antar's wife, Tayseer, is not from the same village, as she grew "up within earshot of

the canopied souks around the Bab Zuwayla in Cairo" (15). Antar knew her for a very long time since he was orphaned when he was "in [his] teens" and her parents "kind of adopted" him (50). According to our timeline, this happened in the mid-1960s. Last but not least, during his interview with Murugan, Antar admits to having contracted malaria as a kid but is reluctant to speak about it (54).

This timeline should be pitted against another one which we apprehend from Murugan: the story of Countess Pongrácz, a Hungarian aristocrat. According to Murugan's source, Countess Pongrácz was nineteen years old in January of 1898 when she sought admittance to a religious sect in Madras (207). This means she was born in 1879 or 1878. According to the same source, "toward the end of her life, she moved to Egypt" (207) and was last seen in 1950. She must have been seventy-one or seventy-two and was excavating near a village of Coptic Christians that was completely wiped out by an isolated outbreak of malaria in the same year. According to Murugan's source, only one boy of fourteen survived and disappeared at the railway station (205).

The reader is drawn to conclude that the boy who survived the epidemic was Antar (Thieme; Banerjee) and that the archaeologist he met as a boy was Countess Pongrácz, but the dates do not match. If in 1951 Antar was the fourteen-year-old survivor, his birth year should be as early as 1936, but then he could not possibly be in his early forties in 1995. Moreover, he would be ready to retire in 2001, which is a bit too close to 1995 to account for all the changes imagined by the novel. Still, the links between al-Maghari and Pongrácz are too strong and numerous to be rejected. Thus we face three different explanations: either Antar and Countess Pongrácz never met (that is, Antar is not the boy who escaped from the village, and/or Countess Pongrácz is not the Hungarian archaeologist he met); or the author has (deliberately or unconsciously) inserted a mistake in the chronology; or Murugan was given the wrong clues (or does not recall the date with precision when he recounts the episode to Urmila), and what he thought happened in 1950 in fact happened in 1964. Considering that this piece of narrative is recounted by Murugan within the framework of narrator number two, whose reliability is seriously flawed, we

should not make too much of this discrepancy; still, it is worth a brief discussion.

The first option, that Antar and Countess Pongrácz are unrelated, is the only possible explanation if we take the narrative at face value. Still, I exclude this option, mostly due to considerations that are external to the setting of the narrative and related to the novel's poetics. There are very few digressions into the characters' lives in the text and most of those that are narrated have a bearing on the plot. Why then should the story of Countess Pongrácz in Egypt be recounted at all, if it is unrelated to anything else? Why would the other team point it out to Murugan if it is not related to the whole scheme? Besides, nothing else of what the Hungarian aristocrat does between the séance in 1898 and her disappearance in 1950 (or 1964 according to Antar's chronology) is mentioned in the novel, thus making the two episodes more relevant. How many elderly Hungarian women archaeologists were doing excavations in the Nile Delta in those years? Furthermore, a connection between Countess Pongrácz and Antar may provide an answer as to why Mangala is interested in Antar.

We are left with a miscalculation by Ghosh or Murugan. An authorial error is not relevant in terms of narratology or thematic criticism, though certainly it bears testimony to the complexity of the whole scheme. However, the novel's structure appears resilient enough to absorb an error in the chronology. If we accept that Murugan was deceived by those who provided (or fabricated) his sources, we can easily imagine why they did it. Murugan was chosen not to "get across" but, like Ross, simply to pass on some information. Had he told Antar what he already knew about Countess Pongrácz on their first meeting, Murugan would have spoilt the "perfect moment of discovery" (307). Antar would have recognized al-Maghari as related to Murugan's story and would have certainly enquired into the matter. Yet Antar is not in the least interested in Murugan until many years later, when Ava "finds" his ID.

Allowing for a few undecidable points, we can attempt a plausible chronological reconstruction of the untold story: D. D. Cunningham hosted Mangala in his laboratory, where she conducted secret experiments on syphilis. Quite by chance, she hit on the possibility of transferring

personalities and began by experimenting on Cunningham—as she does with his successor, Ronald Ross. Someone else's psyche—maybe even Mangala's own—was transferred into Cunningham's body, who therefore feared "annihilation" (210) and in his delirium spoke Hindustani instead of English until "Silence reclaimed him" (212). Countess Pongrácz witnessed his dramatic death and interpreted the episode through her theosophical culture in terms of Valentinian Gnosticism, not malaria vectors. She was so fascinated by the story that she sought out Mangala, who was in her late thirties and syphilitic (142). The latter transferred herself into Countess Pongrácz, whereby their former selves, hosted by their "Calcutta chromosomes," merged. This accounts for the interest that a psycholinguist would take in the Countess, who had by then two very different mother tongues. It is consistent with the whole story that one's language is transferred with one's personality, given the connection between worldview, personality, and language. With this double perceptivity, Mangala-Pongrácz selected the Temple of Silence near Alexandria as the best possible site at which to perform another ritual—indeed such rites of passage are always celebrated in highly symbolic places, such as Renupur or No. 3 Robinson Street, the former residence of Ronald Ross. In Egypt, Mangala-Pongrácz took the form of Mrs. Aratounian, who is said to be Armenian. Armenians are a long-standing minority in Egypt (yet another example of diasporic subalterns) whose population increased during the Armenian Genocide that began in 1914. Because these Armenians were Christian, the presence of an Armenian woman in a Coptic Egyptian village comes as no surprise. After the enforcement of Socialist rule in Egypt in the mid-1950s, many Armenians migrated outside Egypt (Aghanian). In Calcutta there is an Armenian community substantial enough to have created an Armenian Church and an Armenian College—both of which are within walking distance of Robinson Street. However, something went wrong in Egypt, and a whole village was exterminated by malaria except for one boy, very likely Antar. He was in his early teens when he met Countess Pongrácz and was hired as a helper; possibly he was intended also as a recipient for Laakhan. Mangala's people often rely on young bright boys, like the one who lives with Sonali Das and stalks Murugan outside PG Hospital.[11]

The fact that Laakhan and Mangala were looking for particularly bright people totally alone in the world or nearly so (Urmila in Mangala's case), together with the strange psycholinguistic effects that occurred during the séance and the puja on Robinson Street,[12] is consistent with the idea that, through the transfer, the personality of the "recipient" is not annihilated but rather fused with that of the "donor." Two things are necessary for this transfer to be effective: that one or maybe both bodies contract malaria and that the malaria be conveyed through a pigeon. The person whose psyche is going to be transferred must be killed in a ritual in order to make things happen—as Sonali witnesses during the secret puja. Eventually Antar is chosen to be taken across as a kind of redress for what he suffered as a child. The moment he discovers it is also the moment of "perfect discovery" (Ghosh, *Calcutta* 303) upon which he bursts into tears and "sigh[s] like he hadn't sighed in years" (311)—that is, probably, since he was a child.

The narrators remain silent about some parts of the plot, most noticeably what happened to Phulboni and how he managed to become a member of the group. What he experienced in Renupur[13] is hard to guess: he may have become the recipient of another personality when he was there and gone through the hallucinations described in the story, or he may have learned about the religion of silence in his perambulations through Kalighat and somehow made the connection himself. Surely Urmila's tale does not convey everything Phulboni experienced about the place.

IX. Consequences for the Narratorial Audience

If the above interpretation is correct, or even partially so, there are two themes that have so far been overlooked by critical studies on *The Calcutta Chromosome* that are relevant to the authorial audience of the novel. The first concerns the exploration of the roots of the cosmopolitan element in the novel; the second deals with the negation of the individual as we know it and challenges an important tenet of individualism. According to this reading, the novel envisions a future society that is very much rooted in the writer's present and past.[14] It is commonplace in science fiction to suggest that, in the future, human races will be

much more mixed up than they are today and different ethnicities will share the same regions. In a way this is just speculation on the consequences of world migration and globalization. Still, Ghosh deepens this notion as he sets out to explore this issue historically, implying that whatever melting pot there is (or will be), it is (or will be) historically determined. Whatever the future of the twenty-first century, it will be related to the history of colonization in the eighteenth and nineteenth centuries.

One of the main concerns of the novel is the history of medicine, and Anshuman A. Mondal notes how the ideology behind the repositories and the indexes is linked with that of archaeology and of Ronald Ross as an archive builder (62–67). Ghosh insists that the counter-science, which was operating during Ross' time, will still be at work, just as Ross' scientific principles are. Ava is indeed an ava-tar of Ross;[15] the modern supercomputer is trying to classify knowledge and build archives the way Ross did. Mangala's adepts use microscopes, railways, computers, and even archaeology to achieve their different ends. They learn to bend technology to suit their needs, which do not coincide with those of the establishment. Moreover, counter-science is practiced by subalterns and is based on beliefs and rituals that have hardly been systematized by ethnologists and therefore remain mysterious to the practitioners of Western science. In his previous works, Ghosh dwells on the historical connections between the Middle East and India before the arrival of the Europeans (*In an Antique Land*) and describes the migrations of subalterns from India to the Middle East (*The Circle of Reason*). In *The Calcutta Chromosome,* he suggests that such movements have always existed; Valentinus' cosmology may have influenced Sufi mystics, who had contact with India as early as the Middle Ages. Other refugees like the Armenians move between East and West and will keep moving in the future along routes that were traced centuries ago. Despite globalization and the power exerted by control systems such as the Water Council, this resilient submerged culture will find a way to survive in interstitial spaces and remain a stronghold against hegemonic thought.

The second new ethical issue highlighted by my interpretation is that the narration implies—but never lingers on the fact—that the psychic

transfer does not overwrite the recipient's personality. In fact, the "chromosome" seems to merge the two personalities into a new one; this poses a conflict in the case of Cunningham but seems rather enriching in the case of Mangala and her avatars through Countess Pongrácz and Mrs. Aratounian down to Urmila-Tara. When Murugan first hints at this in the exhilarating scene at the cafeteria early in the novel, he warns Antar that it may be scary "not to know who is speaking" (Ghosh, *Calcutta* 94). The novel does not actually empower subalterns, though they are free to pursue their ends, nor does Ghosh imagine a future in which the power relations are subverted.[16] Being ruled by Mangala is no more desirable, after all, than being ruled by the Water Council. The novel, much less dramatically, encourages resistance to the dominant Western positivistic ideology and traces its genealogy to the Enlightenment and the Newtonian scientific method. Like Uberoi's books, the novel advocates a more holistic and humanistic approach to science. Interpersonal transference is better understood, I believe, as a way to avoid a nationalist discourse and as a metaphor for different cultures coming together. This transference blurs the boundaries between social classes and trespasses across the line that divides different individuals, who melt into one another and the group. Considered this way, Mangala's group is very much like a clan or an expanded family, and as Ghosh observes in his correspondence with Chakrabarty, writing about the family for him is a "a way of displacing the nation"—that is, "*not* writing about the nation" (Ghosh and Chakrabarty 147; emphasis in original). The "Calcutta chromosome" does not allow the immortality of one individual as such, but permits one's survival when one merges with another individual. This is a non-egoistical and non-individualistic way of seeking immortality, much like the humanistic method of conveying one's spirit and thoughts to others through the medium of art. This brings us back to the role of the flesh-and-blood reader as a discoverer experimented upon; like Mangala's acolytes, successful readers are singled out to be the recipients of the author's mind regardless of geographical, ethnic, cultural, or social boundaries. The mythical, ever-changing "Calcutta chromosome" may be the book we have been holding in our hands.

Notes

1 She works briefly on the Ross Memorial (to which she dedicated an article in 2003), Dickens' "The Signalman," Renu's "Smells of a Primeval Night," and Tagore's "The Hungry Stones."

2 This subject is better developed in Uberoi's subsequent book, *The Other Mind of Europe: Goethe as Scientist* (1984).

3 The narrative suggests that Phulboni first becomes aware of Mangala's sect during his adventure in Renupur, but the only link between the story of Mangala's group and Phulboni's is made through common objects such as trains, secondary stations, points, and lanterns; the actual connection remains mysterious. Readers cannot be sure that Phulboni did not dream all that he recounts. In a similar fashion we see a puja on Robinson Street when Lutchman/Romen enters a new body, but we are not aware of any particular procedure apart from the usual paraphernalia of Hindu pujas and the additional presence of sick pigeons, which connect the scene to Mangala's lab in the nineteenth century.

4 On this point, see Huttunen's very perceptive article, which argues that Ghosh's position is humanistic since he moves beyond a postmodern stance that assumes incommunicability as a given. On the contrary, Ghosh advocates the possibility of communication between diverse people who do not bind themselves to a Western epistemology.

5 Given the theoretical status of the archiauthor I shall refer to it with the neutral pronoun, while I shall reserve the masculine to the implied author, as this is a version of Ghosh.

6 Historical Ghosh is a dynamic, ever-changing person, whereas the implied author of *The Calcutta Chromosome* is rather static and does not necessarily coincide with the implied author of, say, *The Hungry Tide*, which reflects a later phase of the writer's work. Booth suggests the term "career author" (Booth 445) as a series of implied authors' manifestations through the works of a single writer, while Phelan describes the implied author as a streamlined version of the flesh-and-blood author.

7 I am referring to the well-known distinction first proposed by Shklovsky: the story in strict chronological order (*fabula*) and the way it is manipulated by the narrator (*sjuzhet*).

8 It is also noteworthy that *The Calcutta Chromosome* does not fall into the category that Todorov calls fantastic. According to Todorov (1975), the fantastic element coincides with a moment of hesitation between a realistic and supernatural interpretation. In *Chromosome*, there is no ambiguity of this sort, as supernatural events occur beyond any doubt for the narrative audience.

9 I am borrowing the idea of arranger from Hayman's book on the poetics of *Ulysses*. The arranger cannot coincide with the implied author because the latter is outside the narrative world, whereas the arranger, like the narrator, must exist

within the narrative world. Indeed the arranger's editorial work must logically follow the work of the narrators.

10 Phulboni (Ghosh, *Calcutta* 29) uses the same words employed by Murugan to explain the essence of Silence (214), especially as regards the relationship between mind and truth. Obviously, these words must be very important to the group that crafted the narrative.

11 According to Sonali, that particular boy was singled out by Romen as he met him on a train where he played mathematical tricks for the rush-hour commuters (98). The unnamed boy is also standing next to Mangala-Mrs. Aratounian during the puja scene in chapter twenty-three and we may assume that he is the receptor of Laakhan-Romen's self.

12 In the former, Cunningham speaks Hindustani and in the latter, Mrs. Aratounian, who allegedly never learnt to speak Bengali properly, is heard proffering words in "Old Bengali," the language probably spoken by Mangala.

13 Incidentally, the place does not exist and its name may be an homage to one of Ghosh's inspirational sources, the Hindi novelist Renu (-pur being a common suffix for place names), and a pun with rain-pour since the whole episode takes place under heavy monsoon rain.

14 This notion is also one of the backbones of Ghosh's *Ibis Trilogy*, in which he shows how free trade was imposed on Asia through the Opium Wars, thus paving the way to modern globalization and to most contemporary conflicts.

15 Hence, possibly, also the name of Tara, the counterpart of everything Ava stands for.

16 For a different opinion see Mathur, who enthusiastically hails the novel as a "'how-to guide for postcolonial new humans' that figures the possibility of a new mode of being and knowledge in the contemporary world" (16), and O'Connell, who envisages interpersonal transference into the cyberspace as the new frontier of counter-science. Ghosh-Schellhorn argues that in this novel subalterns are allowed a better knowledge into truth, which is denied to colonialists; I believe that, while this may be true to a certain extent, this interpretation reduces the novel's complexity to another set of binaries, which is not consistent with the novel's epistemological premises.

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