



Borders and silence as forms of knowledge in Amitav Ghosh's The Calcutta Chromosome

by Carlotta Beretta

INTRODUCTION

Space and knowledge are closely intertwined. Our understanding of space depends on our epistemological viewpoint and, vice versa, our perception of reality relies on how we conceive space. In this respect, Franco Farinelli talks about an “*adaequatio mentis et rei*”,¹ which characterises our knowledge of the world (Farinelli 2009: 66). With this expression, the geographer points to the fact that modern epistemology imagines both the human mind and the Earth’s surface as “*tabulae*”. Although present also in classical and medieval philosophy, the modern idea of the mind as a “*tabula rasa*” comes from John Locke’s *Essay Concerning Human Understanding* (1689), in which the philosopher envisages the human mind at birth as a blank slate, without innate ideas. Similarly, modern epistemology reduces the Earth’s surface to a map, a “*tabula*” in Latin. This idea of both the mind and the Earth as “*tabulae*” not only entails a homologation between nature and culture, but also implies a close correspondence between cartographic maps, cognitive maps and the Earth’s surface (Farinelli 2009: 66-77).

¹ Literally, a making equal of the mind and the object.



Forms of knowledge and our understanding of the world are central concerns in Amitav Ghosh's fiction. His novels often deconstruct the epistemology derived from the Western philosophical tradition, with the aim of pointing at its relativity in spite of its claim to universality. For instance, the recent *Ibis Trilogy* (2008-2015) presents different ideas of history coexisting along with its Western versions. *The Hungry Tide* (2004) looks at how differently human beings relate to nature. *The Calcutta Chromosome* (1996), which this paper will examine, presents a mysterious sect that practices a sort of "counter-science". Several critics have examined how this novel deconstructs Western science, especially in relation to the genre of postcolonial science fiction (Chambers 2003; Thrall 2009; Smith 2012, to name a few). *The Calcutta Chromosome* has also been analysed from the point of view of space, either as a rewriting of colonial space (Romanik 2005), in terms of marginal spaces (Mathur 2004), and as chronotope which offers insights into subaltern agency and alternative versions of history (Leer 2001; Smith 2012).

The aim of this paper is to unite both perspectives – the epistemological and the geographical – and to look at how space representation in *The Calcutta Chromosome* foreshadows the epistemological and ontological stance put forward by the novel. In order for this correlation to emerge, I will take into consideration three spatial and gnoseological categories, which occur both at the level of space representation and in the description of the form of knowledge of the counter-science sect: borders, the labyrinth, and, finally, networks. I will examine in particular the representation of Calcutta's urban space, as it is central to the economy of the novel. It is in Calcutta that the majority of the events are set, and it is to the Indian metropolis that the characters have to go (in physical or virtual form) to discover the mystery of Mangala's sect. Therefore, I will contend that the representation of Calcutta's urban space anticipates and reflects the epistemological and ontological change put forward by the counter-science.

BORDERS AND THE ACCESS TO KNOWLEDGE

Borders are at the very basis of the cartographic representation of the world. The latter has played, and still plays, a significant role in the effort to make sense of reality through scientific methods. In fact, cartography marked the beginning of modernity by reducing the Earth's surface to a series of maps, and thus making space organised and manageable. This process was fundamental both for capitalism and colonialism, in that it provided the means to delimit private property as well as to venture into geographical explorations and territorial conquest (Farinelli 2009: 44-48).

Indeed, as Bertrand Westphal argues, cartography was "the geo-, topo-, iconographical tool" of the colonial enterprise (Westphal 2013: 144). By assuming the point of view of the conqueror, the map becomes "the instrument of domestication of the territory of the Other, who himself undergoes a subtle but inexorable Other-ing" (145). The representation of the Other is grotesque, normalised or, simply, negated. The cartographer transforms the newly discovered and (supposedly) empty space into



a place functional to the conquerors' history and desires. As such, maps are not neutral representations of the world, but ways of interpreting it through a subjective point of view.

Borders are another cartographical entity fundamental in the history of modernity. The act of tracing a border was both significant for the constitution of the nation state and for the colonial venture. While the first relies on firm and established borders, the second thrives thanks to a continuous repositioning of the colonial frontier towards new lands to conquer and assimilate (Westphal 2013: 126-127). Indeed, Westphal suggests that a constant border tracing and crossing characterises Western modernity (70-71). Quite similarly, in *Borders as Method*, Mezzadra and Neilson explain their use of the border as research perspective and method by underlining two factors. The first is the proliferation of conceptual and material borders that characterises our present time. The second is the idea that the border is instrumental to a very specific understanding of the world (Mezzadra and Neilson 2013: 14-16). According to Mezzadra and Neilson, borders are a "fabrica mundi" (ibid.), because, at the same time, they have the power to create the world that surrounds us and to determine the way we interpret reality. Needless to say, the fact of tracing a geographical boundary is instrumental in the creation of a nation state or the designation of a new land to explore. However, the importance of the notion of border lies also in the fact that the very act of defining an object, by separating it from the subject, necessarily draws a line between them. As such, the idea of border as a "fabrica mundi" has manifold epistemological and ontological consequences.

Postcolonial discourse has often pointed to the ambivalent nature of borders, divisive yet sometimes productive. To some critics, the liminality and marginality to which postcolonial and minority cultures have been relegated become a strong point from which to build new identities. Gloria Anzaldúa in *Borderlands/La Frontera* (1987) conceives the highly patrolled US-Mexican border as a place from which to build a "new mestiza culture", against the dominant white, patriarchal, heteronormative standard. In *The Location of Culture*, Homi Bhabha defines the boundary as "the place from which *something begins its presencing* in a movement not dissimilar to the ambulant, ambivalent articulation of the beyond" (Bhabha 1994: 5, emphasis by the author). Instead, Ian Chambers in *Mediterranean Crossings* (2008) emphasises how the porosity of borders introduces a border discourse which is "constantly haunted and interpellated by the invisible, by what fails to enter into the arena of representation, by what is veiled or simply falls out of the field of vision of a predictable consensus" (5). As such, the border is the place from which the silenced can reclaim a space for themselves.

Let us now come to Amitav Ghosh's *The Calcutta Chromosome*. Borders are a frequent theme in Amitav Ghosh's novels. The most renowned example is perhaps *The Shadow Lines* (1988), which discusses and questions the border between India and East Pakistan (now Bangladesh) and the consequences of the 1947 partition. *The Calcutta Chromosome* includes multiple examples of border crossing, starting from the novel's literary genre, which blends mystery, fantasy, gothic and sci-fi elements. In particular,



this paper will focus on spatial and gnoseological examples of border crossing, which revolve around the activities of a mysterious sect in Calcutta.

The Calcutta Chromosome presents a scientific-religious sect, led by Mangala and her assistant Laakhan, which has been active since colonial times in India. The group has interfered with the 1898 discovery of the malaria plasmodium by the British army doctor Ronald Ross, manipulating and directing his scientific process. Furthermore, it has made some autonomous findings, notably how to cure syphilis with malaria, and the possibility of transmigrating from one body to the other. The novel engages with the mystery represented by the sect, through several narrative strands, all set in different chronotopes. It opens with Antar's story, in future New York. A tele-worker for the multinational Life Watch, Antar is investigating the disappearance of Murugan, his former colleague, in Calcutta in 1995. The novel follows also Murugan's timeline in 1995 Calcutta, where he is looking into Ronald Ross's malaria research and Mangala's mysterious sect. From these two main narrative strands, several other timelines open up, set at various moments of Calcutta's colonial history, not least during the time of Ronald Ross's discovery of the malaria plasmodium, with the secret help of Mangala.²

For the purposes of the present analysis, I will deal mainly with the 1995 Calcutta timeline. Here, Murugan and Urmila, a journalist for the *Calcutta* newspaper, are the protagonists of the investigation on the activities of the counter-science group. Both characters are in search of a story to tell. Murugan has been looking into the medical history of malaria and into the mystery of the sect for years, Urmila would like to write a piece on Phulboni, a famous but enigmatic writer. They meet for the first time on the 20th August 1995 at the Rabindra Sadan Auditorium, during a conference by Phulboni. Murugan stops there by chance, on his way to the Presidency General Hospital, where Ronald Ross's laboratory once was. The day after, they meet again and start an investigation throughout the city, which will lead them closer and closer to the sect. The path the two characters follow throughout the city is interesting for three main reasons. First, it connects different parts of Calcutta and different social classes. Second, it sheds light on forgotten stories and places. Third, it depicts the city in an unusual manner.

At the beginning of his investigation, Murugan rediscovers Ronald Ross's memorial and his abandoned laboratory at Presidency General Hospital, near the city's main park, the Maidan. There, Murugan finds a first hint about the existence of the sect, a small statue portraying a woman holding a pigeon and a microscope. Instead, Urmila starts her itinerary from actress Sonali Das's residence in Alipore, a neighbourhood inhabited by industrialist and business élites of the city. After that, Urmila goes back to her middle-class family apartment in Rash Behari Road. The next morning, Urmila meets Murugan outside Romen Haldar's residence, still in Rash Behari Road. The couple goes back to the Presidency General Hospital and, from there, moves to Kalighat, a neighbourhood famous for its Kali temple and for being inhabited by many statue makers, specialised in sacred images. A craftsman from Kalighat likely

² The complex interlacing of the novel's narrative strands and the intricacies of its plot have been amply discussed by Thieme (2003) and Vescovi (2017).



made the statue Murugan found at the hospital, and indeed the two characters discover that many artisans are members of the sect. For this reason, Urmila and Murugan succeed in gathering information only from a child, who informs them that “today is the last day of the puja of Mangala-bibi. Baba says tonight Mangala-bibi is going to enter a new body” (Ghosh 2008: 200). Urmila’s journey from upper middle class Alipore to popular Kalighat connects different social classes in the city. In addition, the novel presents Kalighat – usually the centre of Kali’s cult – under a new light. Mangala’s sect seems to have replaced the goddess in popularity and has a considerable number of adepts. Later, Urmila and Murugan end up in Robinson Street 3, in the neighbourhood once inhabited by the British, and where Ronald Ross used to live. Murugan’s investigation into Ronald Ross unearths stories and places of Calcutta’s colonial history which were completely forgotten.

Partially guided by the sect itself, the whole itinerary appears to be some kind of initiation for Urmila to enter Mangala’s group. The conditions for her initiation are two, first to be able to cross borders, second to succeed in putting together all the hints and traces that lead to the sect, because it will never reveal itself otherwise. Let us set the latter aside for now, as we will discuss it in more detail in the next section of this paper. In Urmila’s case, border crossing means first going across different areas of the city and getting in touch with different social classes. Although limited to the city of Calcutta, this social and geographical rite of passage anticipates the crossing of the ontological and epistemological border which the admission to the sect represents. Indeed, the “Calcutta chromosome” discovered by Mangala’s group is a way to transmigrate the essence of a human being from one body to the other. In a second instance of border crossing, Urmila will then access a new level of existence and become Mangala’s new reincarnation.

Furthermore, along her path, the journalist dwells in liminal spaces, an act which foregrounds the transformative use of the margins that the sect makes. At Ross’s abandoned laboratory, Urmila finds herself in a “test tube” (Ghosh 2008: 188), a world separated, yet not completely, from the outside. There she realises – through the sexual encounter with Murugan – the possibility of “something new, something which she knew was going to change her [...]; something that was happening in ways that were entirely beyond her own imagining, and which she was powerless to affect in any way” (ibid.). The forgotten laboratory, placed in an in-between, partially removed from the outside world, is one of the many spaces in the novel, which allow some kind of transition, of change. These liminal and marginal spaces are often in an abandoned, removed or disregarded position. However, for the sect, they provide a possibility for transit, change and border crossing. To paraphrase Bhabha, it is in these liminal spaces that the sect “begins its presencing” (1994: 5). For example, in the 1995 timeline, the group uses an abandoned colonial mansion on Robinson Street to perform the ceremony for Laakhan’s new reincarnation. Moreover, as we shall see, it is from the margins, i.e. abandoned and disregarded positions, that the sect builds its own knowledge, its own (hi)story.

Border crossing is the functioning mechanism at the basis of every activity of the counter-science sect. On the one hand, Mangala’s group gathers people from different



social classes, religions and nationalities (Antar is most likely an Egyptian, Mrs Aratounian, Mangala's incarnation in 1995 Calcutta, is Armenian). On the other hand, the counter-science does not care about the disciplinary divisions which characterise Western science. Years ahead of traditional science, the group discovered the malaria plasmodium, how to cure syphilis with malaria, and the "Calcutta chromosome", i.e. how to reincarnate in someone else's body, thus bridging the difference between the Self and the Other. Interestingly, the mutation does not cancel the receiver. On the contrary, the receiver's self adds up to the migrant's, in order to create what Tuomas Huttunen defines "a new mode of being" (2011: 2), which transcends political, social, religious and geographical divisions.

As such, the counter-science represents an epistemological and ontological shift with respect to traditional, Western science. What starts at the level of a simple geographical border crossing, becomes an alternative way to approach and experience reality. In particular, the annihilation of the difference between the Self and the Other shakes the very basis upon which the modern scientific understanding of the world relies. However, it is worth pointing out that the counter-science is alternative, but not opposite to Western science. Although Mangala's group embraces a different idea of the world, it puts forward its research through the means of traditional science. In a similar manner to what Dipesh Chakrabarty discusses in *Provincializing Europe* (2000), the refusal of the logic of the Enlightenment – closely connected to colonialism and theories of racial superiority – does not necessarily imply a complete rejection of Western forms of knowledge.

THE LABYRINTH, SILENCE AND KNOWLEDGE TRANSMISSION

Another condition for Urmila's initiation appears to be the capacity to put together all the hints and traces that lead to the sect. It is a process that works in two directions at the same time. On the one hand, Urmila is curious about Phulboni and the sect, and starts looking into it. On the other hand, the sect "lures her in" by putting before her hints and traces that apparently do not seem to obey any logic, but ultimately lead Urmila directly to Mangala's group. John Thieme labels this twofold process as the "discoverer discovered" in that "throughout the text readers are made aware that the borderline between discoverers and those who are discovered is an extremely porous one" (Thieme 2003: 139). This system works on several levels, including that of readers' reception (141), and relies on "a labyrinthine network of traces" which foregrounds "social and ideological specifics" in the novel (129).

Calcutta's streets are the geographical incarnation of this labyrinth. Still nowadays, the city is famous for its poorly planned and chaotic organisation (Chatterjee 1990: 133). However, the novel relies less on this feature than on the rediscovery and transformation of otherwise known areas. As Barbara Romanik points out in her essay, *The Calcutta Chromosome* enacts a subversion of the colonial organisation of the city, which, above all, entailed a strict separation between the British and the natives (Romanik 2005). Mangala's group takes control of places



thought to be reserved to the colonisers, and transforms them. It is the case of Ross's laboratory, where Mangala conducts her own counter-scientific research, and which becomes the headquarters of the sect. Similarly, Kalighat ceases to be the seat of Kali's devotion and a renowned artisan area, to become a centre of Mangala's cult. This process of rediscovery and transformation implies that the city should not be read in the usual manner to access the counter-science. The right path towards the centre of the labyrinth entails not so much the discovery of hints and traces, as learning a new way of interpreting them.

In "From the Tree to the Labyrinth", Eco argues that the labyrinth represents a model for the encyclopaedia,³ and identifies three different varieties. The classic Cnossos labyrinth is unicursal, i.e. there is only one path to the centre and back. However, this variety cannot be a model for the encyclopaedia, as knowledge does not come as straightforward. Instead, the Mannerist labyrinth or "Irrweg" presents alternative choices, among which only one leads outside the maze. Unrolled, it resembles a flow chart, and thus can represent an encyclopaedia. The third one is a network or rhizome, in which "every point may be connected with any other point" (Eco 2014: 52, 53). According to Eco, this last one represents an "open-ended conception of knowledge", which characterises modern episteme (55). The labyrinth at work in *The Calcutta Chromosome* stands at the intersection between the Mannerist and the rhizome type.

Indeed, the alternative episteme of the counter-science is accessible only through the correct interpretation of the hints and traces which lead to the centre of the maze. To all those excluded from the sect, the labyrinth leads nowhere and Calcutta appears as a city steeped in secrets and silence. The speech that Phulboni gives at the Rabindra Sadan Auditorium at the beginning of the novel is particularly significant in this respect:

Every city has its secrets [...] but Calcutta, whose vocation is excess, has so many that it is more secret than any other [...] here in our city where all law, natural and human, is held in capricious suspension, that which is hidden has no need of words to give it life; like any creature that lives in a perverse element, it mutates to discover sustenance precisely where it appears to be most starkly withheld – in this case, in silence [...]. For more years than I can count I have wandered the darkness of these streets, searching for the unseen presence that reigns over its silence, striving to be taken in, begging to be taken across before my time runs out. (Ghosh 2008: 22, 28)

Unlike Urmila, Phulboni knows about the existence of the sect, but has not been granted access. To the writer, the secret that Calcutta hides is the existence of the sect. Moreover, Phulboni's enigmatic language and the reference to silence point to the method that Mangala's group uses to transfer knowledge: silence itself.

³ Eco's semiotic encyclopaedia is quite different from its book or web form. In Eco's words an encyclopaedia is "a hypothetical compendium of *all* of the knowledge available to a given culture" (Eco 2014: 49, emphasis in the text).



John Thieme pointedly argues that in *The Calcutta Chromosome* silence represents both the tendency of Western discourse to deny alterity and a response to the hegemony of Western logocentrism (Thieme 2003: 130). Through silence, Mangala's counter-science perpetuates itself without the need for knowledge transmission or communication – at least not in the proper sense of the word. In contrast with traditional science, the sect does not share nor divulge its discoveries. Secret and silence shade its activities, and even the initiation does not entail a revelation through verbal or written means. Therefore, while Western discourse aims to silence the Other, in this case the subalterns of Mangala's group, silence actually empowers the counter-science by carving out a space from traditional science.

Silence and secrecy, united in the attempt to bring about a discovery without revealing information directly, are connected to the sect's belief that to know something is to mutate it. In Murugan's words:

Just suppose you believed that to know something is to change it, it would follow, wouldn't it, that to make something known would be one way of effecting a change? Or creating a mutation, if you like [...]. If you did believe this, it would follow that if you wanted to create a specific kind of change, or mutation, one of the ways in which you could get there, is by allowing certain things to be known. (Ghosh 2008: 184-185)

At the centre of the maze, Urmila and Murugan's knowledge acquisition not only increases their understanding of the sect, and changes their conception of the world, but also anticipates Urmila's mutation into yet another incarnation of Mangala. In the future, recounted through the supercomputer AVA II/e, their story works to prepare Antar's border crossing as well. This connection between knowledge and mutation is linked to the question of unknowability in the novel, as we shall see in the next section.

NETWORKS AND THE UNKNOWABLE

The third shape of the labyrinth, the network or rhizome, corresponds to the form of knowledge the counter-science seeks, and, at the same time, brings about a shift in cartographic logic. Indeed, in *La crisi della ragione cartografica* (2009), Franco Farinelli argues that the network represents a step beyond the logic of modern cartography. According to the geographer, it entails the end of both time and space as we have known them for centuries (Farinelli 2009: 194). In fact, maps are two dimensional and reduce Earth to a tabula. On the contrary, networks have three dimensions and ultimately embody Earth itself (162-163). In this sense, with networks there is no cartographic representation, but a sort of presencing of Earth itself. Through networks, Mangala's group refuses the logic of the map as relying on the notion of space as a standard measure, and on the idea of a nation State enclosed by borders but in constant expansion on the colonial frontier (82-83). Indeed, the group possesses a network-like structure, with Mangala and her assistant Laakhan as major nodes. Their



range of action comprises not only Calcutta, but also spans towards other parts of India, Egypt and New York. On an urban level, train stations are fundamental junctions for the sect's configuration. As Romanik (2005) points out, the group manipulates infrastructures – particularly colonial ones – to serve its own purposes. For instance, Renupur station is at the centre of a series of peculiar events, which aim to discourage curiosity towards the sect and its acolytes. Similarly, Sealdah station in Calcutta is the hub for the group's activities in the city, with its members suddenly appearing and disappearing, as if it were a wormhole. It is the case of Urmila and Sonali, who disappear at Sealdah station and then reappear near Penn Station in New York. The members' appearances and disappearances, together with their rapid transfer from one place to the other, give the impression of a time-space distortion or compression. In this sense, the sect blurs the boundaries between here and there, now and whenever.

This time-space distortion may resemble that enacted by the internet.⁴ Indeed, the sect employs new information technology widely, to the point that it manipulates the super-computer AVA II/e to stage Antar's revelation. However, it is important to emphasise that Mangala's group is not a metaphor for the internet, nor does its form of knowledge correspond to what the internet offers. As Eco repeatedly argued, the internet is not a semiotic encyclopaedia, because it lacks some of the qualities that the semiologist deemed fundamental for the latter to function, namely a filter system (i.e. a signpost for what is true and what is false), and the possibility of erasure and forgetting (Eco 2007; 2014: 74-78). As such, the internet results in an endless accumulation of knowledge, with no clear classificatory system. *The Calcutta Chromosome* does not explicitly state how the sect determines true from false, but it is fair to assume that such a mechanism is in place. Certainly, the counter-science possesses several different erasure devices. As a method of knowledge transmission, silence works in a completely opposite way to the internet, in that it hides information instead of providing it in surplus. In this respect, it is possible to surmise that silence deletes useless or excessive information as well. Also, the exclusion of who knows too much, or loses his right to know, such as Phulboni, functions as a sort of erasure device, by blocking access to knowledge. Indeed, the counter-science is open-ended only in that it aims at overcoming limits and barriers, but it is not accessible to everyone. Finally, there is no character in the novel that seems to possess the full picture, at least among those whose viewpoint we can access (it is not the case with the active members of the sect, whose perspective remains silenced).

Connected with the issue of a mutating knowledge, this brings about one of the central questions of the novel, the problem of unknowability. As Vescovi points out in his essay "Emplotting the Postcolonial: Epistemology and Narratology in Amitav Ghosh's *The Calcutta Chromosome*" (2017), there is a degree of unknowability in the novel, since both the implied reader and the implied author do not possess the full truth behind the events. However, Vescovi continues, this does not imply that what is

⁴ For a full discussion on the effects of new information technology on contemporary space and time, see Castells (2010).



unknowable does not exist. This is probably valid even at plot level. Indeed, we can assume that nobody, not even Mangala or Laakhan, has access to the whole truth. In other words, the encyclopaedia of the counter-science – as indeed every encyclopaedia – is not attainable in its entirety, neither by the characters nor by the implied author or the implied reader. As such, full knowledge resembles more a sum of the various branches of a rhizome which continues to expand and mutate. We may be able to know or understand parts of it, but it is impossible to grasp it in its entirety.

Ultimately, the idea that a system of knowledge developed by a group of subalterns is unattainable removes the latter from the dominant gaze of Western epistemology. While traditional science – especially in its most colonialist versions – aims to know and classify everything and everyone, *The Calcutta Chromosome* denies this possibility. The novel deems the Other, the subalterns, as unknowable, especially through fiction written by someone who is not himself a subaltern, like Ghosh. However, unknowability and silence do not deprive the subalterns of agency (Khair 2001). Indeed, the group represents a paradoxical instance of subaltern agency – in which the subalterns have control, although they still cannot speak. In this sense, silence has a historical and political meaning as well. Together with the subversion of the idea of borders as “*fabrica mundi*”, it is instrumental in placing the subalterns at the very centre of History. Undermining the way in which the subalterns are usually confined to the margins of History, *The Calcutta Chromosome* transforms borders and silence into strong points from which to take back control over historical agency.

CONCLUSIONS

Calcutta’s space representation in *The Calcutta Chromosome* is key to the understanding of the counter-science form of knowledge. Indeed, both the way in which the city appears in the novel, and the way in which the characters experience, perceive and interact with the urban space foreshadow the knowledge mechanisms of Mangala’s group. The crossing of the city’s physical borders anticipates the ultimate border crossing between the Self and Other, which the Calcutta chromosome represents. Similarly, the use of liminal and marginal spaces reflects an interest towards the transgression of physical and gnoseological borders. Finally, the labyrinthine structure of the metropolis mirrors the network-like organization of the sect and the rhizomatic nature of the knowledge it practices.

In *The Calcutta Chromosome*, Mangala’s sect builds a knowledge system which is alternative but not opposite to Western science – of which it uses some techniques and methods. However, the sect’s continuous border crossing draws a significant difference between the counter-science and traditional science, in that Mangala’s group goes beyond the limit between Self and Other, so central to Western epistemology. In addition, the sect’s use of silence as method and the rhizomatic organization of its encyclopaedia imply that full knowledge is ultimately unattainable, thus removing the subalterns from the all-encompassing gaze of Western epistemology.



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