Climate change in Barbara Kingsolver's Flight Behaviour and Liz Jensen's The Rapture

Auteur : De Menna, Cynthia
Promoteur(s) : Delrez, Marc
Faculté : Faculté de Philosophie et Lettres
Diplôme : Master en langues et lettres modernes, orientation générale, à finalité didactique
Année académique : 2021-2022
URI/URL : http://hdl.handle.net/2268.2/14756

LIÈGE université
Philosophie & Lettres

Climate change in Barbara Kingsolver's *Flight Behaviour* and Liz Jensen's *The Rapture*

Sous la direction de Prof. Marc Delrez

Année académique 2021-2022

Mémoire présenté par Cynthia DE MENNA en vue de l'obtention du grade de Master en Langues et lettres modernes, orientation générale, à finalité didactique

I would first like to thank my supervisor, Professor Marc Delrez, for assisting me during the elaboration of this dissertation and for his insightful guidance.

I am also thankful to my parents for supporting me during this journey.

Table of contents

1. Introduction

Climate change is arguably one of the most important challenges that the human population has to confront in the twenty-first century. The NASA states that "the current warming trend is of particular significance because it is unequivocally the result of human activity since the mid-20th century and proceeding at a rate that is unprecedented over millennia".[1] They also mention the various evidences of climate change: global temperature rise, warming ocean, shrinking ice sheets, glacial retreat, decreased snow cover, sea level rise, declining artic sea ice, extreme events, and ocean acidification.

Climate change is a theme that Amitav Ghosh has broached in an essay named *The Great Derangement*. As the *Encyclopedia Britannica* declares, Amitav Ghosh is a writer of Indian descent that was born in 1956 in India. Ghosh first studied at the University of Dehli in the 1970s before attending the University of Oxford where he received a Ph.D in social anthropology in 1982. He then taught at several universities before deciding to dedicate all of his time to writing. Ghosh wrote several novels as well as non-fiction works, and the British Council reports that "in 2007 Amitav Ghosh was awarded the Padma Shri by the Indian Government, for his distinguished contribution to literature"[2]. Ghosh published *The Great Derangement* in 2016, the essay discusses the theme of climate change in relation to fiction. He argues that the genre of the novel, and what he labels serious fiction, is not fit to represent climate change. Indeed, Ghosh claims that only a few writers have thematised it in their novels and that this may be due to several challenges that arise with its fictional representation. He argues that a certain taboo has been created around the topic; that the typical temporal and spatial setting as well as the individualistic side of the novel cause a problem for the successful representation of what climate change implies; and finally he argues that climate change is too improbable and uncanny for the novelistic form. It should be indicated that said challenges will further be developed later in this dissertation. However, Ghosh names two authors that have, in his opinion, successfully managed to represent climate change in the realm of the novel: Barbara Kingsolver with *Flight Behaviour*, and Liz Jensen with *The Rapture*.

As CliffsNotes writes, Barbara Kingsolver is an American writer born in 1955 in Maryland. She spent her early life in Nicholas County, a rather rural part of Kentucky and

[1] 'Climate Change: How Do We Know?'. *Climate Change: Vital Signs of the Planet*. https://climate.nasa.gov/evidence/. Accessed 18 April 2022.
[2] 'Amitav Ghosh – Literature'. *British Council*. https://literature.britishcouncil.org/writer/amitav-ghosh#:~:text=Amitav%20Ghosh%20was%20born%20in,both%20India%20and%20the%20US.. Accessed 11 April 2022.

"never laid eyes on so much as a tennis court until she went away to college"[3]. This is worth noting as, in 2012, Kingsolver publishes a novel named *Flight Behaviour* that depicts the story of Dellarobia Turnbow, a young woman living in a very rural and poor town of Tennessee, thus echoing Kingsolver's own background. CliffsNotes also mentions that Kingsolver is an author that cares about the world and thus tends to write about current social issues, as she does in *Flight Behaviour* when she thematises climate change.

On the other hand, Liz Jensen is, as Babelio puts it, a British writer who was born in Oxfordshire in 1959. On her own website, the author mentions the fact that she worked as a print and radio journalist in Hong Kong and Taiwan. She also states that she then worked in France and in the United Kingdom before deciding to become a full-time novelist. She published her first novel in 1995, and then in 2009, Jensen published *The Rapture*. The novel depicts the story of Gabrielle Fox, who is confronted to all sorts of climate phenomena after meeting Bethany Krall, a patient at the psychiatric hospital at which she works. The novel belongs, among others, to the genre of the thriller. As we know, a thriller is "a work of fiction or drama designed to hold the interest by the use of a high degree of intrigue, adventure, or suspense".[4] Therefore, it can be said that this type of novels tends to focus more on action and the events unfolding, rather than a moral reflexion.

My intention in this dissertation is to consider the theme of climate change in the novels of *Flight Behaviour* and *The Rapture* in relation to what Amitav Ghosh discusses in *The Great Derangement*. I shall argue below that Kingsolver and Jensen manage to negotiate the challenges in the fictional representation of climate change as suggested by Ghosh in his essay. Indeed, I will firstly provide a synopsis for each novel. Then, in each chapter, I shall further examine the above-mentioned challenges by developing what Ghosh has argued, and I will subsequently discuss what is done by the author to overcome, or at least negotiate, them. As *The Rapture* is a thriller and therefore less concerned with developing a moral reflexion on climate change, I will, as a result, focus more on *Flight Behaviour* in this dissertation.

[3]'Barbara Kingsolver Biography'. *CliffsNotes*. https://www.cliffsnotes.com/literature/p/the-poisonwood-bible/barbara-kingsolver-biography. Accessed 11 April 2022.
[4]'Definition of THRILLER'. *Merriam-Webster*. https://www.merriam-webster.com/dictionary/thriller Accessed 11 April 2022.

2. Synopsis of the novels

2.1 Flight Behaviour

Flight Behaviour relates the story of a woman named Dellarobia Turnbow who is trapped in an unfulfilling marriage as she lives on the property of her parents-in-law. The story begins when Dellarobia is on her way to meet her potential lover: Jimmy. Dellarobia is determined to commit adultery as she has lost interest in her life with her husband and the rendezvous with Jimmy is to take place in the woods near her house. While walking, Dellarobia notices the strange landscape around her, indeed, she notices what she first believes to be a forest fire. However, the fire does not make any sound and the temperature remains normal. This event serves as a wakeup call for Dellarobia: she realises that she cannot commit adultery and therefore decides to leave.

Dellarobia decides to not divulge this event because she cannot seem to understand what exactly she witnessed. Moreover, admitting what she saw would entail admitting that she had planned to commit adultery. During a conversation with her husband, Dellarobia discovers that her father-in-law desires to sign a contract that would allow a logging company to deforest their land for money, and this would include the place where she saw the fire. Dellarobia then realises that she cannot let this happen and that it is necessary for Cub, her husband, to see what she saw earlier. Therefore, she reminds him that they ought to know what they have before signing the contract. This prompt Cub to go on a journey in the woods with his father and a neighbour, from which they come back astonished. Then, they decide that they should all go once more so that the women can see what is up there as well, which leads Dellarobia to realise that what she saw were, in fact, butterflies. During the next Sunday Mass, Cub claims to the churchgoers that Dellarobia had foreseen the event.

The story of the miracle spreads rapidly, which attracts a lot of people who want to see it with their own eyes. Hesther, the mother-in-law of Dellarobia, wants to take advantage of this situation and charge the people that desire to see the butterflies, but Dellarobia disagrees. Afterwards, Dellarobia meets a Mexican family, the daughter of the family is in the same class as Preston, Dellarobia's son. She discovers that this family is familiar with the butterflies as they used to migrate to their hometown in Mexico. Consequently, the Mexican family would like to visit them but Dellarobia says that it is not possible at the moment. However, she promises that she will accompany them later. Dellarobia also meets a scientist named Ovid Byron. At first she does not know that he is a scientist as she believes that he is simply there to see the butterflies like many others before him. However, his field of study is related to

butterflies and he came to Feathertown to study the phenomena that is unfolding on Dellarobia's property.

Thus, Ovid Byron and his students begin to live in a camper van on Dellarobia's property to start their research work. Moreover, they pay her an allowance of 200 dollars each month to live in her garden. Hesther reports to Dellarobia that her husband Bear is not worried about the butterflies and that he wishes to sign the logging contract. She also claims that she cannot do much regarding the matter. Hesther herself is somewhat sad as she believes that her husband could wait longer. Then, Ovid and the students invite Dellarobia to spend the day with them at the butterfly site, which leads to Dellarobia learning about the work of an entomologist. They discuss the migration habits of monarch butterflies and climate change, which upsets Dellarobia.

The team is then leaving for the holidays and only Ovid and a student are set to return afterwards. Dellarobia goes Christmas shopping with Cub and an argument arises as Dellarobia feels resentful regarding the logging situation. She then notifies him that his mother is against the logging contract as well and Dellarobia hopes that this will prompt Cub to start asserting himself more. Before their departure, Dellarobia invites the scientists for a Christmas party and during this celebration, they all dance and decorate the Christmas tree with dollars. Then on New Year's Day, Dellarobia reports to Dovey, her best friend, that the scientists will be in need of extra help when they return. Even though she is not confident in her qualifications, Dellarobia wishes to apply for the assistant's job as she is genuinely interested in it. Moreover, the salary is quite decent as it is more than what her husband currently earns. Then, Dellarobia also reveals to Dovey that January 1st is the day she had a miscarriage many years ago before her first-born Preston. At some point in their discussion, Dovey calls Dellarobia "Peach" which is the nickname by which Jimmy used to call her. She discovers that Jimmy has been trying to seduce Dovey as well, which prompts the realization that Dellarobia was not special to him.

The next day, two journalists come to Dellarobia's house and ask for an interview with her. Dellarobia is somewhat reluctant at first but eventually accepts the offer. Then, they choose the butterfly site as the place for the interview and Dellarobia discusses some personal matters: for example, what she felt when she first saw the butterflies, for example. At some point, Dovey calls Dellarobia to tell her to watch CNN. CNN is broadcasting the interview, however Dellarobia realises that the journalists have edited the footage: the new interview portrays Dellarobia as a suicidal young woman who ultimately decided to remain alive thanks to the sight of the butterflies. This shocks Dellarobia and she hopes that her family will not see it.

Despite Dellarobia's lack of scientific credentials, Ovid still decides to hire her as his assistant. Dellarobia is in charge of making analyses in the laboratory and helping them in their everyday tasks. Then, she organises a meeting between the class of Preston and Dr Byron so that he can educate the children on the topic of the butterflies. Indeed, Ovid shows them the butterflies and he answers their questions as well. Dellarobia is also in charge of explaining some notions to the children.

Then, the two journalists return to Feathertown for an "after six weeks" segment. Since the first interview had gone poorly, Dellarobia does not desire to talk to them. Thus, she first tries to hide, but when she fails to do so she concludes that introducing them to Dr Byron is the best solution as he is more qualified than her to discuss the butterflies. However, the interview with Ovid Byron does not go well either as neither seem to see eye to eye.

Then, the town organises an event for the poor so that people can donate goods that they do not use anymore, such as clothes for example. That day, Dellarobia broaches the topic of their marriage with Cub and he confesses that he knows that she is in love with Ovid Byron. During their conversation, they realise that their marriage is not working, which then leads to a separation. While at church, Bear finally renounces to the logging contract, thus saving the trees on their property from deforestation.

In the last chapter, the butterflies awaken as winter is now over. Dellarobia has a conversation with her son and reports to him that she and Cub shall divorce. She declares that they will live with Dovey and that she will also start a university curriculum in the fall. Finally, Dellarobia admits to Preston that he has a brother who has died before he was born. The novel ends with the butterflies departing after the winter spent on the Turnbow's property.

2.2 The Rapture

The rapture relates the story of Gabrielle, a woman who has become disabled after a car accident. Gabrielle lives in the town of Hadport in England and works at a psychiatric hospital. The novel starts with the meeting of Gabrielle and her new patient: a young woman named Bethany Krall who murdered her own mother two years prior. Bethany had the impression that her body was dying and has therefore been undergoing a type of therapy named electroconvulsive therapy. This has a positive effect on her, but she declares to Gabrielle that she can now register certain things that she is unable to understand when undergoing electroconvulsive therapy: she sees the world on fire, for example. Bethany is not a patient who is easy to handle as she has had many psychiatrists before Gabrielle. Thus, Bethany knows all the techniques that they use in order to make a patient talk. During their first meeting, Bethany has a vision after touching Gabrielle: someone that Gabrielle knew died a horrible death, someone with whom she had a relationship. Gabrielle quickly makes sense of Bethany's vision as she is referring to the accident that that has left her in a wheelchair.

Then, Gabrielle's superior notifies her that Bethany had an unprofessional relationship with her previous psychiatrist, Joy. However, he does not disclose the details of the relationship. He simply refers to it as unprofessional and explains that it has led to Joy's departure.

When Gabrielle visits Bethany, Bethany mentions another vision that she has had during her therapy session. She claims that there will be a hurricane in Brazil on July 29th, and that October 12th is an important date as well. When Bethany and Gabrielle meet again later, she discusses the other visions that she has had with Gabrielle. These visions include events that will happen in the future and others that have already happened, which she claims to have predicted. Gabrielle then inspects the notebook in which Bethany draws her visions.

Then, one of Bethany's visions comes true: a tornado in Aberdeen. However, Gabrielle dismisses the event as a lucky guess as she refuses to believe that Bethany can predict the future. Nonetheless, Gabrielle remains troubled by the event. Thus, when she is invited by her superior to a charity event, she accepts the offer. In fact, she hopes to find someone to whom she could inquire about climate events, but most importantly she wishes to ask if it is indeed possible to predict them. At the charity event, Gabrielle meets a physician named Frazer Melville with whom she spends the rest of the evening. She mentions the case of Bethany to him and he rationalises the event: according to him, a hurricane in Brazil is unlikely. However on July 29th, the doctor calls Gabrielle to notify her that a super-hurricane is heading to Rio de Janeiro. However, it is first claimed that the hurricane shall hit the ocean and not the city. Gabrielle then goes to the hospital and sees Bethany who tells her that she never listens to her as Bethany has

predicted the earthquake that has happened in Nepal. She is now predicting another one in Istanbul on August 22nd. Gabrielle then watches the news again, they report that the hurricane is now heading in the direction of Rio de Janeiro. When the hurricane hits Rio, Gabrielle watches as the Brazilian statue of Jesus collapses before her eyes. Afterwards, she realises that Bethany had drawn the collapse in her notebook.

At a dinner with Frazer, Gabrielle once again discusses Bethany's predictions with him. Frazer Melville says that they are only coincidences, but Gabrielle is now doubting him. During their dinner, a redhead woman comes in the restaurant and talks to Gabrielle. She recognizes this woman as she has been following Gabrielle for some time. This woman is then revealed to be Joy, Bethany's previous psychiatrist. She declares that Bethany does not foresee the events but that she is the cause of them, however, her husband then prevents her from revealing more. Subsequently, Gabrielle introduces Frazer to Bethany, and at that moment Bethany foresees another climate event: a volcano eruption in Samoa on October 4th. Frazer then inquires whether he can make a copy of Bethany's drawings, and Gabrielle accepts. At a later time, Bethany is sent into solitary after an incident with Gabrielle and another patient: the incident has caused some injuries to the patient as well as to Gabrielle. Gabrielle and Frazer then begin a relationship as they kiss and have intercourse, a detail that Bethany somehow can feel when she meets Gabrielle again.

The earthquake of Istanbul is set for the next day, Gabrielle and Frazer thus wonder what they should do if it comes true, and the next morning, they are astonished to see that it has. Gabrielle tries to broach the subject with her superior, in vain as he refuses to believe her. Moreover, he is angry that Gabrielle seems to display the same type of behaviour as Joy. When Gabrielle next sees Bethany, Bethany pleads her to believe her and to help her escape. Indeed, she predicts that a new event is set to happen on October 12th, and she tells Gabrielle that she does not want to drown in the hospital. Frazer and Gabrielle wonder if they should reveal Bethany's visions to the public, as there are many risks of doing so. Frazer then reports to Gabrielle that he has a theory regarding Bethany's visions and that it is linked to electroconvulsive therapy.

Gabrielle then investigates Bethany by visiting her father without revealing her true identity. However, he ultimately discovers who she is, which angers and prompts him to make Gabrielle leave. When she next meets Frazer, he reports to her that he has sent emails to his peers regarding Bethany's predictions in order to inquire about their likelihood. Moreover, he notifies her that he shall take a six week sabbatical. The next day at the hospital, Gabrielle's superior asks to see her. He declares that he knows about her visit to Bethany's father as

Leonard Krall has called to notify him about the event. He announces that he will not renew her contract after its expiration in a month, thus Gabrielle will not be allowed to see Bethany anymore. When she returns home, Frazer informs her that he has received various responses to his emails but that, as expected, nobody believes him. Thus, they decide to travel to London in hopes of convincing people of Bethany's visions, particularly those who work for climate change associations. However, they fail to do so as the first woman that they visit does not believe them. Moreover, she notifies them that a woman, Joy, has already visited the association about Bethany. This failure negatively affects Frazer and Gabrielle's relationship as they argue and decide to return home.

When Gabrielle returns to the hospital, she discovers that Bethany has attempted suicide and will now be transferred to a new facility, which worries Gabrielle. Gabrielle then visits Frazer but notices that there is a woman with him; which prompts the assumption on her part that he must be unfaithful. The next day, Gabrielle receives a voicemail from Joy who wishes to finish their discussion and they choose to meet at a playground, and that is when Joy discloses the details of her relationship with Bethany: Joy claims that Bethany is possessed, that she threatened her, and then provoked her cancer when Joy refused to help her escape. After their discussion, Gabrielle returns home to find Frazer waiting and an argument arises as Gabrielle is still hurt from his alleged unfaithfulness. However, Frazer then declares that they must go to the hospital as he has some questions for Bethany. Afterwards, he notifies Gabrielle that he will be travelling to South East Asia but that he cannot tell her the details of it and that she must pretend that they never met that day. This angers Gabrielle as she bids him goodbye and returns to Bethany. Bethany then begs her again to help her escape as she claims that the apocalypse is imminent and that Frazer is aware of it. This prompts Gabrielle to investigate and she realises that one of Bethany drawings is related to a methane catastrophe. While researching, Gabrielle discovers an expert on the subject: Dr Kristin Jons dottir, the woman that she saw with Frazer earlier. The next day, Gabrielle's superior informs her that Bethany has been abducted from the hospital, which prompts Gabrielle to suspect Frazer.

While being interrogated by the police, Gabrielle claims that she and Frazer Melville are not in a romantic relationship. Indeed, she says that they are simply acquaintances and that she does not believe in Bethany's visions. The police notifies Gabrielle of Frazer's presence in Thailand the day before, thus implying that he could not have abducted Bethany. This piece of information unsettles Gabrielle as she was suspecting him. Later that day, Gabrielle receives two letters: one from the hospital that notifies her of indefinite suspension, and a postcard from Bethany. The postcard was sent from Edinburgh and Gabrielle decides to alert the police. She

also receives a message from a person named WG who requests to meet her. At the meeting, a man introduces himself as Ned Rappaport and he says that he is a climatologist. He declares that he, Kristin Jons dottir, and Frazer planned the abduction of Bethany as they believe her fantasises. He continues to say that they are trying to make Harish Modak, the leader of the Planetarians, join them. Finally, he says that he will take Gabrielle to Bethany but that she must return to Hadport in the evening. When Frazer returns, they all explain to Gabrielle what they believe will occur: according to them, there will be a methane leak in an offshore rig.

During the day, a police officer calls Gabrielle who is forced to lie about her location. However, the officer rapidly understands that she is lying, which prompts him to accuse Gabrielle of being complicit in the abduction of Bethany Krall, Gabrielle is now unable to return home. In order to obtain more details about the offshore rig, they all decide to give Bethany another session of electroconvulsive therapy. However, her body has become resistant to it and Bethany needs a longer session in order to have a vision. The anesthesis helping them with the therapy claims that this could be fatal to her and therefore refuses to continue. This prompts Bethany to anesthetise herself, and Gabrielle then proceeds with the therapy for 30 seconds. However, Bethany's body reacts violently after 29 seconds and she has to be reanimated. Bethany survives and that is when Harish Modak arrives.

Using Bethany's new vision, they identify the rig in the North Sea as the rig where the accident is set to occur. They also attempt to convince Harish Modak to help them, which he accepts after a long discussion. They establish a plan to warn the public and to acquire geologic evidence to support their claim. Later that day, Gabrielle and Frazer reconcile as he explains to her that he never was unfaithful. Then, Kristin calls them to say that they gathered the geologic evidence, and that they are planning a press conference. To bring attention to the Norwegian rig, Ned tagged its coordinate on icecaps in Greenland, which prompts the journalists to investigate the potential danger of methane exploitation. Then, Ned calls Gabrielle and Frazer to inform them that the police raided the apartment of the anesthesis and that they must leave. He continues to say that they must drive south, to London, and that he will meet them with a helicopter. Bethany, who is with Gabrielle and Frazer, informs them that she had a vision of them in a place that she then recognizes as the stadium in which they hold the para-Olympics games. The news report that animals are behaving peculiarly and Frazer says that they are able to feel the upcoming catastrophe. Then, they see that journalists are interviewing Bethany's dad at the stadium to which they are heading. Consequently, there are hundreds of people who are there to pray, therefore rendering impossible the landing of a helicopter. Moreover, as there is no phone signal, it is also impossible for them to warn Ned. As they are still sought by the

police, Frazer and Gabrielle attempt to be discreet at the stadium as to not be recognized. However, Bethany then has an episode, which alerts the ushers present who then recognize Frazer, Gabrielle and Bethany. Suddenly, the news report that the scaffolding of the North Sea rig has collapsed.

Frazer and Gabrielle attempt to convince the ushers that Bethany is there to beg for forgiveness and the ushers finally decide to accompany them inside the stadium. However, they are separated, and Bethany is taken to her father. Bethany stands on stage pretending to seek forgiveness and ultimately exposes her parents as abusers: she claims that the abuse that they have inflicted upon her is what led to the murder of her mother. Then, Ned finally arrives and Gabrielle rushes towards the helicopter while Fazer goes to Bethany. Ultimately, they all manage to join Ned and escape via helicopter. Moreover, they are joined by other people who were present at the stadium as well and that is when the first wave of the tsunami arrives. At some point, Bethany tells Gabrielle that she is pregnant, and she suddenly commits suicide by exiting the helicopter. Gabrielle then sees the tsunami destroy the land below them and realises that it is not solely destroying the land, but also the world as she knows it. The novel ends with Gabrielle reflecting on the new world that now awaits her.

3. Chapter 1: Climate Change and the Great Taboo

Global warming is a phenomenon that is known by everyone, yet people find it hard to discuss it. As Mosko (2018) puts it: "How often do we talk about climate change to family, friends or coworkers? Probably next to never if we're like most people. We worry about it and its effects on our future lives, and yet we have difficulty talking about it." She then refers to a survey by Yale that confirms this perception. Likewise, if they are an author or an artist, it is unlikely that they will acknowledge it and thematise this theme in their work.

In 2017, Amitav Ghosh gave an interview with Steve Paulson about *The Great Derangement*, where he argues that we tend to be swamped by apocalyptic fiction that, for example, depicts the future drowning of New York but that when it comes to depicting climate change related events that have already impacted the city, such as Hurricane Sandy, authors tend to overlook it. Indeed, Ghosh says: "I don't know of a single story in which Hurricane Sandy plays a part"[5], despite the fact that there is sizeable concentration of artists in the city. It is interesting then to see that not only is this taboo surrounding climate change present in real life but it is also noticeable in the arts. This is a concern that the author has already expressed in *The Great Derangement*: "When the subject of climate change occurs in these publications, it is almost always in relation to nonfiction; novels and short stories are very rarely to be glimpsed within this horizon" (p. 7). He concludes: "It is as though in the literary imagination climate change were somehow akin to extraterrestrials or interplanetary travel" (p.7), which shows the extent of the taboo surrounding climate change in Ghosh's eyes.

Ghosh himself pleads guilty of perpetuating this taboo. Indeed, in the fifth chapter of *The Great Derangement*, he reports an anecdote that happened to him. In 1978, while he was in Delhi as a university student, he had stayed late in the library but finally decided to go home at some point. On his way home, he was hit by a devastating cyclone that would lead to 30 people dying and 700 injured. However, in the next chapter, the author says that, despite the impact this has had, "oddly enough, no tornado has ever figured in my novels" (p. 15).

Now what might be the cause of this taboo? Mosko (2018) expresses the interesting idea that climate change has been politicized and that it is an issue that tends to cause divisions among the population, in a context where "many of us were raised in a bygone era where talking politics (and religion) was considered simply impolite" which could explain this unwillingness to discuss global warming. Ghosh, for his part, tends to link this taboo with the implausibility

[5] Paulson, Steve. 'Where's the Great "Climate Change Novel"? A Conversation with Amitav Ghosh'. *Los Angeles Review of Books*. 22 September 2017. https://lareviewofbooks.org/article/wheres-the-great-climate-change-novel-a-conversation-with-amitav-ghosh/. Accessed 16 April 2022.

surrounding climate change, a point echoed by Mosko too. She also says that "human nature deserves only some of the blame; our politicians and the media are also culpable. Both have participated in the devaluation of science." Interestingly, we shall see that the culpable role of the media in sustaining the taboo around climate change is thematised by Barbara Kingsolver in *Flight Behaviour*.

However, Mosko's (2018) quote shows that politicians are culpable of this as well. Indeed, she proceeds to claim that "the complicity of politicians and the media in ignoring climate change was blatant during the 2016 election season in the U.S." and that "both our elected representatives and the media are entrusted with keeping the public informed about the important issues impacting our individual lives and the nation as a whole. This should include straight talk about climate change solutions at every opportunity." This reflection on the role played by the political world in this taboo is an aspect that Ghosh investigates as well. In the eighth chapter of the third part entitled "Politics", Ghosh states that 2015 was a year in which there were a lot of disturbances related to climate change but that unfortunately there were not many works of literary fictions that then decided to focus on the problem. However, Ghosh states that there were two important publications on climate change: an encyclical letter entitled "Laudato Si'" that appeared in May, and then the Paris Agreement that was published in December of the same year. As we know, "the Paris Agreement is the first-ever universal, legally binding global climate change agreement, adopted at the Paris climate conference (COP21) in December 2015."[6] Needless to say, it was a very important step in the fight against climate change. However, if one takes a closer look like Ghosh does, some peculiar observations can be made about the agreement and the Pope's letter. Indeed, Ghosh says that they "are not at all similar, even though they rely on many of the same materials and address some of the same subjects" (p. 202), however much can be perceived as "a vindication of climate change" (p. 202) as both of them are "founded on an acceptance of the research produced by climate change" (p. 202). The first difference lays in the writing, indeed Ghosh says that it would be expected for the letter to "be written in an allusive and ornate style" due to its religious nature and that "the Agreement would, by contrast, be terse and workmanlike". Interestingly, Ghosh indicates that the opposite is true and that it is the letter that tends to be simpler to read. These passages show that there is a certain gatekeeping that can be perceived in the Agreement as the diplomats and politicians that have written it used a highly complex

[6] 'Accord de Paris'. *Commission européenne*. https://ec.europa.eu/clima/eu-action/international-action-climate-change/climate-negotiations/paris-agreement_fr. Accessed 24 December 2021.

language. This, in turn, hampers the reader's comprehension. This is all the more striking when we consider that this text is supposed to provide information on how we shall reduce the impacts of climate change, therefore it should be understandable to all. Then, Ghosh explains that the Pope in his letter does not hesitate to discuss past positions of the Church and the role that they have played in climate denial and therefore in maintaining the taboo. Indeed, Ghosh says that the Pope has mentioned "the matter of reconciling an ecological consciousness with the Christian doctrine of Man's domination over Nature" (p. 206), and that the he also does not hesitate to denounce some prominent models of our era. However, when Ghosh takes a closer look at the Paris Agreement, the same cannot be said. Indeed, Ghosh says that "there is not the slightest acknowledgment that something has gone wrong with our dominant paradigms" (p. 206). This passage implies that there is a certain taboo in the Agreement as it refuses to produce a critique of the role we, as a society, have played in climate change. The agreement is supposed to be a very important political text about climate change, and yet some aspects of the matter tend to be disregarded. Ghosh also demonstrates that these aspects that tend to be disregarded also lie in the solutions offered. Indeed, the Agreement offers "the aspirational goal of limiting the rise in global mean temperature to 1.5 degrees Celcius" (p. 205), which is a goal that Ghosh considers to be impossible as it is "a target that is widely believed to be already beyond reach" (p. 205). Ghosh also states that it is believed that the Agreement's targets "are founded on the belief that technological advances will soon make it possible to whisk greenhouse gases out of the atmosphere and bury them deep underground" (p. 205). However, "these technologies are still in their nascency" and "only a remote possibility" (p. 205). What these passages show is that, not only does the Agreement not allow everyone to thoroughly understand the text and its implication, but the goals that are presented are known to be unrealistic and therefore unlikely to be achieved. Through this analysis, Ghosh demonstrates that the taboo is not only present in literary fiction, or in the media as Mosko demonstrated, but that it also exists within the political discourse.

It can be said then that the taboo surrounding climate change is one of the first challenges that hampers the fictional treatment of the theme. It is then fitting that Barbara Kingsolver should thematise this in her novel, most specifically by relating it to the media and scientific discourse through different characters. We will also argue that this thematization can be considered the approach Kingsolver has privileged to negotiate this first challenge. By contrast, this taboo is not a subject that Liz Jensen broaches in *The Rapture*, so that we will focus on Kingsolver's novel in this chapter.

3.1 In the Media

Barbara Kingsolver broaches and represents this taboo in Flight Behaviour in different manners. First, she depicts her main character as someone who does not believe in climate change at first as she wonders if it was proved because "she knew to be wary of that" (p. 202). However, as the book progresses Dellarobia becomes more and more involved with the scientists and starts believing in climate change but her family is still on the fence about it. When Dellarobia tries to talk to her husband Cub about this topic, he automatically snorts and says that the phenomenon is not called "global weirding" (p. 361) and that the "weather is the Lord's business" (p. 361). What is interesting in this passage is that, when Dellarobia refers to global warming, Cub makes another striking statement: "Al Gore can come toast his buns on this" (p. 361). It turns out that this is a line that a radio host called Johnny Midgeon says every time there is a winter storm. This is of course by way of making fun of Gore's beliefs and activism. If Al Gore claims that temperatures are rising then he can try "to toast his buns" (p. 360) on these winter storms because according to some people these cold temperatures prove that climate change is not real. This short but meaningful passage in the book can be seen as an approach that Kingsolver takes to portray the culpability of the media in enabling the taboo around climate change. Indeed, the author depicts a radio host such as Midgeon who makes such a claim every time there is a storm to show how the media can participate in ridiculing the environmental movement as well as eco-activists and scientists.

There is another passage in the book in which Kingsolver depicts the role that the media plays in perpetuating the occultation of climate change. At some stage Dellarobia reflects on the reasons why her husband does not seem to trust Ovid and the other scientists, and she says that it was normal that there was some sort of distrust because "they couldn't close out the whole world, maybe, but they could sure find something on their TV or radio to put scientists or foreigners or whatever they thought he was in a bad light" (pp. 356-357). This passage shows how some channels on TV or radio do indeed portray scientists negatively leading to a sort of distrust between them and the population. This passage can be linked to Mosko's claim that the media have contributed to the devaluation of science, and it therefore can also be said that this is one of the ways in which the author depicts the climate change taboo when she relates it to the media. Indeed, they are more focused on portraying scientists negatively and devaluating science instead of actually discussing the climate change issue. This is further proven when Kingsolver evokes the climate denial that results from the media's disregard of the topic. Indeed, later in the book, whilst Dellarobia is having a conversation with Ovid Byron, she tells him "my husband, guys on the radio. They say it's not proven" (p. 442). The above-mentioned

passage about Al Gore illustrates Cub's interest in these radio programs, therefore it can be said that their disregard of climate change and scientists is one of the reasons why Cub is a climate denier. Moreover, climate denial can be linked to the climate taboo as not believing in climate change can directly result in not wanting to discuss it. Indeed, as Mosko (2018) says, what the media do "results in some people being unaware or suspicious of some basic facts." Then, Kingsolver goes as far as to claim, via Ovid's wife, that the reason why the media does this is because some corporations want them to. Indeed, at a dinner hosted by Dellarobia, Juliet says that climate denial is "introduced from the outside, corporate motives via conservative media." (pp. 543-544). This is not the first time that Kingsolver makes such claim, as she has already broached it in a previous part of the book, which will be demonstrated in relation to the next episode that will be discussed now.

The most striking way in which Kingsolver decides to depict the taboo surrounding climate change and the media's role in it, is through the character of Tina Ultner. Tina is a journalist who, with her colleague, decides to interview Dellarobia about the butterflies that are on her property when the story has gained some sort of popularity. They go near the butterfly site to do the interview and Tina tells Dellarobia: "Say whatever you want. Whatever you think is important" (p. 284). The first sentence of the interview already shows that the journalists might not be as interested in the science behind the phenomenon as one would think. Dellarobia then mentions that there is a scientist, Ovid, who came to her house and that he should be interviewed because "he knows everything there is to know about these butterflies" (p. 285). Dellarobia therefore asks Tina if she can return later to discuss the butterflies with him, to which Tina responds: "Maybe, sure. Absolutely. But for right now, let's just be here" (p. 285). This passage further supports the claim that the journalists and therefore the media are not interested in the scientific and rational explanation for the abnormal migration of the butterflies but that they are after another story. Indeed, this can be seen when Ultner's questions get somewhat more specific, and the journalist says: "What we want is to be up close and personal with Dellarobia. Tell me about the first time you saw the butterflies. What did that feel like?" (p. 285). Tina here reveals her liberal preference for an individualistic grid of reading: what she wants is a more personal story. She tells Dellarobia that the phenomenon is special to her and that what they have been hearing was that she had a vision and that they want to know what happened on the day of the miracle. Then, Dellarobia starts vaguely evoking her affair with Jimmy and what made her go to the mountains that day. Indeed, she says that "[she] was running away from things. That's the long and the short of it" (p. 287), and when Tina asks exactly what Dellarobia was running from, she says: "My life, I guess. I couldn't live it anymore. I wanted

out. So I came up here by myself, ready to throw everything away. And I saw this. This stopped me" (pp. 287-288). This gets Tina interested as she asks how exactly that stopped her, to which Dellarobia responds: "I don't know. I was so focused on my own little life. Just one person. And here was something so much bigger. I had to come back and live a different life" (p. 288). However, after this Dellarobia starts regretting confessing this to the journalists because she says that it is too personal and that she does not want her family to hear what she said, therefore she concludes her little tirade by telling Tina: "So, that's off the record, we cut all that and start over, right?" (p. 288), and Tina reassures her by saying: "Absolutely" (p. 288). However, the following day, Dellarobia sees that Tina did not listen to her request and that she had manipulated the footage of her interview. Indeed, Dovey calls Dellarobia in a panic and tells her to turn on the TV and to go to CNN. While Dellarobia tries to turn on the TV, Dovey tells her that they are saying that she had tried to kill herself which shocks Dellarobia. Then she asks Dovey to repeat what she had just said and Dovey says: "You were on your way to jump off a cliff or something, and saw the butterflies and changed your mind" (p. 290). Dovey says that they have also shown the Turnbow's neighbour and that he had referred to Dellarobia as the "sole voice of reason, or something like that, against [her] family" (p. 290). These passages show not only that Tina and her colleague have used the footage that Dellarobia had specifically asked them to not show but also that the journalists have manipulated the footage to fabricate a story that is not even remotely close to the reality: indeed, Dellarobia did say that she was trying to escape from her life but she has never claimed that she wanted to commit suicide. Through these passages, it can be seen how Barbara Kingsolver portrays the mainstream media as an institution that is not interested in science, facts and rationalization but that is rather interested in fabricating stories that will be appealing to the general public. It is also striking that Kingsolver has decided to choose CNN as the news channel through which this story is transmitted as CNN is not only a channel that exists in our world but it is also one that is very popular in the United States. The implication of one of the most popular news channels in this sort of manipulation suggests that not only small corporations and channels lie to the public but that bigger corporations that would be considered as more serious are responsible for this as well.

This unwillingness of the media to concern themselves with facts is also an aspect that Kingsolver broaches through the point of view of the scientists in the novel. Indeed, when Dellarobia broaches the subject of the journalists with Ovid and Pete, she says: "I keep telling them they need to talk to you. I swear, I do. Talk to Dr. Byron, because I'm no expert" (p. 316). Pete claims that it is "why they talk to [her]. Because [she doesn't] really know anything" (p.

316). Pete adds that “they just don’t want to talk to a scientist. It would mess with their story” (p. 317). Moreover, when Ovid mentions the fact that the job of a journalist consists in collecting information, Pete says: “That’s what we do. It’s not what they do.” (p. 317). Then, when Dellarobia asks him why journalists drove all the way to her house if they do not care about collecting information and the right facts, Pete says they only want “to shore up the prevailing view of their audience and sponsors” (p. 317). In all, the author portrays the media as institutions that are unwilling to challenge the comfortable way of life of the public. She thus represents the taboo that surrounds climate change as part of a vested interest for the power that be, which are served by the media. By contrast, by dint of this exposure, Kingsolver herself is of course trying to break the strategic silence organized around the issue.

Another interesting aspect that should be noted is that Kingsolver introduces another underlying cause of this taboo. At some stage, Dellarobia says that “if people played their channels right, they could be spared from disagreement for the length of their natural lives. Finally she got it. The need for so many channels” (p. 357). This passage can of course be interpreted in the light of the above-mentioned role of the media. However, by putting this passage in relation to Mosko’s article, Dellarobia’s words can be interpreted from another angle. One of Mosko’s (2018) claims is that:

> The human psyche is resistant to tolerating for long the kind of unease one feels when thinking head-on about the terrifying consequences of unchecked global warming, such as accelerated species extinctions, spread of diseases, mass human migrations, and increases in social unrest and wars. The urge to veg out instead in front of the TV is understandably very human.

What this passage entails is that, despite Mosko’s critique of the media’s role in devaluating science and upholding the taboo, there is a personal responsibility involved as well. Consequently, the media may not be the sole party at fault. Thus, in the light of Mosko’s argumentation that the “terrifying consequences” are not fit for the human psyche, it can be said that when Dellarobia mentions this human need for many channels, it is also due to people not wanting to face the negative consequences that climate change entails for humanity. This point of view is interesting to consider when examining a previous passage in the novel. At some point, Dellarobia discusses the abnormal migration of butterflies with Dovey, she tells her: “I mean, what in the world would make that happen now, when it never did before? Maybe it’s something we ought to be worried about” (p. 264). Dovey then deflects Dellarobia’s reflection by saying: “Children, get with Jesus, it’s the End of Days” (p. 264). When Dellarobia complains

about Dovey's joke, Dovey says that Dellarobia is "a downer" (p. 264). Then a few pages later, she says:

> You should see what I do at work—the meat counter is guilty-conscience central. People with 'heart attack' written all over their faces, buying bacon. Or these hateful old ladies commanding me to get them a twenty-pound Thanksgiving turkey, like that's going to bring the kids back home this year. The human person cannot face up to a bad outcome, that's just the deal (p. 270)

With this passage, Kingsolver expresses the same reflection as Mosko's on people's unwillingness to consider negative future events. Granted that Dovey's claim is more general than Mosko's, who focuses on the topic of climate change. However, it is still relevant when discussing climate change in *Flight Behaviour*. People are unwilling to discuss climate change because they refuse to think about possible catastrophic outcomes, and this is strikingly observable in the passage in which Dovey starts deflecting after Dellarobia broaches the possible worrying connotation of the butterflies.

In an article, Boykoff and Rajan (2007) reported on the coverage of climate change by the mass media in the USA and the UK. They reported that articles on the subject have been written as early as the 1950s when "the two spheres of climate science and mass media finally came together" (p. 207). Indeed, they write that "Robert C. Cowen wrote an article for the *Christian Science Monitor* called 'Are Men Changing the Earth's Weather'" (p. 208), and that it was published in 1957. In their article, Boykoff and Rajan (2007) show a graph that demonstrates the number of newspaper articles on climate change from 1988 to 2006. What this graph shows is that, since 1999, the number of articles on the subject seems to have increased in the United States, with 750 articles in 2006 whereas there were less than 250 articles in 1988. This rise seems all the more important in the United Kingdom considering the fact that, in 1988, the number of articles on the matter was inferior to the one of the US. Surprisingly, more than 2000 articles can be found in 2006. What this demonstrates is that a great deal of articles exist on the subject of climate change, despite the media's reluctance to discuss it. Therefore, it would be wrong to claim that climate change is banned from the media altogether, and this is a nuance that Kingsolver tries to convey in her novel as well. Indeed, when Dellarobia, Ovid and Pete have a conversation on the differences between the notion of cause and correlation, Ovid says: "And there you are, Dellarobia. Ahead of half of my college students" (p. 336), to which Pete responds: "And all journalists" (p. 336). Ovid claims that it is only "some journalists" (p. 336), a statement with which Pete disagrees when he proceeds to

ridicule the media by imitating them: “New proof! Pete shouted. Facebook use lowers kids’ grades! Breast implants boost suicide rates! Smiling increases longevity!” (p. 336). However, a common ground is finally found when Ovid says: “Many journalists” (p. 336). What these passages show is that despite many journalists devaluating science, it can be said that there is still a handful of them that are willing to discuss the topic of climate change as implied by Ovid and Pete’s diverging opinions. However, they may not have the greatest audience due to people’s refusal to consider climate change because of its frightening consequences, as it was exemplified above, and because they may be discouraged to do so by their sponsors. Kingsolver thus portrays in her novel that, even though the media plays a significant role in the upholding of this taboo created around climate change, this statement should however be nuanced as journalists that wish to break the taboo also exist. The discrepancy highlighted by Boykoff and Rajan between the United States and the United Kingdom in the number of articles that cover climate change could suggest that the taboo is less prevalent in the United Kingdom than it is in the United States. However, it should be noted that the authors do not explain in the article why this might be. Interestingly enough, this divergence between the two countries is mirrored in the novels. Indeed, *Flight Behaviou*r is set in the United States and written by an American author whereas *The Rapture* is set in England and written by an English author. As we know, Kingsolver thematises this taboo in her novel and illustrate the problem that it causes whereas Jensen does not thematise it, and instead portrays a world in which natural phenomena due to climate change are shown and discussed in the media.

3.2 In Scientific Discourse

Barbara Kingsolver further thematises climate change through the inclusion of scientific discourse into her novel as it is a matter of science and scientists. In this sub-chapter, we will examine how the taboo that has been created around climate change impacts the scientists’ attitude.

In their article, Boykoff and Rajan (2007) report that:

> Research into anthropogenic effects on climate change can be traced back as far as the eighteenth century, when researchers investigated the relationship between deforestation and precipitation (Rajan, 2006; Grove, 2003), the link between variations in brightness of the sun or sunspots and temperature changes on Earth, and how specific gases in the atmosphere influence the temperature on Earth (Weart, 2003). (p. 207)

The authors proceed to report that, in the nineteenth century, researchers were already studying the role that humans played in climate change. For example, Boykoff and Rajan (2007) say that "in 1896, the Swedish chemist Svante Arrhenius speculated whether and how carbon dioxide emissions could lead to increases in atmospheric temperature and a 'greenhouse effect' (Fleming, 1998)" (p. 207). These passages show that climate change studies are not as recent as one might assume. However, it should be mentioned that, at that point, scientists did not all approve of the existence of climate change as there was not any consensus. However, the same cannot be claimed anymore. In fact, in an article, van der Linden, Leiserowitz, Feinberg and Maiback (2015) report that:

> The scientific consensus that human activities are the primary driver of global climate change is now unequivocal. This consensus is found not only in the latest Intergovernmental Panel on Climate Change (IPCC) report, but also by several different studies, including surveys of experts and comprehensive reviews of the peer-reviewed literature on climate change. All of these methods converge on the same basic conclusion: at least 97% of climate scientists have concluded that human-caused climate change is happening. (p. 1)

Moreover, this is an opinion that Ovid shares in *Flight Behaviour*, as he tells Tina Ultner: "I'm afraid you have missed the boat, Tina. Even the most recalcitrant climate scientists agree now, the place is heating up. Pretty much every one of the lot. Unless some other outcome is written on the subject line of his paycheck." (p. 505). If there is a scientific consensus on the existence of climate change, it would then only be legitimate to wonder why this same consensus has not reached the population. Indeed, van der Linden, Leiserowitz, Feinberg and Maibach (2015) report "that although a scientific consensus on this basic fact has been reached, much of the public remains largely unaware of this, both in the US as well as internationally. For example, only one in ten Americans (12%) correctly estimate scientific agreement at 90% or higher" (p. 1).

In the twelfth chapter of *Flight Behaviour*, Tina Ultner returns to Feathertown to do a six week after segment that is supposed to be a report on how the subject of the first report has evolved since then. As we know, Dellarobia had a pretty negative experience with Tina as she has utilised some footage without her consent to fabricate an entire story about how the butterflies have stopped Dellarobia from committing suicide. Therefore, Dellarobia does not want to speak to the journalists again so she tries to hide from them but ultimately fails. However, this time Ovid and Pete are present in the laboratory which prompts Dellarobia to

seek them so that Ovid can do the interview instead of her. Tina first wants to visit the butterfly site again as the first interview had been shot there, however Ovid tells her that it is impossible because "the follow-up in this case was that most of the butterflies were dead. Also it was too cold for them to be flying, and too late in the day" (p. 500). This detail annoys Tina as it is important for them to visit the site again "to help key in the viewer visually to the earlier story" (p. 500). She then concludes that it is not an issue as they still have some footage from the last interview and that they can "just cut the butterflies into this one when [they] do the edit" (p. 501). This does not delight Ovid as it would mean that they would make the butterflies seem to be alive again even though he has just said that most of the population was dead. It is also said that, when Tina expresses the idea of editing, Ovid looks "piqued" (p. 501). Still, despite his distrust, Ovid decides to proceed with the interview. Tina then asks him several questions but one in particular triggers a reaction from Ovid. Indeed, she tells him that "it seems everyone has a different idea about what's going on here, but certainly we can agree these butterflies are a beautiful sight" (p. 503), Ovid replies that he actually disagrees and that the phenomenon rather makes him distressed. He tells her that the butterflies' beauty should not be the message of this news report because it is "off-message" (p. 503). Tina then further asks him about the message that should be conveyed and asks if it is related to an ecology issue. Ovid responds that yes it is and it is more precisely "a biological system falling apart along its seams" (p. 504). When Tina realises that Dr Byron is implying that global warming should be the message of the sequence, she is not happy about it as she knows that it is not a subject that her audience will like. However, she still proceeds with the questions and statements, and says that scientists "are in disagreement about whether this is happening, and whether humans have a role" (p. 505). This statement irritates Ovid as he knows that all scientists actually agree on the existence of climate change as well as the role that the human population has played in it. Tina says that they are simply there to gather information, but Ovid does not agree: "If you were here to get information, Tina, you would not be standing in my laboratory telling me what scientists think" (p. 506), prior to complaining: "You have a job to do, woman, and you are not doing it" (p. 507). Thus, Kingsolver shows that Ovid does not trust the media any more than Pete. This mistrust between the scientists and the media is an aspect that can be perceived in Boykoff and Rajan's (2007) article as well: "Political, economic and other interests have long tried to influence media coverage of particular topics to affect the public's understanding and perception, and scientists are now becoming more aware of the power of the media" (p. 207). It can therefore be argued that, despite Ovid's desire to not generalize all journalists, he is however aware of their power and that it tends to make him reticent to broach the subject with

them. This mistrust of the scientists towards journalists is then presented as one of the reasons why the truth about climate change somehow fails to percolate among the general public.

However, the negative experience that Dellarobia has had with Tina is not the only reason why she wanted Dr Byron to talk to the journalists instead of her. Throughout the book, Dellarobia begs Ovid to talk to them to let them know what is happening with the butterflies and the environment because as a scientist he knows more than she on the subject but Ovid always refuses. At some point in the novel, as Dellarobia and Ovid once again discuss this, the scientist expresses his reticence to enter the public debate, as this would force him to adapt his discourse:

> If we tangle too much in the public debate, our peers will criticize our language as imprecise, or too certain. Too theatrical. Even simple words like 'theory' and 'proof' have different meanings outside of science. Having a popular audience can get us pegged as second-rank scholars. (p. 447)

This passage shows that there is some sort of gatekeeping that is happening within the scientific community: it is as if academics and scientists did not deem non-scholars as worthy of listening to, reading and understanding their expert knowledge.

This is, however, not the only comment that Ovid makes during this conversation with Dellarobia. Indeed, when she asks if this might be the reason why he will not talk to journalists, Ovid says that it is a "hazardous road" (p. 447) because many people tend to think that ecology is related to recycling and preserving the environment instead of "the study of biological communities" (p. 447). This profoundly bothers Dr Byron who says that "in my field, we can be touchy about this" (p. 447). This passage not only shows once again Ovid's dislike of the media but of the outside world as well. Moreover, it also shows that there tends to be a sort of gatekeeping of the subject of climate change that is done within the scientific community and discourse. Indeed, scientists refuse to talk to a larger audience because there is a lot of misunderstandings on the concepts that relate to climate change and the environment. It is then striking that in the same conversation, Ovid mentions the academic community as a body that can act as referees and therefore speak to everyone, but he later admits that they actually refuse to speak to a larger audience and intervene in the public debate. That is because they, firstly, do not want to be perceived as unserious scholars, and secondly, they are annoyed at the public and the media for not knowing some basic notions that relate to climate change and science. This suggests that, despite the fact that climate change is a topic highly documented in the scientific discourse, scientists may fail to efficiently communicate with the general public due

to their distrust of the media as well as the underlying gatekeeping that is present within the scientific community. Indeed, this is further perceivable in the above-mentioned quote when Ovid tells Tina Ultner that the only scientists that disagree with the consensus on climate change are ones that have some other outcome "written on the subject line of [their] paycheck" (p. 505). This passage shows that it is not only the media that may write their reports according to what their corporation wants but that scientists can also do the same. Indeed, by saying this, Ovid shows that some scientists will also disregard global warming and let themselves be influenced by the people who are paying them. This idea should however be nuanced as Ovid's quote also shows that this behaviour is not as common as "pretty much every one of the lot" (p. 505) agrees on climate change. It should also be argued that, despite this lack of efficient communication on climate change, the scientists just as some journalists wish to break this taboo that has been created around the topic. Indeed, in spite of his mistrust of the media, Ovid is aware that people should be correctly informed, and that is the reason why he agrees to be interviewed by Tina. It can be said that still, in spite of the fact that the interview was a complete failure, Ovid tried to overcome his prejudices against the media so that he could reach a larger audience and thus overcome the taboo present in our society.

3.3 Conclusion

In conclusion, in this chapter I have examined the subject of the reticence to discuss the topic of climate change and the ways in which this taboo is thematised in *Flight Behaviour*. I have firstly mentioned how Ghosh also expresses the existence of this taboo within *The Great Derangement* by saying that climate change is rarely the subject of fiction and that it rather instead tends to be the subject of non-fiction works. Even if the author tends to link this taboo with the concept of implausibility, he shows that this taboo exists and that authors rarely tend to take climate events that have already happened as a topic for their book. Moreover, Ghosh demonstrates that this taboo exists in the political discourse as well. The fact that Kingsolver and Jensen thematise, with success in Ghosh's opinion, the theme of climate change in their novels and use it as a main subject can, in a way, already represent one way in which the authors negotiate the taboo identified by Ghosh as they attempt to break it. However, it can be said that Kingsolver goes further than Jensen as she thematises said taboo in her novel. Indeed, she thematises the existence of this taboo surrounding climate change by demonstrating how it exists within the media as well as the role they play in enabling and creating it. She does this through several conversations between Dellarobia and the other characters but the most

important way in which she depicts this taboo within the media and their role is through the character of Tina Ultner. Indeed, through Tina and the conversations that Dellarobia has with other characters, Kingsolver portrays the media as institutions that despise science and portray the scientists negatively. The author also portrays the media as establishments that are more interested in fabricating stories and catering to what their bosses as well as their audience want to hear instead of reporting the scientific truth, in this case the reality behind the butterfly phenomenon. However, Kingsolver also expresses the idea that, despite this reluctance of the media to discuss the topic, there are journalists that desire to break the taboo and that we should not generalize all journalists. Moreover, she also demonstrates that the media cannot be viewed as the sole responsible party as a personal responsibility may also explain the existence of this taboo. Indeed, humans tend to disregard potential negative outcomes. Kingsolver also demonstrates that the scientists' mistrust of the media as well as the underlying gatekeeping in the scientific community may cause a lack of efficient communication on the topic as well.

4. Chapter 2: Education

The thematization of the taboo surrounding climate change in her novel allows Barbara Kingsolver to broach the theme of education as well as cultural exclusion. In this chapter, we will discuss the subject of education as it is explored in *Flight Behaviour* and *The Rapture*. More specifically we will demonstrate how Kingsolver shows the importance that education has in relation to the taboo that surrounds climate change; we will also suggest that poor people tend to be denied understanding of the topic of climate change, and we will evoke the religious exclusion that can be perceived in Kingsolver's novel but also in Jensen's *The Rapture*; and finally we will discuss how *Flight Behaviour* and *The Rapture* can serve as educational materials for the reader on top of having an entertaining purpose. We will argue that for Kingsolver these three aspects are tools that can be used to negotiate the challenge that comes with the climate change taboo while Jensen only uses the education of the reader to do that.

4.1 The Importance of Education

Barbara Kingsolver broaches the theme of education within her novel and most importantly the importance that said education has. As Dr Byron says to Dellarobia, cause is not the same notion as correlation, therefore it is hard to define whether the taboo is the cause of the lack of education or vice versa, but the link between the two topics is undeniable. Moreover, it can be argued that the choice of Kingsolver to demonstrate the importance of education can be perceived as the solution chosen by the author to negotiate and overcome this taboo in her novel.

In the scene already mentioned in the previous chapter, in which Ovid tells Dellarobia that academics are the referees, he complains that a lot of people do not know what ecology actually is. As a reminder, Ovid says that:

> Ecology is the study of biological communities. How populations interact. It does not mean recycling aluminium cans. It's an experimental and theoretical science, like physics. But if we try to make our science relevant to outsiders, right away they look for a picket sign. (p. 447)

What this passage shows is that the majority of people clearly lack education when it comes to science as they do not know what the term "ecology" means even though they themselves may well use it. Indeed, Ovid implies that people relate ecologists to protesters who promote all kind of methods, such as recycling, to save the environment. As mentioned in the previous chapter, this scene shows that academics and scientists are annoyed at non-scholars for not knowing

some basic scientific notions, but it also hints how there is a clear lack of education of the masses as well as disinformation that leads to this ignorance. This passage perfectly exemplifies the existing link between the importance of education and the taboo as it shows how the scientists' lack of efficient communication is also leading to a sort of ignorance in the population on such basic terms such as ecology.

Kingsolver also suggests that scientists can play a role in educating the masses. Indeed, I have already indicated that the media play an important role in the concealment and devaluation of science and climate change. One of the ways in which this has been shown is through the character of Tina Ultner that was depicted as a journalist who is only interested in reporting a story that will sell by displaying an opinion that will please her sponsors and audience. In the scene in which Dellarobia discusses the notions of cause and correlation with Dr Byron, after the conversation about the journalists, Ovid answers Dellarobia's question on how parasites could be the cause of the butterflies' unusual migration. He tells her that he actually does not know the answer to her question and that even though they have some hypotheses, they have to be careful because in his opinion the task of science is to measure and count and therefore they cannot jump to conclusions. As we know, Dellarobia then reflects that "the task of science was a good deal larger than that. Someone had to explain things. If men like Ovid Byron were holding back, the Tina Ultners of this world were going to take their shots" (p. 337). What this passage illustrates on top of how underwhelming Dellarobia thinks Ovid's perception of science is, is how with their knowledge, scientists actually have the power to educate the masses by sharing what they know if only they were willing to overcome their prejudices against the media. It can even be said that education is one of their duties. Having educated people that would then share their knowledge with a public that tends to be less educated could help fight this taboo that has been created. The role that educated people can play then should not be ignored, indeed when Ovid first arrives at the Turnbow's house, Dellarobia's husband Cub does not hesitate to welcome him on their land by letting him park his camper van on their property. Dellarobia says that she had rarely seen her husband make a decision without consulting his parents first, indeed she says that "she'd hardly known her husband to take a whiz without first checking in with Bear and Hester, yet he'd thrown out the welcome mat for Ovid Byron, just as she had, within minutes of meeting him." (p. 172). In this passage, Dellarobia expresses how both she and her husband were impressed at Ovid Byron when they first met him, "educated people had powers" (p. 172). Linking this passage with the previous one, it can be seen then how from a non-educated point of view such as Dellarobia's, scientists can play an important role in educating people that do not have access to a good

education. Indeed, Dellarobia thinks that educated people are powerful and that the task of science should be considered as more than just collecting data because otherwise the journalists' influence on more common people will keep being an issue. Kingsolver shows how the media's taboo on climate change can impact and influence people in a negative way, since the less educated people are likely to gather their information about the subject through said media.

Indeed, a lot of people do not have access to a proper source of education and therefore rely on the media when it comes to establishing facts about the world in which they live. This lack of education is also portrayed through the character of Dellarobia herself. When she is interviewed by Ovid for the assistant's job, he asks her all sorts of questions including about her education. He asks her exactly how much science there is her background and Dellarobia tells him there was "none", beyond "biology and stuff", as covered by the "high school" Curriculum (p. 301). She does not have a college education either and when Ovid asks her what kind of science class she attended she says that her teacher actually let the girls do study sheets while he took the boys to the gym. These two passages show that Dellarobia did not only receive little education as she herself refers to her education as "her poor credentials" (p. 302), but that her science education was very poorly handled. Indeed, Dellarobia confesses to Ovid that she had tried to go to college: she says that she went to the campus to take the entrance exam, and that she passed the English part. However, she then says that when it came to math and science "[she'd] never even heard of most of the stuff they asked" (p. 319). Dellarobia did well on the English part of the exam because she had a good teacher that was concerned with giving her students a proper teaching, however the same cannot be said about her biology teacher. Barbara Kingsolver then portrays a main character who has had little to no education, especially in the science field, and through this non-educated character she shows how a scientific education is actually important when it comes to the subject of climate change.

Indeed, as mentioned previously, when the book starts Dellarobia is not exactly a global warming believer. When Pete explains to her that the butterflies usually migrate to Mexico every year during the winter time but that each year they have to leave early because of the weather changes due to climate change, it is said: "She wondered whether any of this was proved. Climate change, she knew to be wary of that" (p. 202). This skepticism is striking when you consider the fact that, during their interview, Ovid told Tina that every scientist, even the most stubborn and rebellious, agree on the existence of global warming and its effects on the planet. Thus, as Lloyd and Rapson (2017) put this, "Flight Behaviour implies that robust education is fundamental to comprehending climate change" (p. 914). Even though it is not explicitly discussed in the novel, it can be said that Cub has received the same type of education

as his wife, since we know that he has gone to the same high school as Dellarobia, which is where they met, and that he has not been to college either. The influence of the media can therefore be seen on both Dellarobia and Cub as they represent the non-educated portion of the population. Indeed, Dellarobia herself says at some point that John Midgeon is "her main educational source" (p. 210). John Midgeon is the radio host who constantly repeats that "Al Gore can come toast his buns on this" (p. 360), for example when there is a winter storm, and typically Cub repeats this to Dellarobia when she tries to discuss the topic of global warming with him. These passages then portray two characters who did not have access to a proper scientific education, who tend to believe every idea that the media throws at them, and most importantly it shows that, when one is not educated enough, one tends not to question said ideas and therefore participate, even unconsciously, in the upholding of the taboo.

However, importantly, it is through the character of Dellarobia that Kingsolver truly shows how important and impactful a proper education can be on someone's understanding of climate change and on fighting the taboo surrounding the topic. Indeed, as mentioned before, the author starts her novel by portraying Dellarobia as someone who might not be a climate change denier but who at least questions its existence because of the lack of education that she has received as well as the influence that the media, such as Midgeon and his radio show, have had on her. However, she also portrays Dellarobia as a character who, unlike her own family and the people of her town, is open to have a conversation with the scientists as she regularly seeks them to discuss the butterfly phenomenon as well as science in general, and she even applies to work alongside them as Ovid's assistant. In an interview, Kingsolver says:

> We're still selecting our tribes and deciding who will look out for our interests. And I wanted that to play out in this character of Dellarobia, who is really in a confrontation with her tribe on all these increasingly large levels: her family, then her church, then her town, then her world.[7]

What the author says about Dellarobia is that she wanted to portray her main character as someone who eventually becomes more and more embattled in her dealings with the other characters in the book and more specifically the people of her town. Indeed, Dellarobia gradually becomes more curious about the subject of climate change and her mindset evolves as the book progresses. Shortly after the scientists arrive, Hester, Cub's mother, seeks Dellarobia to tell her that her husband has signed the logging contract. As we know, before the

[7] Young, Royal. 'Barbara Kingsolver Sets a Fire.' *Interview Magazine*, 7 November 2012, https://www.interviewmagazine.com/culture/barbara-kingsolver-flight-behavior. Accessed 4 April 2022.

discovery of the butterflies and the arrival of the scientists, the Turnbow family was becoming poorer and poorer and they were offered a contract by a company to log the trees near Cub and Dellarobia's house. Bear, the patriarch of the family, was considering accepting the offer as they had loans to reimburse, but then the contract was put on a hold for some time after the discovery of the butterflies. The fact that Bear wants to sign the contract this fast shows how uninterested he is in the butterfly phenomenon. This can be seen as one of the first oppositions that is depicted in the novel between Dellarobia and the people around her. Indeed, unlike Bear, Dellarobia seeks to interact with the scientists as soon as they establish themselves in her garden and start working there. Indeed, she offers them to wash and dry their clothes and she even accepts their offer of going to the mountains with them. Dellarobia takes an active part in their work, dividing the butterflies into squares for the purpose of computing and gender classification. Dellarobia does not hesitate to communicate with the scientists which leads to her learning new skills by working alongside them. Even though it is revealed a few pages later that, at this point, she is still not exactly a climate change believer, this does not stop Dellarobia from continuing to spend time with the scientists, to ask them questions about the butterflies and climate change, and to take the assistant job. This is why Dellarobia's point of view on climate change will evolve as the book progresses.

Indeed, the reason why Dellarobia tries to broach the subject of climate change with Cub is because he tells her that people in their town want to turn the butterfly phenomenon into some kind of theme park to attract tourists. When Dellarobia mentions the fact that this will not work because the butterflies might die because of the cold temperatures, Cub is concerned on account of the townspeople whose scheme premised on the belief that "the Good Lord supplies the butterflies, and Feathertown gets the economics" (p. 353). When Dellarobia questions this reasoning, Cub asks: "Why wouldn't our town deserve to get lucky for once?" (p. 353); in this, Dellarobia recognizes "the same naive thinking she had heartily shared in the beginning. If anything, she'd been more selfish, wanting the butterflies to be hers alone" (p. 353). Indeed "she'd been reluctant to surrender her flight of fancy to the scientists' prior claim" (p. 353). What is also said is that prior to the butterflies, she had never paid much attention to nature and natural events and that when she did it was "only to find out this so-called phenomenon was unnatural in the extreme" (p. 354). She feels the urge to explain this to Cub, but she, "hardly knew where to begin" (p. 354). What this scene shows is that Dellarobia, in the span of a few chapters, goes from wondering if climate change was real to slowly admitting that it is real and that it is the reason why the butterflies migrated to Feathertown and she even dares to introduce the idea to her husband, Cub. It can be seen then that Dellarobia's mindset is slowly evolving

throughout the book, as she even decides to leave her husband at the end to pursue a scientific education in college. However, Cub for his part fails to pursue a similar trajectory: he does not bother to try to get close to the scientists in the way that Dellarobia did. Indeed, after Dellarobia mentioned climate change to him, he could have become more curious but instead, it is said that global warming remains "a subject whose very mention now made Cub angry, as if there were some betrayal involved" (p. 416). At the end of the book he does not accompany his wife to college but instead decides to stay in Feathertown. Kingsolver shows through the characters of Dellarobia and Cub that when one receives some sort of scientific education, one's view on climate evolve, thus pointing to the importance that an education, and more specifically a scientific education, has when it comes to one's comprehension of climate change. Moreover, not only does the author thematises in her novel one of the challenges that comes with the representation of climate change, she also thematises a solution for it, notably through the evolution in Dellarobia's mindset thanks to the education she receives.

4.2 Poverty and Cultural Exclusion

Kingsolver's thematization of the censoring of climate change also allows her to broach the subject of poverty and cultural exclusion in relation to the issue. Indeed, the author decided to set her story in a fictitious city named Feathertown in a very much real American state, Tennessee, and therefore chose a rural background for her story. Kingsolver says:

> I thought a lot about culture wars and climate change. I live in a rural part of Virginia surrounded by farms and farmers. These farmers have already had one bad year after another, unpredictable hail storms and tornados. They declare it a disaster year after year. At what point do you say, "Okay, it's not a disaster; this is reality"? The people that are suffering really dramatically are also the ones that seem to want to ignore what is going on.[8]

Social exclusion, i.e. poverty, is clearly an important aspect of the novel. This exclusion can be seen through the people of Feathertown and once again through the character of Dellarobia.

Indeed, during her job interview, when Dellarobia mentions her lack of credentials to Ovid, he tells her that the fact that she has not been to college is not an issue because he is mainly seeking someone who might handle the future student volunteers. Indeed, Ovid tells

[8] Young, Royal. 'Barbara Kingsolver Sets a Fire.' *Interview Magazine*, 7 November 2012, https://www.interviewmagazine.com/culture/barbara-kingsolver-flight-behavior. Accessed 4 April 2022.

Dellarobia that on top of college students from Cleary, they are seeking high school students from Feathertown who will agree to participate. When Dellarobia hears this she cannot help but laugh: "You mean doing science on purpose, on their own time? Good luck with that one. Maybe when it comes out as a video game" (p. 305). This passage suggests that, for some reason, Dellarobia does not think that the teenagers from her small town can be interested in doing science. This comment annoys Ovid as he replies that "volunteerism is a very big part of [their] effort" (p. 305) and that "probably half [his] graduate students got their start as kids doing monarch projects" (p. 305). This surprises Dellarobia as she did not believe that children and teachers would go out to study natural phenomena, which leads to the conversation about what Dellarobia has actually done during her science classes in high school. This is when we learn that there is a clear lack of education in Feathertown which is probably paradigmatic of the situation in much of rural America. One could wonder why such lack of education exists in Feathertown, or why Ovid shows concern about this since his own children are clearly more privileged. In this sense, the passage also point to the importance of one's social background when it comes to education. Indeed, the author shows that Dellarobia, a lower-class woman living in rural Appalachia, thinks that a college educated man and scientist's children will probably learn higher math in kindergarten than teenagers in high school in Feathertown, who are more concerned about sports: "Sports. That's huge, a kid can shine if he's good at football or baseball. Probably get a job later on in the bank or something like that" (p. 307). This triggers Ovid's reaction: "Well, but it's criminal negligence, really. These kids have to grow up and run things. Larger things than a ball field, I mean. What kind of world will they really be able to make?" (p. 307). Dellarobia then says that he is actually looking at the world they would be able to make, since:

> Former Feathertown athletes had this town in their hands: the mayor, Jack Stell; Bobby Ogle; Ed Cameron at the bank, with whom she'd pleaded grace on her house loan. In his office that day they'd joked about their semester together in Mrs. Lake's class, which Ed barely passed, and the football squad he led to state semifinals. People liked and trusted such men (pp. 307-308)

These passages make the point that a proper education does not matter in Feathertown or in many other such place in the US, as being good at sports is what will make them occupy positions of responsibility in their town because people tend to trust athletes more in Feathertown. When Ovid tells her that volunteering would look good on the teenagers' college résumés, Dellarobia tells him that "kids in Feathertown wouldn't know college-bound from a

hole in the ground. They don't need it for life around here. College is kind of irrelevant" (p. 308). This passage further shows the social reality of Feathertown and how different it is from Ovid's as a college education is not necessary in Dellarobia's town. Dellarobia even tells Ovid that "there's not room at the top for everybody. Most of us have to walk around in our sleep, accepting our underprivileged condition" (p. 310). This passage perfectly illustrates once again the difference between Ovid and the people of Feathertown, including Dellarobia: Ovid comes from a more privileged background that has allowed him to go to College whereas Dellarobia and the people of Feathertown come from a poor and underprivileged background in which getting an education by going to college is not an option, even less a necessity. Dellarobia who has neither gone to college nor become an athlete, spends her life as stay-at-home mother. It can be said that the fact that the people of Feathertown do not go to college prevents them from getting an education and potentially a scientific education which then alienates them from the conversations surrounding climate change. Kingsolver comments:

> The people who are already suffering the most from a drastically unpredictable, changing climate are conservative rural farmers, and these people are at this moment least equipped to understand climate change. I wanted to know how is this happening, why is this happening?[9]

The fact that they are not equipped to understand climate change makes these people either climate change deniers or skeptics. This lack of education that stems from being poor and underprivileged is one of the ways through which the author shows their exclusion from the climate change issue.

Another way in which the author shows the exclusion of poor people from the topic of climate change is through the character of Leighton Akins, a man that visits the butterfly site and wants people to sign a pledge to reduce their impact on the planet. Akins says that "it's a list of things you promise to do to lower your carbon footprint. That means to use less fossil fuel. To relieve the damage of carbon emissions to the planet" (pp. 450-451). He decides to read it to Dellarobia because he wants her to sign it; the pledge has seven different categories: food & drink, everyday necessities, home, office, household, travel, financial. However, as soon as he starts reading the first category, some issues arise. Indeed, Akin says that they have to bring their own Tupperware at restaurants as often as possible but Dellarobia tells him that she

[9] Hoby, Hermione. 'Barbara Kingsolver: Interview.' *The Telegraph*, 22 October 2012, http://www.telegraph.co.uk/culture/books/bookreviews/9618239/Barbara-Kingsolver-Interview.html. Accessed 4 April 2022.

has not eaten in a restaurant in two years, for obvious financial reasons. Akins then skips a few rules in his list as they also fail to apply to Dellarobia and her family, until he finds one that could work. He tells her to "carry [her] own Nalgene bottle instead of buying bottled water" (p. 452), but Dellarobia tells him "our well water is good. We wouldn't pay for store-bought" (p. 452). The next rule is that one should reduce one's intake of meat but Dellarobia says that she is actually trying to increase her family's intake of meat because even though they produce their own meat with lambs, they have to subsist on a low-protein diet. Akins wants to stop reading the list but Dellarobia tells him to continue because he came to make them sign the pledge. He therefore reads to her the first rule of the next category which is to use craigslist, an internet website, but Dellarobia says that she does not have a computer. He also tells her to plan her route when she has to run errands so that she can drive less, to which Dellarobia responds: "Who wouldn't do that? With what gas costs?" (p. 453). When Dellarobia says that she wants to hear the financial category, Akins reads hurriedly some of the rules and says "I think we've got a lot of not applicable here" (p. 453). Then he continues reading the list and Dellarobia either tells him that she cannot commit to the rules or that she is already respecting them. What this scene illustrates overall is that Dellarobia is so poor that she is already doing everything that he is asking her to do. As Kingsolver indicated, rural farmers are the ones already suffering the most from global warming, yet it can be said that they are also the ones with one of the lowest carbon footprints, as this conversation between Dellarobia and Leighton Akins showed. This amounts to problematizing the current discourse about ecology, which tends to have been fashioned by the more privileged people of the affluent West.

This exclusion of poor people is also an aspect that Ghosh highlights when he compares the Paris Agreement with the Pope's letter. Indeed Ghosh says that the Paris Agreement "is indeed an Agreement of champions, authored by and for those of that ilk" (p. 208). When it comes to letter, he declares that:

> In a passage that refers to the way that decisions are made in 'international political and economic discussions' it points to the role of 'professionals, opinion makers, communications media and centres of power [who] being located in affluent urban areas, are far removed from the poor, with little direct contact with their problems. They live and reason from the comfortable position of a high level of development and a quality of life well beyond the reach of the majority of the world's population.' It is with exactly this in mind that the style of *Laudato Si'* seems to have been forged, as an attempt to address those to whom it repeatedly refers as the 'excluded'. (pp. 208-209)

He also says that "it is no secret that various billionaires, corporations, and 'climate entrepreneurs' played an important part in the Paris negotiations" (p. 209). What Ghosh highlights with this comparison between the two texts as well as the quotation from the letter is that it is usually rich people that are away from the poor that tend to make the decisions and thus said decisions only cater to them. This is therefore an aspect that Kingsolver illustrates in her novel, even if it is on a smaller scale, and it can be seen in the conversation between Akins and Dellarobia. Indeed, it has been mentioned above that he offers her gestures that are possible for him but impossible for Dellarobia as she either already does what he asks her to do or cannot do it because it would imply spending the money she does not have. Dellarobia does not do these actions because she is a climate activist but because she and her family struggle financially; which shows how Akins never even considered the point of view of poor people in the fight against climate change to create his pledge. Through this scene, the author further shows how the lower classes tend to be overlooked when climate change is being discussed.

Moreover, this idea of the connection between climate change and social classes is also echoed by Ghosh in *The Great Derangement* when he discusses the notion of climate justice. But what is climate justice? Gabbatiss and Tandon (2021) explain that "climate justice has emerged from the idea that historical responsibility for climate change lies with wealthy and powerful people – and yet it disproportionately impacts the poorest and most vulnerable."[10] In his analysis of the Encyclical letter and the Paris Agreement, Ghosh says that one of the recurrent themes in the letter is "how inseparable the bond is between concern for nature, justice for the poor, commitment to society, and interior peace" (pp. 210-211), and that "the words *poverty* and *justice* keep close company with each other" (p. 211). The author further explains that the Pope's thesis is that "a true ecological approach *always* becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear *both the cry of the earth and the cry of the poor*" (p. 211). Ghosh continues his analysis by highlighting the fact that this notion of climate justice, while prominent in the letter, is almost absent from the Agreement. Indeed:

> "The Agreement does not involve or provide a basis for any liability or compensation." With these words the Agreement forever strips the victims of climate change of all possible claims to legal recompense for their losses; they will have to

[10] Gabbatiss, Josh and Ayesha Tandon. 'In-depth Q&A: What is 'climate justice'?'. *CarbonBrief*, 4 October 2021, https://www.carbonbrief.org/in-depth-qa-what-is-climate-justice. Accessed 5 April 2022.

> depend instead on the charity of a fund that developed nations have agreed to set up. (p. 212)

Thus, since the poor tend to be less responsible for climate change due to their low carbon footprint but are yet the most impacted by it, they should be able to claim some sort of compensation. However, in this case, the lower class tends yet again to be overlooked by the more powerful and wealthy as Ghosh highlights it in the comparison between the letter and the Agreement.

There is then a sort of social determinism which is instrumental in creating one's political identity, as Dellarobia argues:

> "I'd say the teams get picked, and then the beliefs get handed around," she said. "Team camo, we get the right to bear arms and John Deere and the canning jars and tough love and taking care of our own. The other side wears I don't know what, something expensive. They get recycling and population control and lattes and as many second chances as anybody wants. Students e-mailing to tell you they deserve their A's."(p. 444)

This prompts Ovid to say: "What, you're saying this is some kind of contest between the peasant class and the gentry?" (p. 444), Dellarobia says that she did not say that, however, her discourse seems to say otherwise. She later says: "I'm just saying. The environment got assigned to the other team. Worries like that are not for people like us. So says my husband" (p. 445). Ovid then wonder if droughts and floods should not be worries for farmers and Dellarobia responds: "You think any of this is based on information? Come on, who really chooses?" (p. 445). Ovid believes that information is all that they have and that everybody chooses but Dellarobia says that "these positions get assigned to people" (p. 445) and that "if you've been called the bad girl all your life, you figure you're already paying the price, you should go on and use the tickets. If I'm the redneck in the pickup, fine, let me just go burn up some gas" (p. 445). What this scene demonstrates is that Dellarobia believes that climate change is a matter for privileged people and not the lower-class people. She also believes that these positions are assigned and therefore people do not have a say in it. It perfectly portrays how poor people are excluded from the topic of climate change but not only that, it also shows that they are aware of this exclusion as well, as "worries like that are not for people like us" (p. 445). What it also shows is how a scientist like Ovid who is part of the more privileged social classes, seems to be unaware of this

exclusion of the lower-class citizens despite the fact that he is faced with the subject of climate change often.

This exclusion can also be perceived through the lens of religion. The Church is a very important part of the lives of the citizens of Feathertown, and especially of the Turnbow's lives. Indeed, Dellarobia says that "church attendance was a condition of her marriage. Cub felt if they laid out on Sundays, his mother would either drop dead or disown him" (p. 81), and she even refers to church as "a thriving little village of its own" (p. 80). Another interesting passage in the book is when it is said that:

> This church was the biggest show in Feathertown by far. Bobby Ogle pulled people out of bed from far and wide on Sunday mornings, even from the larger town of Cleary, fourteen miles away. Dellarobia studied the backs of all those heads, the females vivid with individualized hues, the males surprisingly uniform. Three hundred people quieting down, readying themselves for what they were about to receive. The nourishment was so real to them. (p. 83)

This extract perfectly exemplifies the power that the Church has in the little town of Feathertown. The power of the Church is also an aspect that Amitav Ghosh broaches in the third part of his book:

> But the most promising development, in my view, is the growing involvement of religious groups and leaders in the politics of climate change. Pope Francis is, of course, the most prominent example, but some Hindu, Muslim, Buddhist and other groups and organizations have also recently voiced their concern. (p. 213)

A few pages later, Ghosh also says that "those with religious affiliations possess the ability to mobilize people in far greater number than any others" and that "they transcend nation states" (p. 215). Ghosh thinks that religion is a powerful tool, especially to gather people, and that it could be used to face the issue of climate change. However, it can also be seen as a tool of exclusion, as is made clear in *Flight Behaviour*. Lloyd and Rapson (2017) mention the fact that the book shows how education is fundamental for the understanding of climate change, and that lack of education works "in tandem with religious conservatism, which appears to prevent local citizens in the novel from achieving a meaningful comprehension of the threat" (p. 914-915). Contrary to what Ghosh argues, the Church in the novel tends to avoid the topic of climate change and therefore maintains the exclusion of the rural and poor people from debates about global warming. Indeed, despite the fact that the butterflies are first introduced to their

community through Sunday Mass and Pastor Ogle saying that Dellarobia "has received the grace" (p. 100), nowhere in the book does Pastor Ogle bother to discuss the subject of climate change with his congregation. There is one passage in the book where he mentions nature:

> He said the Old and New Testaments together had over a thousand passages about respecting God's earth, which seemed pretty direct. But later he blessed all those present in the hope of many things including prosperity, which kind of undermined his point. It made her feel hopeless. Not even Bobby Ogle could read those thousand passages and figure things out on a case-by-case basis. (p. 229)

Bobby Ogle thus discusses how the Bible has passages that mention respecting God's earth yet he does not link these passages with climate change and what is happening on the Turnbow's property. Thus Bobby Ogle, as a pastor, participates in the upholding of the taboo surrounding climate change by never mentioning it to his followers. Yet what is interesting there is that he also participates in the exclusion of his congregation from climate change. Given Bobby Ogle's power of influence on his community, this is clearly a pity, indeed a missed opportunity. Hence the import of what Cub says to Dellarobia while discussing global warming: the "weather is the Lord's business" (p. 361).

This religious and therefore cultural exclusion is also noticeable in Liz Jensen's *The Raputre*. Indeed, this novel presents a very influential religious group called the Faith Wave. The Faith Wave also illustrates the power of mobilization mentioned by Ghosh, as at the end of the book, when the methane catastrophe is about to happen, it manages to gather hundreds of people to pray in the stadium to which Gabrielle, Frazer and Bethany are heading. However, the way religious leaders deal with the topic of climate change in this novel is a bit different from what we noticed in *Flight Behaviour*, for Jensen tends to show that the Faith Wave are openly opposing it: "The Faith Wave lot used to see climate change as an anti-oil conspiracy cooked up to boost the power of the UN. But that's evolved. The new thinking is it's a sign we're on the brink of doomsday. Which they're keen on, because it means they'll be raptured." (p. 76). Contrary to Kingsolver who tends to stay quite evasive on the Church's opinion on climate change, Jensen shows that the Faith Wave are firmly against the scientists' explanation, as they prefer to see it as a political conspiracy and now view it as a religious event that will bring all Christians to heaven. When the news of the approaching catastrophe is made public, there are several reactions from religious people that are shown in the novel. Indeed, the preacher of the congregation called the Temple of God appears on television:

> "We're celebrating, people!" he roars, thumping the air with his fist. "We're mobilising!" The crowd roars back its applause. There are wolf-whistles and cheers. "We're celebrating the good news which the elders here have interpreted for us! We're celebrating the triumph of the Faith Wave and the coming of God's Rapture! Long have we waited! But now, praise God, the hour is at hand! Now let's have all you people back home head on down to your neighbourhood church, just like we've done here!" The congregation whoops its support. "You know what we're doing here in God's name? We're staying and praying! So join us! Stay and pray! Join the stayers and the prayers, mobilise alongside the righteous!'" (p. 261)

Even at the end of the novel, with the approach of a catastrophe that will make the global temperature of the Earth rise by four to six degrees, religious leaders are still referring to the event as a religious movement that will reward Christians. Not only does Jensen exemplify the great power of mobilization by religious movements as mentioned by Ghosh but she also shows how religious leaders purposefully deny the scientific reality of climate change and the population's involvement in it to instead use it as a way to show the truth of religion by portraying it as a biblical event to their followers. Thus, it can be said that by making climate change to be a sign of the Rapture, the Faith Wave in the novel exclude their own followers of the potential discussions surrounding climate change, making it impossible for them to fight the issue despite the fact that they are also concerned by those events. Indeed, in the novel Gabrielle says that her father used the Faith Wave to illustrate his point that moral debates had turned fanatical. It can be said that Barbara Kingsolver negotiates with the taboo surrounding climate change by not only thematising it but also by showing underlying issues that can come with it, such as the exclusion of poor people and how religious leaders can also play a part in this exclusion. Liz Jensen does not really thematise the taboo in her novel, yet she also shows the power that religious movements and leaders have and how they use it to exclude their followers from current reflections about climate change.

4.3 The Education of the Reader

Both authors help the reader educate themselves through the reading of the novels as they learn more and more about climate change alongside the characters. As Jarvis (2019) says, when "fiction provides a powerful vehicle for exploring the human condition, experiencing different lives, places and perspectives, and reflecting on choices, ethics and relationships" (p. 1). Indeed,

fiction can help challenge the ideas of the reader or educate them on a subject. Rosenthal (2020) concurs:

> It is important for literary scholars to consider whether and how fiction attuned to both the environment and to economic inequality can intervene in political discourse and possibly motivate readers to move towards reversing or ameliorating planetary damage and its devastating socioeconomic effects on the world's poor. (p. 271)

This further shows the powerful side of fiction and how it can, especially in relation to the environment, motivate the reader to improve real life conditions. This therefore shows how a novel can be used to educate the readers which then would even make them potentially inclined to change their behaviour in their everyday life.

As it has already been mentioned in the sub-chapters 4.1 and 4.2, in *Flight Behaviour* Dellarobia starts as a climate sceptic due to the lack of scientific education that she has received throughout her life because of how unimportant a proper education is considered in Feathertown. However, it was also mentioned that, in contact with the scientists, and more specifically with Ovid as he can be considered as her mentor throughout the novel, Dellarobia learns more and more about the subject of climate change and she slowly begins to view it as part of reality; she even tries to educate the people around her by broaching the subject to them, as when she tries to do it with her husband Cub. Indeed, as soon as Dellarobia starts frequenting the scientists they start explaining various details to her, such as when Bonnie says that the big question is which pack the butterflies were from and therefore where they come from. It is then said that "Dellarobia was floored to think of these fragile creatures owning the span of a continent, from Canada to Mexico, moving back and forth across the wide face of a land. Each one was so little and sure to die, yet they constituted a force, like an ocean tide" (p. 197). Kingsolver makes sure to give essential details about the monarch butterflies at the beginning of her novel, including details that Dellarobia does not know about, so that her learning about them also allows the readers, if they were not familiar with this breed of butterflies, to learn about the whereabouts of this species that is crucial to the conversation surrounding climate change in this novel. Through the characters of the scientists, the author also explains how these butterflies relate to climate change. Indeed, Ovid says that "the monarchs had to leave the Mexican roost sites earlier every year because of seasonality changes from climatic warming" (p. 202) and that this is due to the fact that monarch butterflies respond to temperature and solar cues and the risks that come with that. Pete says: "It's all they can do. It works perfectly until something changes. Like, if they're roused off their wintering grounds to fly north before the

milkweeds come up, they show up to an empty cafeteria" (p. 203). What these passages show is how the author makes sure to have the scientists explain some details and facts to Dellarobia so that she can understand what is happening better and this can be seen as a sort of education on Dellarobia's part as she then starts to work with Ovid as his assistant which allows her to learn even more. As was mentioned before, this is done all through the book until Dellarobia decides to leave for college at the end to pursue a scientific curriculum. Similarly, the reader is allowed to learn more about monarch butterflies, and about climate change and science in general, as they can learn alongside Dellarobia. It can even be said that the reader can put themselves in Dellarobia's place and become Ovid's student.

This sort of education of the main character can also be seen in *The Rapture*, though on a smaller scale. Indeed, the main character in this book is Gabrielle, a disabled psychiatrist. When she is confronted with Bethany, a young woman who claims to be able to foresee climate events, she sees nothing more than a sign of mental illness as she says that "climate-apocalypse paranoia is common among the young" (p. 18). However, when one of these predictions comes true, she is discountenanced, then she later meets a scientist at a charity event and she decides to ask him some questions to see if it is actually possible for someone to feel upcoming weather phenomena. She tells him that her patient predicted a tornado in Scotland and he says that it is a coincidence because "small tornadoes happen far more often than anyone realises. We get a lot in this country" (p. 60), while hurricanes are "getting bigger every year because of the increased air temperatures" (p. 60). This shows that Jensen uses Frazer Melville, a scientist, to introduce some details and facts about science to the main character. However, Gabrielle also learns on her own; indeed, when Frazer Melville disappears and ignores her, she decides to research the topic of methane, a powerful greenhouse gas. For example, Gabrielle says that:

> I learn that there are millions of square kilometres of it locked frozen on to the sea floor, all around the world, in the form of a crust. I imagine vast swathes of dirty sub-zero champagne. Water pressure and cold temperatures are what keep it down there. Without those, it would shoot to the surface in huge sheets, like polystyrene, and burst into flame. It is so volatile that until recently, there was no serious discussion about harvesting it for energy purposes. It was too dangerous. (pp. 161-162)

She continues researching the topic and discovers that a methane accident "is not just a theoretical possibility, but a dramatic part of geological history" (p. 162). All of these are facts that she did not know prior to meeting Bethany and Frazer and being confronted to this potential apocalyptic situation. Moreover, even if Liz Jensen does not put a huge emphasis on the

character's education, it still can be said that Gabrielle somehow gets more familiar with topics regarding climate change and climate events throughout the book. In this sense, *The Rapture* also allows the reader, even if it is on a smaller scale, to learn about those topics through the main character, Gabrielle.

What can also be indicated is that the reader does not solely learn about the phenomenon of climate change through these two books. Indeed, the thematization by Kingsolver of the taboo surrounding the topic as well as the implicit problems that come with it such as the importance of education as well as the resulting cultural exclusion allows the reader to not only learn about climate change as a climate phenomenon but also learn about the issues that may arise with it. Jensen also shows the cultural exclusion of religious groups from climate change conversations, as Schneider-Mayerson (2018) remarks:

> As ecocritic Antonia Mehnert notes, literature explicitly focused on climate change "gives insight into the ethical and social ramifications of this unparalleled environmental crisis, reflects on current political conditions that impede action on climate change, explores how risk materializes and affects society, and finally plays an active part in shaping our conception of climate change." (pp. 474-475)

Schneider-Mayerson (2018) studied the influence of climate fiction on the public by choosing a list of climate fiction works and by conducting a survey. Two of the works that he has chosen are *Flight Behaviour* and *The Rapture*. The article uses testimonies of readers and it is said that *Flight Behaviour* "made [them] realize that every single thing is affected by climate change" (p. 485) or that some were

> surprised by the social, cultural, and political repercussions of climate change—not the scientific facts of drought, sea level rise, and species extinction, but their potential impacts on everyday life and the "structure of feeling" of a near future in which climate change is an undeniable, palpable presence. (p. 486)

Flight Behaviour and *The Rapture* can be seen as didactic tools for the reader to learn more about the topic of climate change, whether that be through the education that the main characters receive or through the illustration by the authors of underlying problems that can come with climate change. It can be said then that the education of the reader can be seen as one way in which the authors challenge the taboo about the issue. Indeed, both Kingsolver and Jensen actively resist it by allowing their reader to get educated through their novels.

5. Chapter 3: Setting and the Notion of Globality

5.1 The Global Imagination

In *The Great Derangement*, Amitav Ghosh discusses some formal aspects of the novel, such as the setting. He states that the settings of novels are made of discontinuities and that "unlike epics, novels do not usually bring multiple universes into conjunction; nor are their settings transportable outside their context" (p. 59). He also mentions the fact that these "discontinuities of place are nested within others" (p. 59), so that Maycomb in *To Kill a Mockingbird* represents the Deep South and that the "whaling vessel in Moby Dick becomes a metaphor for America" (p. 59), because the setting is often used to represent what Ghosh refers to as the nation-state.

Moreover, discontinuities of space are not the only type of discontinuities that exist within the novel. Indeed, according to Ghosh, there is also what can be referred to as discontinuities of time because "a setting usually requires a "period"" (p. 59); and that again makes the novel, "unlike epics, which often range over eons and epochs". By contrast, "novels rarely extend beyond a few generations. The *longue durée* is not the territory of the novel" (p. 59). Ghosh then proceeds to state that "it is through the imposition of these boundaries, in time and space, that the world of a novel is created". Ghosh then mentions a novel named *A River Called Titash* by Adwaita Mallabarman who chose "to detach the setting of his novel from the larger landscape" (p. 60) so that "the rest of the landscape is pushed farther and farther into the background until at last we have a setting that can carry a narrative" (pp. 60-61). Ghosh's point here is that in this novel, "the setting becomes, in a sense, a self-contained ecosystem, with the river as the sustainer both of life and of the narrative" (p. 61). He continues to say that "it is the river's slow drying up that directs the lives of the characters" (p. 61), and he implies that the setting and the storytelling go hand in hand as it is the setting that directs the characters' lives and therefore the story. What he also mentions is that "it is precisely by excluding those inconceivably large forces, and by telescoping the changes into the duration of a limited-time horizon, that the novel becomes narratable" (p. 61). Thus, Ghosh links here the necessity for a discontinuity of space with the necessity for a discontinuity of time for a novel to work because that is how a novelistic world becomes real; whereas epic fiction can range "widely and freely over vast expanses of time and space" (p. 61). By mentioning *A River Called Titash* as an example, Ghosh obviously implies that this is how a setting, in terms of both time and place, works in general in the modern novel.

Indeed, in what Ghosh calls serious fiction, "no one will speak of how the continents were created; nor will they refer to the passage of thousands of years: connections and events

on this scale appear not just unlikely but also absurd within the delimited horizon of a novel" (p. 61). However, this becomes an issue when it is put in relation with climate change:

> The earth of the Anthropocene is precisely a world of insistent, inescapable continuities, animated by forces that are nothing if not inconceivably vast. The waters that are invading the Sundarbans are also swamping Miami Beach; deserts are advancing in China as well as Peru; wildfires are intensifying in Australia as well as Texas and Canada. (p. 62)

What Ghosh is trying to convey here is how the forces of weather and geology "mock the discontinuities and boundaries of the nation-state" (p. 62) and "defy the boundedness of place" (p. 62). This is the main point that Ghosh expresses in this part of his book, which is about how time and space represent another challenge for the fictional representation of climate change:

> Here, then, is another form of resistance, a scalar one, that the Anthropocene presents to the techniques that are most closely identified with the novel: its essence consists of phenomena that were long ago expelled from the territory of the novel – forces of unthinkable magnitude that create unbearably intimate connections over the vast gaps in time and space. (p. 63)

In Ghosh's view, the story of a novel is supposed to happen in a specific time-frame as well as in a specific place, while global warming and its effects on the planets are phenomena that take place over large scales of time but also over large scales of place. Clearly, in consequence, climate change, cannot be restricted to any specific time and space of the sort that is usually implied by the form of the novel.

Therefore, in this sub-chapter, we will discuss the different ways in which Barbara Kingsolver and Liz Jensen negotiate this representational challenge.

One of the first ways in which Kingsolver deals with the challenge of place is through the phenomenon of the butterflies. As mentioned before, she sets her story in the region of the Appalachians in Tennessee. The story is mainly set in the small town of Feathertown though sometimes the characters go to Cleary, the city next to their small village. Of course, the author sometimes mentions climate events happening elsewhere, such as tornados, hurricanes, and so on, but this is never the focus of her story. Instead, she chooses to depict a migration of butterflies, which, as Ovid makes clear, "have migrated to the wrong place this year, for the first time ever. I guess in the history of the world. So even though it looks really pretty, it might be a problem. It could actually be terrible" (pp. 285-286). The butterflies remain in the mountain

behind Dellarobia's house all throughout the winter. The butterflies do not move and it is people that go see them, as when the scientists come to study them or even tourists are drawn by this event. Thus it can be said that it is thanks to the butterflies that Kingsolver overcomes the challenge of place highlighted by Ghosh. By referring to an aberrant butterfly migration, the author is allowed to depict a phenomenon that is due to global warming while being able to set her story in one specific place, Feathertown. Moreover, as Grabianowski states, "migration is the large-scale movement of an animal species from one place to another."[11] It can be said then that migration is a type of animal phenomenon that can be used to represent climate change in a way that is not vast and global as they only migrate to one place at a time. Therefore by making the butterflies migrate to Feathertown instead of Mexico, Kingsolver manages to set her story in one town while still being able to accurately represent a natural event caused by climate change.

Another aspect that Ghosh mentions is the tendency for a novel's setting to be paradigmatic of a larger place, community or even nation. Arguably, Feathertown is used to represent the poor and rural people of the United States. As Kingsolver confirmed in an interview, she uses this novel to explore the question as to why rural farmers tend to ignore climate change despite the fact that they are, arguably, the first to be impacted by global warming induced events. This is then why she gives primacy to rural people in her novel. However, it can be said that she also represents poor people, indeed Dellarobia tends to continually compare herself with the scientists in terms of their wealth. There is a passage in which she says that "her old, leather-soled farm boots seemed redneck-poor compared with these kids' high-tech boots" (p. 187). Not only that but, as has been discussed previously in point 4.2, the author thematises the tendency for lower-class people to be excluded from climate change conversations. All of this shows that Kingsolver does not solely represent Dellarobia's poverty but that she also uses her main character as a metaphor for the whole lower-class population, to then explore the topic of exclusion. Feathertown can then be perceived as a sort of microcosm of the rural and lower-class population of the south of the United States; indeed the characters even refers to themselves as rednecks, as in the above quotation. Cub also acknowledges their redneck identity when he tells Dellarobia: "I'm sorry if we're raising redneck children on a redneck paycheck" (pp. 221-222). In all, then, Kingsolver manages to have it both ways, since her setting is specific and strictly delineated but also representative of larger realities and susceptible to foreign influence.

[11] Grabianowski, Ed. 'How Animal Migration Works'. *Howstuffworks*. 8 January 2008, https://animals.howstuffworks.com/animal-facts/animal-migration.htm. Accessed 11 January 2021.

In other words, by referring to the migration of butterflies, the author suggests that the local and the global are necessarily interconnected, so that a novelist can only respond to the dictates of the global imagination. It is keeping that Dellarobia thinks of the butterflies as a species that, when they migrate, own "the span of a continent" (p. 197). This particular passage highlights the global fate of the species as they travel around the American continent. However, the butterflies also allow Kingsolver to show the connections that inform climate change. The reason why the butterflies have not migrated to Mexico is because of a flood that happened in Angangueo, the city that formerly welcomed them. Interestingly in this respect, Kingsolver includes in the novel a human family from Angangueo that comes to Dellarobia's farm to visit the butterflies. When she asks them why they immigrated to the United States instead of staying there, it is said: ""everything is gone!" the girl cried, in obvious distress. "The water was coming and the mud was coming on everything. . . . Un diluvio"" (p. 139). She says that everything was destroyed and "the mountain. And the monarcas also" (p. 140) and that this happened the previous winter. This passage shows the connection between what happened in Mexico and what is happening in Feathertown: it is because there was a flood in Mexico that the butterflies migrated to Dellarobia's farm, while some human beings were impacted also. Lloyd and Rapson (2017) confirm that "the butterflies are literary figures that demonstrate the interrelations of place and planet in the Anthropocene in more tangible ways than cross-stitches or alliances. Relocating from the hills of Mexico to rural Tennessee, the butterflies bridge disparate geographies and cultures" (p. 917), therefore further highlighting the connection over vast gaps of space that Ghosh also refers to in *The Great Derangement*.

Another way in which Barbara Kingsolver connects the global and the local is through the characters that she portrays. Indeed, the unusual migration of the butterflies allows various characters from sundry places to come into play in the story. The first characters that appear in the novel and that are not originally from Feathertown or Tennessee are the members of the above-mentioned Mexican family. Then there is of course Ovid Byron and his scientists. Indeed, Ovid tells Dellarobia and her family that he is from New Mexico and works at Devary University but that he personally graduated from Harvard. Then Dellarobia encounters women that camp on the mountain and she tells Dovey that "they saw us on the news and came to do a sit-in against the logging, and now it's a sit-in about global warming. They sit up there all day and knit little monarch butterflies out of recycled orange yarn. They hang them all over the trees. It looks kind of real" (p. 414). Dellarobia also mentions the fact that they are from England, to which Dovey exclaims: "And they crossed the ocean blue to come here and pull

sweaters apart?" (p. 414). These women are knitting sweaters to help protect the butterflies from the cold of winter:

> "They told me they have this campaign of asking people to send in their orange sweaters, to help save the butterflies. For these girls to rip up, and knit with. They're getting boxes and boxes of sweaters, that much I can tell you. Anything with 'butterflies' in the address comes to our house." (p. 414)

Another foreign character that Dellarobia encounters in the novel is Leighton Akins, whose foreignness is immediately emphasized.

> This man, Leighton Akins by name, somehow came out ahead as the hero of all his own stories, Dellarobia noticed. A sure sign he was not from the South. Hereabouts, if a man told a story in which he was not the butt of the joke, or worse yet, that contained no jokes at all, his audience would shuffle off at the first appreciable pause. (p. 430)

Even though it is not made clear exactly where Mr Akins is from, as Dellarobia remarks, he is most definitely not from the South. Kingsolver then portrays a variety of characters that originate from different places such as Mexico, New Mexico, England, and so on; and they all visit, or in the case of the Mexican family move to, Feathertown because of the butterflies, a climate change related event, which illustrates the global side of climate change. Therefore, through the unusual migration of butterflies, Kingsolver lays the foundation for a spatial imagination that is given global proportions. It can even be said that the butterflies themselves can be considered as fully-fledged characters that also visit the village of Feathertown, just like Ovid, Leighton Akins and the knitting women.

Liz Jensen also shows a sense of globality within her novel, even though she does so in a way that is much different from Kingsolver's. Yet Jensen also sets her story in one particular place: Hadport, England; and sometimes the characters wander to London, but never beyond the limits of England. However, unlike in *Flight Behaviour*, the phenomenon, or in this case phenomena, that represent climate change in the book are not limited to Hadport or London. Indeed, in *Flight Behaviour*, the author limits the story to Feathertown in that the latter is elected by the monarchs as their exclusive port of call. In *The Rapture* however, Jensen depicts climate events that happen all around the world. Indeed, she portrays catastrophes such as a hurricane in Brazil, a tornado in Aberdeen, an earthquake in Istanbul, etc. However all these events are directly linked to Bethany as she is the one who predicts them, for she keeps telling Gabrielle about upcoming weather and geological disasters before Gabrielle decides to believe her. There

are several passages in the novel that illustrate this, as when the child refers to an "earthquake that's going to destroy Istanbul" (p. 38), or to the prospect of "a tornado in Scotland any day now" (p. 40). Bethany later mentions an "earthquake in Nepal" (p. 68) which happened two weeks before. What these passage show is that the author uses the character of Bethany to include a sense of globality within the realm of the local. Indeed, Bethany is stuck in a psychiatric hospital in Hadport that she cannot leave and Gabrielle is her doctor. Thanks to this, Liz Jensen thus sets her story in one specific location but is allowed to establish a sense of globality, and deploy a global imagination thanks to Bethany's visions. Thus, while Ghosh argues that it would be absurd to discuss vast expanses of places in the novel because of its limited horizon, thanks to Bethany's visons Jensen manages to encompass outlying areas that all share the fate of having been impacted by climate change. Jensen then uses Bethany as the point of contact for all of these global events.

Until now, it is mostly the setting as place that has been discussed, but as we know Ghosh also mentions time as an important aspect of the setting of a traditional novel, which is seen to be structurally unable to represent climate change as the latter unfold over vast periods of time. It can be said that both Kingsolver and Jensen deal with this challenge in a similar way. Indeed, both authors are able to write their story while respecting the limited time-frame of the novel as a form because they both have a sense of finitude to their stories and events. By using the theme of migration in her novel, Kingsolver is able to portray climate change and what this phenomenon implies in a very limited period because the migration of a species is a phenomenon that is, by definition, limited in time. Indeed, animals only stay in one place for one season, here the winter, and leave when it is over. Though, one could argue that migratory routes have been established over long periods of time, which therefore implies that migration is not a phenomenon that is limited in time. However, it can be considered as limited if we only considers one instance of the phenomenon that is happening one specific year, or in the case of *Flight Behaviour*, if we considers the abrupt deviation from the pattern as an exceptional event instead of the phenomenon in general. As mentioned previously, Dellarobia says in the novel that "every winter they come from all over the United States and even Canada I guess, and fly south for the winter" (p. 159). It is then a given in the novel that if the butterflies do not die because of the cold, they will leave once springtime arrives. This migration in the novel is the result of climate change as Feathertown is not the usual place they go to in wintertime, but this type of phenomenon thus allows Kingsolver to limit her story during a specific period of time, which is the duration of the wintery migration, and then discuss the subject of global warming within these limits. As mentioned previously, it also gives a sense of boundedness to the story

as the novel ends when the butterflies awaken and leave Feathertown. Liz Jensen also has this sense of boundedness in her story, since the author discusses various climate change induced events such as the above mentioned hurricanes, tornadoes or earthquakes, but there is one event that happens at the end of the novel that can be considered as the peak event of climate change. The author depicts a methane accident in the northern sea due to human activity that causes a tsunami that devastates all of northern Europe and "will certainly reach Iceland, and if it's big enough, the United States" (p. 219). However a tsunami will not be the only event that will happen as Ned mentions that:

> "With more of the hydrate field being dislodged and releasing more methane. Methane is ten times more powerful as a greenhouse gas than C02. If the whole thing spreads and escalates, we get runaway global warming on a scale that's beyond anyone's worst nightmare. Everywhere will be radically hotter." (pp. 195-196)

This methane accident does happen at the end of the novel and Gabrielle says that this new world is "a world not ours" (p. 293). As I have suggested, the event can be considered as the peak of climate change and therefore of the Anthropocene as a whole. This is how Liz Jensen tackles the challenge that is imagining the temporal setting of the novel. She does not need to mention the vast expanses of time over which the Anthropocene has spread because she sets her story at a time that leads to the end of the Anthropocene and the start of a new world and therefore era. This peak and end of the Anthropocene is what gives a sense of boundedness to the story that then allows Jensen to respect this restricted sense of time of the novel.

5.2 The Decentring of Individualism

Another aspect of the novel that is highlighted by Ghosh is the individualism of the world-view to which it typically subscribes. Ghosh has this reflection when discussing John Updike's review of the novel *Cities of Salt* and wonders if it is actually true that writers have excluded a sense of the collective from the novel in favour of the wish to represent individual lives. Ghosh's opinion is that it is more complicated than that: "indeed, so numerous are the traces of the collective within the novelistic tradition that anyone who chose to look for them would soon be overwhelmed" (p. 78). However, "it is a fact that the contemporary novel has become ever more radically centered on the individual psyche while the collective – 'men in the aggregate' – has receded, both in the cultural and the fictional imagination." (p. 78). Ghosh however tends to disagree with Updike on one specific point: according to him, this tendency to focus on the

individual psyche instead of the collective is not due to the novel as form but rather to society. Ghosh states that it is rather:

> A turn that fiction took at a certain time in the countries that were then leading the way to the "Great Acceleration" of the late twentieth century. It is certainly no coincidence that these were the very places where, as Guy Debord observed, the reigning economic system was not only founded on isolation, it was also "designed to produce isolation." (p. 79)

Thus what Ghosh is trying to convey here is that instead of this aspect being the consequence of the novel as a form, it rather tends to stem from modernity. Modernity "sees time (in Bruno Latour's words) as 'an irreversible arrow, as capitalization, as progress'" (p. 79) and it is clear that "a progression of this sort inevitably creates winners and losers, and in the case of twentieth-century fiction, one of the losers was exactly writing of the kind in which the collective had a powerful presence" (p. 79).

Ghosh then discusses what this entails for the Anthropocene within the novel and says that "similarly, at exactly the time when it has become clear that global warming is in every sense a collective predicament, humanity finds itself in the thrall of a dominant culture in which the idea of the collective has been exiled from politics, economics, and literature alike" (p. 80). Another challenge then lies in that global warming and the effects of the Anthropocene are inherently global and collective, yet we have entered an area that is based upon individualism, which is reflected within the arts; the author of a climate novel would then have to include a sense of the collective in their novel even though the genre has become more and more focused on the individual life. The issue related to the debate of the collective versus individualism can also be considered in relation to the notion of globality in the novel as it is because climate change is global that it concerns everyone and is therefore collective. Thus, in this sub-chapter, I will discuss how Kingsolver and Jensen manage to reintroduce that notion of the collective in *Flight Behaviour* and *The Rapture* by decentring their characters from their individualism; and how this collectiveness can sometimes be perceived as inseparable from the necessary globality of human existence in today's waning world.

In *Flight Behaviour*, it can be said that the author enhances this sense of collectiveness by decentring some of her characters from their individualistic tendencies. One of the characters in which this can be perceived is Dellarobia. Indeed, at the beginning of the novel, Dellarobia can be considered a rather self-centred character. She is unhappy with her life and marriage and therefore decides to have an affair with a young man before being stopped by the sight of the

butterflies, which she believes to be a fire at first. Even though she believes it is a fire, she does have this strong connection with the event as she says that "she could save herself. Herself and her children with their soft cheeks and milky breath who believed in what they had, even if their whole goodness and mercy was a mother distracted out of her mind. It was not too late to undo this mess" (pp. 21-22); and that "the burning trees were put here to save her" (p. 22). These two passages suggest that, at the beginning of the novel, Dellarobia forms a deep connection with the butterflies which is enough to make her abandon this idea of having an affair. Later in the novel, as Dellarobia discusses the butterflies with the scientists when they first arrive to Feathertown, they tell her that, even though the butterflies are beautiful, they represent something more dreadful. This conversation unsettles Dellarobia:

> She tried to hold on to anger but felt it being swamped by a great sadness that was rising in her like the groundwater in her yard. Why did the one rare, spectacular thing in her life have to be a sickness of nature? These butterflies had been hers. She found them, she'd showed them to her son, in her name they were becoming beloved and important. They seemed to matter, like nothing she'd ever possessed. (p. 205)

What this passage illustrates is how self-centred Dellarobia has been until now as she claims ownership of the butterflies because of how they made her feel. At the same time, through her conversation with Ovid and his students, Dellarobia slowly starts shifting away from her individualistic side. Indeed, until now she had this very personal relationship with the butterflies as if they were her own little secret as they are linked to her almost affair. Yet, the scientists make her realise that they in fact do not belong to her, but rather represent climatic changes. Dellarobia feels cheated: "So how did an outsider just get to come in here and declare the whole event a giant mistake? These people had everything. Education, good looks, boots whose price tag equaled her husband's last paycheck. Now the butterflies were theirs too" (p. 205). The fact that she recognises that the butterflies do not solely belong to her anymore constitutes her first acknowledgement that this event exceeds her as a person and is instead more of a collective event. Even though this is a difficult aspect to acknowledge and accept for Dellarobia, as the book progresses she becomes less self-centred. Indeed, after becoming a climate change believer, Dellarobia realises that such phenomenon has an impact on everyone and not just on herself, which leads her to worry for other people, including her children. During her job interview, Dellarobia wonders if Ovid has any children because he says that a child is "a recompense of its own kind" (p. 319). When asked the question, he tells her that, for now, he

does not but that him and his wife "are looking forward to that" (p. 320). After hearing this, Dellarobia cannot help but reflect:

> He would have no inkling of the great slog of effort that tied up people like her in the day-to-day. Or the quaking misgivings that infected every step forward, after a loss. Even now, dread still struck her down sometimes if she found herself counting on things being fine. Meaning her now-living children and their future, those things. She had so much more to lose now than just herself or her own plans. If Ovid Byron was torn up over butterflies, he should see how it felt to look past a child's baby teeth into this future world he claimed was falling apart. (p. 320)

This passage demonstrate a striking difference with Dellarobia's mindset at the beginning of the book. Dellarobia overcomes her former self-centredness as she is not focused on the butterflies being hers anymore but is rather concerned for her children and their futures in the Anthropocene era. As she puts it, she now has more to lose "than just herself or her own plans" (p. 320). This illustrate how Kingsolver makes Dellarobia aware of the fact that climate change is a phenomenon that impacts everyone so that she cannot just think about herself anymore, therefore developing a more collective perception of the world instead of an individualistic one.

The decentring of Dellarobia's individualism can also be perceived in the titles of the chapters, which reflect the way in which Dellarobia's mindset and her world broaden as the story progresses. As Lloyd and Rapson (2017) put it: the first four chapters are respectively entitled "The Measure of a Man"; "Family Territory"; "Congregational Space"; and "Talk of a Town", by these first four chapters only it can be seen that Dellarobia is distancing herself from a certain individualism to reach the span of a town. However, Kingsolver goes further as the next five chapters are entitled "National Proportions"; "Span of a Continent"; "Global Exchange"; "Circumference of the Earth"; and "Continental Ecosystem"; thus reaching a notion of globality (pp. 919-920). This decentring can be perceived in two different ways. The first one is that the outside characters also help widen Dellarobia's own world. Thus, a mere two months after she started working as Ovid's assistant, Dellarobia becomes aware of a sea-change in her perception of the world: "Two months ago. Impossible. Her world had been the size of a kitchen then. Now she had a life in which she might not see Hester for over a week" (p. 337). Now that she has taken a job that has allowed her to modify her everyday life and not be restricted to her home anymore, she also starts to interact with people that have another perspective than that of the people of Feathertown. This thus helps widen Dellarobia's small world and also helps her be part of a collective making room for outsiders. It should also be

indicated that the above mentioned quote in which Dellarobia worries for her children and their future is also from "Continental state".

The second way in which this decentring can be perceived is in the fact that Dellarobia starts understanding the global effects of climate change. Indeed, as Lloyd and Rapson (2017) state, "planetary factors such as extreme wet and warm weather prompt Dellarobia's gradual realisation of the global significance of the butterflies' migration in 'Span of a Continent' and zooming out further in 'Global Exchange" (p. 920). It is true that Dellarobia "returns to her attempt to dissuade [Cub] from logging by explaining the planetary dimension of the butterflies' arrival" (p. 920). To illustrate this they use a quote from the seventh chapter in which Dellarobia says that the scientists have mentioned that the butterflies mean "something's really gone wrong" (p. 237), and when Cub asks her "wrong with what?" (p. 237), she replies "the whole earth" (p. 237). Previous to this, Dellarobia has also mentioned to Cub that clearing the mountain could cause a landslide like in Mexico. What is striking with this scene is that Dellarobia has departed from this wish to not log the mountains because of the butterflies. Indeed, at the beginning of the novel she asks Cub to go see what is up there before signing the contract. However, at this point in the story, she instead asks him to persuade his father to not sign it because it could have terrible consequences like in Mexico. Moreover, she also acknowledges the fact that there is something wrong with the earth, as she believes in this enough to broach the subject with Cub. This shows that she recognizes the global and collective import of climate change. However, Lloyd and Rapson (2017) note that after the eighth chapter, this movement of going from the local to the global is reversed as the book's last chapter is entitled "Perfect Female" (pp. 920-921). This reversal can be seen as Dellarobia starting to focus on herself again and her future as she decides to change her life by the end of the story. By having Dellarobia worry about other people and the consequences that an action can have on the planet, Kingsolver then shows the collective side of climate change and brings a sense of the global within her novel as the notion of collectiveness and globality are linked. Indeed, Dellarobia departs from this idea that climate change is solely a matter for the upper-class and instead recognises that it is a worrisome phenomenon for her and her children as well. This change of mindset shows the collectiveness of the phenomenon. Furthermore this acknowledgement of the collectiveness of climate change is done when she recognizes a sense of globality. Indeed, she understands that it is the earth in its entirety that is not doing well.

This decentring of individualism can also be perceived in *The Rapture* with the main character Gabrielle. Indeed, it can also be said that Gabrielle is rather self-centred at the beginning of the novel as she is focused on herself due to becoming disabled after her recent

accident. She is sad and does not feel like a woman anymore: “When you stop being a woman, as I did on May 14th two years ago, there are things you see more clearly” (p. 21). This is a matter that arises often in the novel, especially in the context of her love story with Frazer Melville. When Gabrielle is under the impression that he is cheating on her, she says that it is because “[she is] not a real woman any more, and [she] was wrong to think [she] was” (p. 146). This passage further highlights Gabrielle’s individualism as she is obsessed with her condition as a woman. Moreover, it can be said that, like Dellarobia and her kitchen-sized world, Gabrielle’s world is reduced to her wheelchair. Indeed, at some point Bethany asks her what it is like to be “challenged”, to use her words. However she does not know how to formulate her sentence. Gabrielle thus suggests several wordings such as “disabled?” or “*Confined* to a wheelchair?” (p. 45). The use of the word “confined” is striking as it shows how restricted Gabrielle feels by her wheelchair. It can even be said that she feels like she is being held captive by her wheelchair which further shows how restricted her world is. However, the events of the novel force her to depart from this individualism by also widening her world. Indeed, when Harish Modak arrives at the house in which Gabrielle, Bethany, Frazer and the two other scientists are hiding, Gabrielle asks him how he is feeling:

> “So how do you feel?” “Now, specifically?” he asks. I nod. Amused, he applies his mind to the question, his brow furrowing slightly. “If we’re discussing the current situation, I would say: alarmed and fascinated. But cautious.” “And more generally?” “Aha, a larger question. Are we talking about the world?” “I can’t think of a more pressing matter right now.” (p. 212).

Then, the characters discuss whether they should take Bethany with them when the apocalypse happens, and then decide that they will. This leads Gabrielle to reflect: “I am doing my job because Bethany is my job. And Bethany is all I have left” (p. 224). What these passages illustrate is how Gabrielle recognizes that the world is the most important matter, right now, and not herself. This also shows why she worries for Bethany because she is all that she has left. Meeting Bethany and being included in these apocalyptic climate change visions of hers has allowed Gabrielle to depart from her individualism by widening her world and perception. Indeed her perception is not restricted to her wheelchair anymore, it is more global as she realises the state that the world is in at the moment. The fact that she is thinking about other people, such as Bethany, rather than just herself also shows this decentring of individualism that opens her to the collective. This, thus, brings to the story a sense of the collectiveness and globality related to climate change.

6. Chapter 4: Genre and realism

6.1 The Uncanny and the Flouting of Plausibility

In the sixth chapter of the first part of *The Great Derangement*, Amitav Ghosh reflects on the reason why he has not exploited his encounter with the tornado in his work. Indeed, he states that "novelists inevitably mine their own experience when they write. Unusual events being necessarily limited in number, it is but natural that these should be excavated over and again, in the hope of discovering a yet undiscovered vein" (p. 15). However, Ghosh expresses that he has in fact tried to use this episode for his writing but that he has failed to do so. At first, he did not understand this failure because "many novels are filled with strange happenings" (p. 16); so there should not be any reason why it should be impossible to transpose this event within the realm of fiction. Ghosh then makes this interesting point:

> In reflecting on this, I find myself asking, what would I make of such a scene were I to come across it in a novel written by someone else? I suspect that my response would be one of incredulity; I would be inclined to think that the scene was a contrivance of last resort. Surely only a writer whose imaginative resources were utterly depleted would fall back on a situation of such extreme improbability? (p. 16)

It is with this thought that Ghosh first introduces the notion of improbability; he states that "probability and the modern novel are in fact twins" (p. 16). The author expresses the fact that, before the birth of the novel, fiction used to proceed by going from one exceptional event to the other, and he mentions the *Decameron* as an example to illustrate his claim. He takes this reflection further by saying that novels do use the same process, but that "what is distinctive about the form is precisely the concealment of those exceptional moments that serve as the motor of narrative" (p. 17): indeed, authors do that by inserting what Franco Moretti refers to as "fillers". It is also said that "it is thus that the novel takes its modern form, through "the relocation of the unheard-of toward the background… while the everyday moves into the foreground"" (p. 17). Thus, what is important in the novel is the focus on the everyday. Moreover, Ghosh quotes Moretti when he says that "fillers are an attempt at rationalizing the novelistic universe: turning it into a world of few surprises, fewer adventures, no miracles at all" (p. 19).

Then, Ghosh illustrates how Nature was perceived in the nineteenth century by mentioning the novel *Madame Bovary*. Indeed, he uses a quote from Emma Bovary in which she refers to Nature as "moderate" (p. 21). He then explains that this association that is made between nature and moderation shows "the degree to which the Anthropocene has already

disrupted many assumptions that were founded on the relative climatic stability of the Holocene" (p. 21). Ghosh then perceives nature to be quite the opposite of moderate in the context of the Anthropocene era. Indeed, at the beginning of the next chapter, he says that:

> We are now in an era that will be defined precisely by events that appear, by our current standards of normalcy, highly improbable: flash floods, hundred-year storms, persistent droughts, spells of unprecedented heat, sudden landslides, raging torrents pouring down from breached glacial lakes, and, yes freakish tornadoes. (p. 24)

All of this reflection surrounding climate change and the notion of probability in the novelistic form leads Ghosh to claim that "an event that is only slightly improbable in real life – say, an unexpected encounter with a long-lost childhood friend – may seem wildly unlikely: the writer will have to work hard to make it appear persuasive" (p. 24). Ghosh also states that this is all the more relevant when discussing climate change in the novel: "Consider how much harder a writer would have to work to set up a scene that is wildly improbable even in real life? For example, a scene in which a character is walking down a road at the precise moment when it is hit by an unheard-of weather phenomenon?" (p. 24). Ghosh then expresses his opinion that trying to introduce such improbable events in a novel would be running the risk of being demoted from what he considers serious fiction, to be relegated to non-serious fiction that, according to him, includes the genres of fantasy, horror and science fiction.

This idea that the genre of science fiction cannot be perceived as serious fiction is an interesting belief considering the fact that it is a rather popular fictional genre. Ghosh does reflect on this separation between science fiction and serious fiction in *The Great Derangement*:

> What is it in the nature of modernity that has led to this separation? A possible answer is suggested by Bruno Latour, who argues that one of the originary impulses of modernity is the project of "partitioning", or deepening the imaginary gulf between Nature and Culture: the former comes to be relegated exclusively to the sciences and is regarded as being off-limits to the latter. (p. 68)

However, Ghosh proceeds to say that the notion of partitioning has been contested in the past, in Europe as well as in America, with literary movements such as romanticism that included Nature as one of its favoured subjects, as in the work of William Blake and William Wordsworth. However, it should be indicated that such literary movements mainly concern themselves with poetry and that it is the genre of the novel that interests Ghosh. That is why he says: "It becomes evident that its absorption into the project of partitioning was presaged

already in the line of Wordsworth's that I quoted above: 'I'd rather be / A Pagan suckled in a creed outworn'" (p. 69). He continues by saying that "it is with these words that the poet, even as he laments the onrushing intrusion of the age, announces his surrender to the most powerful of its tropes: that which envisages time as an irresistible, irreversible forward movement" (p. 70). Thus, as Ghosh concludes, partitioning was allowed in the novel properly because time is considered as an "irreversible forward movement" (p. 70). He reflects on the strangeness that lies in the alienation of science from fiction, when he considers the fact that "Western writers remained deeply engaged with science through the nineteenth century" (p.71), with works such as *Moby Dick, War and Peace,* and *Alice in Wonderland.* Ghosh then states that:

> According to Latour the project of partitioning is supported always by a related enterprise: one that he describes as "purification", the purpose of which is to ensure that Nature remains off-limits to Culture, the knowledge of which is consigned entirely to the sciences. This entails the marking off and suppression of hybrids– and that, of course, is exactly the story of the branding of science fiction, as a genre separate from the literary mainstream. (p.71)

It is with this thought that Ghosh explains the banishment of science fiction from the realm of serious fiction: "Because the zeitgeist of late modernity could not tolerate Nature-Culture hybrids" (p. 71). Thus, broaching the theme of climate change in a novel without exiting the limits of serious fiction seems to be a Cornelian task as climate change is, by definition, a matter of science and Nature. Ghosh then wonders if science fiction would be better equipped to broach such a theme. He says that this "might appear obvious to many" (p. 72), but that an aspect of science fiction and climate fiction bothers him. Indeed, the author states that such works are usually "set in the future" (p. 72), but that this futuristic setting is exactly the problem as "the future is but one aspect of the Anthropocene: this era also includes the recent past, and, most significantly, the present" (p. 72). The futuristic setting would then be inimical to the thematization of climate change as the Anthropocene "is precisely not an imagined 'other' world apart from ours, nor is it located in another 'time' or another 'dimension'. By no means are the events of the era of global warning akin to the stuff of wonder tales" (p. 73).

For Ghosh, another challenge to the fictional representation of climate change lies in the reflection on the notions of probability and improbability: "This, then, is the first of the many ways in which the age of global warming defies both literary fiction and contemporary common sense: the weather events of this time have a very high degree of improbability" (p. 26) and indeed "it is certain in any case that these are not ordinary times: the events that mark them are

not easily accommodated in the deliberately prosaic world of serious prose fiction" (p. 26). Thus, here lies another challenge of the fictional representation of climate change: the novel needs to be probable whereas climate change events are highly improbable. However, one detail that the author also mentions is the fact that despite this need to be probable, the novel has also toyed with the improbable by the means of surrealism and magical realism. One could think that these two modes of writing could then be useful to circumvent, in the novel, the improbability of climate change; the problem however, according to Ghosh, is that when discussing weather events, "these events are neither surreal nor magical" (p. 27) but are rather "overwhelmingly, urgently, astoundingly real" (p. 27). Therefore, they cannot be represented through the above-mentioned modes of writing. Indeed, doing so would be a disservice to them as it would "rob them of precisely the quality that makes them so urgently compelling– which is that they are actually happening on this earth, at this time" (p. 27).

In the next chapter of *The Great Derangement*, Ghosh starts to link his idea of the improbability of climate change with the notion of the uncanny. Indeed, he states that climate change is often referred to as uncanny:

> No other word comes close to expressing the strangeness of what is unfolding around us. For these changes are not merely strange in the sense of being unknown or alien; their uncanniness lies precisely in the fact that in these encounters we recognize something we had turned away from: that is to say, the presence and proximity of nonhuman interlocutors. (p. 30)

He follows this reflection with what the uncanniness of climate change then implies which "is that nonhuman forces have the ability to intervene directly in human thought" (p. 31). What Ghosh tries to convey here is that climate change is precisely uncanny because it has an effect on humankind despite being nonhuman. Afterwards, he rightfully indicates that the uncanny should, in theory, not be an obstacle to the fictional representation of climate change in the novel considering the fact that it has already been the subject of novels before, with authors such as Charles Dickens and his ghost stories for example. However, Ghosh states that "the environmental uncanny is not the same as the uncanniness of the supernatural: it is different precisely because it pertains to nonhuman forces and beings" (p. 32). Ghosh makes sure to distinguish the environmental uncanny from the supernatural one. Indeed, ghosts are not exactly human forces and beings but they can be perceived as "projections of humans who were once alive" (p. 32). Thus, the forces of the supernatural uncanny are more human than those of the

environmental uncanny. Another aspect that, according to Ghosh, distinguishes the environmental uncanny is that:

> Freakish weather events of today, despite their radically nonhuman nature, are nonetheless animated by cumulative human actions. In that sense, the events set in motion by global warming have a more intimate connection with humans than did the climatic phenomena of the past– this is because we have all contributed in some measure, great or small, to their making. They are the mysterious work of our own hands returning to haunt us in unthinkable shapes and forms. (p. 32)

Thus, the uncanniness of climate change also lies in the fact that not only is it animated by nonhuman forces and beings, it is a direct consequence of human actions as well. What Ghosh expresses in these three chapters is how the improbability and uncanniness of climate change is a problem when it comes to its fictional representation because, as he said in an interview: "In a novel you try to create a world that will make sense to the reader and somehow events that have such an extreme degree of improbability don't seem to belong within those parameters"[12]. Moreover, the uncanniness of climate change is also different from the uncanniness that has been exploited in the novelistic form before. In this sub-chapter, we will thus discuss how both Barbara Kingsolver and Liz Jensen do introduce these notions of improbability and uncanny that are related to climate change as they tend to not always remain within a strict realistic and plausible frame.

In his argumentation, Ghosh has discussed the importance within the modern novel of what Moretti refers to as "fillers". The presence of filler scenes can be perceived in *Flight Behaviour* as well as in *The Rapture*. Indeed, in the first chapter of the novel, Kingsolver depicts the scene in which Dellarobia seeks an affair with Jimmy but is instead confronted with the butterflies. This scene can be considered as an exceptional event as it prompts her to abandon her affair, and it is the event that starts the story as well as Dellarobia's journey. However, what is interesting is that the author chooses to start her second chapter with an event that is quite the opposite of exceptional. Indeed, the second chapter starts with a scene that takes place on shearing day, when Dellarobia is busy working with her mother-in-law and four other women. She says that "as far as [she] could remember, no autumn shearing had been so pleasant." (p. 27). This shows how common such a scene is in the world of the *Flight Behaviour* as it is an

[12] Paulson, Steve. 'Where's the Great "Climate Change Novel"? A Conversation with Amitav Ghosh'. *Los Angeles Review of Books*. 22 September 2017. https://lareviewofbooks.org/article/wheres-the-great-climate-change-novel-a-conversation-with-amitav-ghosh/. Accessed 16 April 2022.

event that happens each year. Other instances of filler scenes can be perceived in Kingsolver's novel, and as we know, they are also present in Jensen's *The Rapture*. Indeed, in the first chapter of the novel, Jensen describes the meeting between Gabrielle and Bethany in which Bethany discusses her visions with Gabrielle. Moreover, one of the last scenes of the chapter consists of Bethany grasping Gabrielle's hand and telling her that she knows that someone Gabrielle knew, died a horrible death. This deeply unsettles Gabrielle and she tries her best to forget what Bethany told her, convincing herself that "suppression is easily done. It's a simple matter of choice. My decision to forget what Bethany said – about things she can't possibly know – is a judgment call" (p. 24). This shows the impossibility that resonates with the event; and therefore, it can be considered exceptional and the event that starts the story. Yet, just as Kingsolver in her novel, the author proceeds to follow this exceptional event with a scene that can be considered as a filler scene, at the beginning of the second chapter. Indeed, Gabrielle describes her house to the reader and calls it "minimalist" (p. 25). She also says that it is adapted for wheelchair users. Then she discusses the previous person that occupied the house, her Frida Kahlo paintings; Gabrielle also specifies that she is making herself coffee and that she is wondering what she should watch on TV. Thus, this scene portrays some of the most mundane aspects of Gabrielle's everyday life. Similarly, as for *Flight Behaviour*, other instances of filler scenes that occur after exceptional events can be perceived in *The Rapture*. However, we will refrain from showing too many examples as what it interesting here is the fact that, in their novels, both Kingsolver and Jensen use filler scenes that consist of events that relate to the everyday life to conceal the exceptional events that drive the narration of their stories, and subsequently help make their stories probable. However, as indicated in the introduction, *The Rapture* is a thriller, which means that the focus placed on action is more important than is the case in *Flight Behaviour*. Consequently, the filler scenes are less present in this novel than they are in Kingsolver's.

There is another way in which the authors achieve a certain plausible and probable frame in their novels. In chapter sixteen of the first part of *The Great Derangement*, Ghosh mentions that *Flight Behaviour* and *The Rapture* are both "set in a time that is recognizable as our own" (p. 73). However, I will go further than Ghosh and add that they are both set generally in a world that is recognizable as our own. Indeed, the authors mention several small details to install this sense of familiarity in the reader. First of all, the fictitious cities are both set in countries or sates that are very much real. As we know, Feathertown, the village in *Flight Behaviour*, is set in the state of Tennessee in the United States, while Hadport the city in *The Rapture*, is located in England. Therefore, it can be said that both authors first install a sense of

familiarity, plausibility and probability to their story by choosing a realistic spatial frame. In chapter nine of *Flight Behaviour*, Dellarobia mentions "Osama bin Laden" (p. 301) as well as the chain called "Walmart" (p. 301). In the same chapter, she also mentions different holidays such as Christmas; moreover, Dellarobia, her children and the scientists have a party at some point to celebrate this religious festival. In the first chapter, she refers to Mother's Day when discussing a rosebush that Cub gifted to her for the occasion. As we know, Cub mentions the politician Al Gore as well. In addition to this, in the tenth chapter, Ovid Byron tells Dellarobia that he has "just read a UN climate report of many hundred pages" (p. 386). There are many other instances in the novel in which Barbara Kingsolver refers to a detail that exists in our world as well. The same technique can be seen in *The Rapture*: even though it can be argued that the story is set in a somewhat more futuristic setting than *Flight Behaviour*, the world of the story is still recognizable to the reader. At the beginning of the novel, when Gabrielle thinks about Bethany, she wonders "what channels she had been watching. Discovery, BBC World, Cartoon Network, News 24, CNN. But where? When? The TV in the rec room seems permanently fixed on MTV" (p. 21). Moreover, in the filler scene that was discussed previously, Gabrielle ultimately decides to watch the news:

> Two more suicide bombings in Jerusalem. Abductions, limbs lost, children orphaned. Black-clad women wailing their grief in Iran. The row about Chinese and American greenhouse gas emissions has ratcheted up a notch, while the heatwave has spread to the whole of Europe, felling old people in precise strokes, like an efficient industry. (p. 27)

These passages demonstrate that Jensen, too, includes all sorts of small details that make her world familiar to the reader. Indeed, the above-mentioned television channels all exist; moreover events such as suicide bombings, abductions, and rows about greenhouse gas emissions, as well as tensions between the United States and China, are events and aspects that exist and happen in our world. It should furthermore be indicated that Jensen uses realistic spatial settings in this case as well. Therefore it can be said that both Kingsolver and Jensen create a plausible frame for their stories by mixing realism with fiction.

Another interesting aspect that should be addressed is that Kingsolver states in the author's note at the end of her novel that:

> In February 2010, an unprecedented rainfall brought down mudslides and catastrophic flooding on the Mexican mountain town of Angangueo. Thirty people were killed and thousands lost their homes and livelihoods. To outsiders, the town was

> mainly known as the entry point for visitors to the spectacular colonies of monarch butterflies that overwinter nearby. (p. 598)

Then, Kingsolver indicates that the wintery migration of the monarch butterflies to Tennessee is, by contrast, a fictional event. As we know, the flood in Angangueo is the climatic event that leads the butterflies to migrate to Feathertown. This, perhaps, is the most concrete way in which Kingsolver uses real events for her story. It can also be said that this, alongside the fact that she mentions it in the author's note, contributes all the more to the creation of a plausible world thanks to realistic elements as she makes the readers aware that this part of her story is in fact not entirely fictional.

However, it can be argued that despite this plausible world created by Kingsolver and Jensen, they sometimes tend to disregard this strict plausible and realistic frame as well, as implied in the title of this sub-chapter. Indeed, none of the two authors attempt to constantly rationalize the events happening in the novels, and they are not afraid to express exactly how improbable and uncanny they are. As we know, this is an aspect that is mentioned by Ghosh in *The Great Derangement* when he discusses the fact that the challenges of the fictional representation of climate change that are presented should be regarded as "resistances rather than insuperable obstacles" (p. 73). Indeed, he writes that both novels "communicate, with marvellous vividness, the uncanniness and improbability, the magnitude and interconnectedness of the transformations that are now under way" (p. 73). As we also know, when Dellarobia first encounters the butterflies while walking to where she has planned to meet Jimmy, she first believes that the forest is on fire and this event greatly unsettles her as she cannot stop thinking about it until she returns to the site with her family and discovers that they are butterflies. After deciding to leave and return to her children, Dellarobia cannot help but think that "it was a lake of fire, something far more fierce and wondrous than either of those elements alone. The impossible" (p. 22). What this passage shows is that Kingsolver already depicts the event as impossible during the first sighting of the event, before Dellarobia discovers that they are monarch butterflies, and most importantly a sign of the Earth's distorted climate. Dellarobia cannot comprehend what she has just witnessed, to such an extent that it frightens her and makes her flee. As we know, Ghosh claims that introducing events that are related to climate change may be more difficult than other slightly less improbable events and that doing so without leaving the realm of serious fiction is challenging. When linking Ghosh's reflection with what Barbara Kingsolver does in her novel to create the scene in which Dellarobia faces the butterflies for the first time, it is interesting to see that she precisely does not try to make it

probable and plausible. On the contrary, she ensures to express, through Dellarobia, exactly how impossible and therefore improbable this sight and event is; moreover, Dellarobia starts questioning herself. Indeed, when she returns to her house she says that "whatever had gained purchase on her vision up there felt violent, like a flood, strong enough to buckle the dark roof and square white corners of home and safety" (p. 23). However nothing has changed and she starts wondering if she might not have been dreaming. Indeed, it is said that "she'd come down the mountain in less than half the time it took to climb, and that was long enough for her to doubt the whole of this day" (p. 23). What these passages show is that what Dellarobia has just witnessed is so unthinkable that she starts wondering if she might not have imagined the encounter in its entirety. Moreover, when Dellarobia ultimately discovers that what is deployed in front of her eyes is not a lake of fire but rather a swarm of butterflies, it is still described as implausible. In fact, when Dellarobia visits the butterfly site for the first time with her family, her parents-in-law are surprised at the sight as well, and it is said that "they seemed expectant, or even accusing, as if it might be up to Dellarobia to arrange this nonsensical sight into something ordinary and real. She couldn't imagine it" (pp. 73-74). This passage further shows the improbability and uncanniness of the scene unfolding before their eyes as Dellarobia cannot imagine to turn it into a plausible event.

As we know, Dellarobia later meets a team of scientists, and more specifically Ovid Byron. It should be noted that despite the presence of scientists, Kingsolver continues to express the implausibility and uncanniness of climate change. When Dellarobia first meets Ovid she invites him for dinner, and at some point she inquires what a scientist like him may wish to study about a monarch butterfly. Ovid gives her list of aspects and parameters that can be studied, but most importantly he says that:

> As of today, the most interesting and alarming question anyone in the field has yet considered, I think. Why a major portion of the monarch population that has overwintered in Mexico since God set it loose there, as you say, would instead aggregate in the southern Appalachians, for the first time in recorded history, on the farm of the family Turnbow. (p. 167)

This passage shows that this event is not only uncanny for the people of Feathertown but that it also is for entomologists who, despite being scientists specialized in insects, do not comprehend the phenomenon either. Furthermore, when Ovid broaches the notion of climate change with Dellarobia, he tells her: "Monarchs have wintered in Mexico since they originated as a species, as nearly as we can tell. We don't know exactly how long that is, but it is many thousands of

years. And this year, instead of the norm, something has put them here" (p. 204). Moreover, to ensure that Dellarobia understands what he conveys, he asks her: "If you woke up one morning, Dellarobia, and one of your eyes had moved to the side of your head, how would you feel about that?" (p. 204). By comparing climate change with a body part that suddenly relocates to another position, the scientist perfectly portrays the uncanniness and implausibility of climate change and its related events.

However, Kingsolver does not solely show the uncanniness of climate change through the butterflies. Indeed, she also does this by portraying a distorted weather in her novel. Firstly, at the beginning of the first chapter, Dellarobia "frowned at the November sky. It was the same dull, stippled ceiling that had been up there last week, last month, forever. All summer" (p. 2). Then secondly, during the month of December: "Preston gave up hoping for a white Christmas and asked his mother if Santa knew how to drive a boat. That's the kind of December they were having. It fell on them in sheets and gushes, not normal rain anymore but water flung at the windows as if from a bucket" (p. 169). Then in the scene in which Cub mocks Al Gore, Dellarobia tells him: "But what about all the rain we had last year? All those trees falling out of the ground, after they'd stood a hundred years. The weather's turned weird, Cub. Did you ever see a year like we've had?" (p. 360). All these passages show how uncanny the weather has become, it is completely different from what people have previously witnessed and it confuses them. Furthermore, Kingsolver demonstrates how this uncanny weather is directly related to climate change when she has Dellarobia mention it to Cub in the scene in which she attempts to educate her husband on the subject.

This uncanny weather is also an aspect that can be perceived in *The Rapture*. Indeed, the author starts the novel by writing: "That summer, the summer all the rules began to change, June seemed to last for a thousand years. The temperatures were merciless: thirty-eight, thirty-nine, then forty in the shade" (p. 1). She also describes that the weather made people long for the rain that never comes as they feel asphyxiated. Jensen's incipit immediately draws our attention to some very abnormal weather, something that is actually felt to have become "the norm across the globe" (p. 2). Then, when Gabrielle discusses climate change with Bethany, she claims that "climate-apocalypse paranoia is common among the young. Zeitgeist stuff: the banality of abnormality" (p. 18). These passages then show how uncanny the weather as well as climate change are as Gabrielle reflects on their peculiarity. Indeed, she says that "the British seasons made some kind of sense" (p. 44) a few years ago but that they do not anymore, further showing that distorted and uncanny weather has become the norm. As we know, Ghosh discusses that the uncanniness of climate change also lies in the fact that it is a direct

consequence of human actions. This is a side of the environmental uncanny that Jensen introduces in her novel as well. Indeed, Gabrielle has read an article by Harish Modak, the leader of the Planeterians, who claims that "'we are the agents of our own destruction – and when we are gone, extinguished by our own heedless quest for expansion, the planet will not mourn us" (p. 30). Thus, through the character of Modak, the author also seeks to make explicit the environmental uncanniness related to the human aspect of climate change.

Not anymore than Barbara Kingsolver, then does Liz Jensen attempt to remain in a strictly plausible and realistic frame. The obvious flouting of plausibility in this novel lies in the character of Bethany as Jensen introduces some elements of fantasy with a character that seems to have magical visions. Moreover, these visions appear so impossible to imagine that it takes Gabrielle several climate catastrophes in order for her to believe Bethany and her claims. However, it can be said that, just like Kingsolver, Jensen also portrays the improbable side of weather events due to climate change. Indeed, when Gabrielle discusses, with Frazer Melville, Bethany's predictions and most specifically a super-hurricane that is supposed to happen in Rio de Janeiro, he tells her:

> "But super-hurricanes are a complex phenomenon. With global warming, we're seeing all sorts of things we haven't seen before. That's the trouble with trying to model anything on a computer: we only have the parameters of what's already known. But Rio de Janeiro – highly unlikely, I'd say." (p. 60)

However, it can be seen in the following chapter that this super-hurricane indeed happens and that both Gabrielle and Frazer are surprised. As Kingsolver has Dellarobia describe the butterflies as "nonsensical" (p. 74), Jensen also shows how these weather events typically are not coherent with established weather patterns. Indeed, the scientist Dr Melville refers to the prediction as "highly unlikely" (p. 60), which does not prevent it from happening all the same, and this shows how implausible and improbable these weather phenomena are. Thus, to represent climate change in their novels, one of the first ways in which Kingsolver and Jensen negotiate with the implausibility and uncanniness highlighted by Ghosh, is by not attempting to make these events appear as completely plausible to the characters but by rather expressing exactly how improbable and uncanny they seem to be.

6.2 Biblical intertextuality

In the second chapter of this work, the role of Church in *Flight Behaviour* as well as in *The Rapture* was already discussed, and we will further discuss it here. Indeed, one of the ways in which Kingsolver's characters tackle the experience of the new is through the reference to their Biblical knowledge.

As we know, Kingsolver portrays Dellarobia as extremely confused when first encountering the butterflies, to such an extent that she starts doubting what she has witnessed. In this passage, Kingsolver already introduces some biblical intertextuality. Indeed, when Dellarobia first notices the butterflies that she mistakes for a forest fire, it is said that "Moses came to mind, and Ezekiel, words from Scripture that occupied a certain space in her brain but no longer carried honest weight, if they ever had. *Burning coals of fire went up and down among the living creatures*" (p. 19). Despite her avowed skepticism, Dellarobia will form a deep attachment to the phenomenon, as well as the butterflies in general, as she believes that "the burning trees were put here to save her" (p. 22) and that "it was the strangest conviction she'd ever known, and still she felt sure of it" (p. 22). This is in part because Dellarobia first perceives this event through a biblical point of view. Indeed, she recognizes that she is not an exceptional being that would make her worthy of God sending signs, but she cannot help interpreting this event through this lens:

> She had no use for superstition, had walked unlucky roads until she'd just as soon walk under any ladder as go around it, and considered herself unexceptional. By no means was she important enough for God to conjure signs and wonders on her account. What had set her apart, briefly, was an outsize and hellish obsession. To stop a thing like that would require a burning bush, a fighting of fire with fire. (p. 22)

Moreover, it has been observed that Dellarobia has a peculiar relationship with religion despite living in a town in which religion is important. This detail can be perceived in this scene as well. Indeed, when the butterflies are first introduced, Kingsolver writes: "the forest blazed with its own internal flame. "Jesus," she said, not calling for help, she and Jesus weren't that close" (p. 19). It is thus interesting to observe that despite the fact that Dellarobia is not a deeply religious person and the fact that she does not perceive herself as exceptional, she still cannot stop herself from interpreting this event in a biblical manner due to its uncanniness and improbability. Indeed, she cannot think of another explanation and that surely it is her "outsize and hellish obsession" (p. 22), which refers to her desire to be unfaithful, that was the event that prompted God to create this vision in front of her eyes as infidelity is a sin in the Catholic

religion. Thus, Dellarobia attempts to somewhat process and rationalize what she has just witnessed by resorting to superstition. Moreover, it can be said that this biblical intertextuality is a practice used by Kingsolver to have this rationalization in her novel while still acknowledging the improbable and impossible aspects of the event. What can be perceived in this scene, and in the above-mentioned quote as well, is that, even though Dellarobia is a not firm believer, she still cannot help associating natural phenomena with religion. Indeed, she automatically thinks of biblical figures such as Moses and Ezekiel and remembers a passage from the bible when she sees the forest's "flame" (p. 19), which further demonstrates her need to associate religion with the concept of implausibility to find an explanation.

However, Dellarobia is not the only character who uses religion as a way to make sense of this event. When the family first visits the site and Dellarobia notices that what she has witnessed without her glasses was actually a colony of butterflies, Cub claims that it is a miracle and that Dellarobia has had a vision. He does this instead of asking her how she knew that there was some miracle in the mountains: in fact, he says that "she foretold of it" (p. 74). Moreover, when Cub's father refuses to believe this, Hester, Cub's mother, who is bit reluctant at first to believe that Dellarobia has had a vision, tells her husband that "this could be the Lord's business" (p. 76). Then at the end of the chapter, when discussing Dellarobia, Hester further opines that "the girl is receiving grace" (p. 78). What these passages show is that both Cub and Hester also use religion to attempt to rationalize what is occurring on their property instead of attempting to find a more plausible explanation. This use of religion can further be seen in the next chapter, entitled "Congregational Space", when Cub decides to tell everyone about this so-called miracle during Sunday Mass. He refers to the butterflies as a 'beautiful thing' visited on their mountain by some 'heavenly host', which Pastor Ogle is only too willing to hail as 'a miracle' (p. 96), too. However, it is said that the other followers are not totally convinced by what Cub is saying. Therefore, he decides to tell that his wife foretold the event to convince them and that surely it has to be heavenly as it has happened at the exact moment when his family was discussing logging the mountains. This seems to convince a few followers as well as to further convince the pastor who tells Dellarobia that her "family has received special grace" (p. 99), and then asks his followers if they are with him. As we know, religion, and most importantly Church, hold a significant power in Feathertown, therefore Cub's explanation as well as the approval of Bobby Ogle is enough for the inhabitants of Feathertown to believe in this miracle as well. It can thus be said that, the butterfly event seems so uncanny and improbable that most people in Feathertown, Dellarobia included, tend to perceive it and make sense of it through the lens of religion. Moreover, Dellarobia herself is almost turned into a

biblical figure when Pastor Oggle as well as the followers claim that she has received grace. The novel's biblical intertextuality thus provides a way of registering the characters' responses to events felt to be uncanny and sometimes even grotesque.

Other instances of biblical intertextuality can be perceived in the novel, most specifically in the context of the weather. As we know, Kingsolver presents a distorted weather in her novel that seems uncanny to the inhabitants of Feathertown. One of the examples that was mentioned is how Dellarobia's son hoped to have a white Christmas but that it has, instead, been raining a lot. After the description of the uncanny weather, Dellarobia says that "the times seemed biblical" (p. 169), and even recites a verse: "*Save me, O God, for the waters have come up to my neck*" (pp. 169-170). As we know, Dellarobia tends to associate natural phenomena with the Bible, and in this passage she does this with the weather. This gesturing towards biblical culture when thinking of the weather can be related to the subject of education that was discussed previously. Indeed, as we know, most people in Feathertown do not have a scientific background and they rely on the media or the Church for their education, with the consequence they tend to be debarred from access to climate change conversations. This is why the weather tends to be approached from the point of view of religion in the novel. At some point in the story, Dellarobia reflects:

> Why would cool weather make dry air? She'd wondered such things a thousand times, inciting the regular brainless replies: woolly worms predict the weather and the Lord moves in mysterious ways. Good night. She knew she should be patient with those underly endowed with intelligence, but could everyone at once be below average? (p. 59)

This passage shows that when the subject of the weather is discussed in Feathertown, one of the first responses that is provided is a religious one as God is the one that takes care of it. This can be seen with the character of Cub as well. Indeed, when Dellarobia discusses climate change and evokes uncanny the weather, Cub is quite content to retort that the "weather is the Lord's business" (p. 361). Clearly, religion then plays a part in reinforcing the tendency to maintain a taboo around the issue of climate change. Furthermore, it can be argued that the reason why they also tend to relate religion with the weather is because it has become so uncanny and improbable that they cannot comprehend it in other terms.

6.3 Scientific Rationalization

Scientific rationalization is another response favoured by the characters in the face of the uncanny.

In his article on the uncanny and the genre of climate fiction, Andersen (2016) discusses Helen Simpson's short story entitled *A Diary of an Interesting Year*. He states that:

> Cli-fi is a very important thought-experiment in our contemporary world exactly because it is mimetic in this sense. It basically makes what is not yet visible for us visible, without being an exact representation of it, as it "builds" its worlds from a ground (or from within a framework) that is scientifically probable. (pp. 857-858)

This passage illustrates that scientific plausibility is needed in order to create a work of climate fiction. This idea undoubtedly echoes Ghosh's words in *The Great Derangement* when he claims that climate change cannot be broached through magic realism and surrealism. Thus, scientific plausibility is a sine qua non condition for a novel to remain realist. In her novel, Barbara Kingsolver provides this scientific probability by means of Ovid Byron and his team of scientists that arrive. In her article on science and fiction, Haynes (2016) states that: "The science novel relies heavily on scientist figures, not only to capture and sustain the interest of the reader and to provide continuity of plot and structure, but also to expound, enact or respond to scientific ideas and to convey the realistic experience of 'doing' science" (pp. 132-133). Thus, scientists are needed to introduce the scientific truth behind a topic. Indeed, when Ovid and Dellarobia discuss the cultural and economic differences between the two of them during her interview, Ovid tells her: "Our main concern is to get things going quickly, because we have so little time. A matter of weeks. Maybe not even that" (pp. 310-311). This prompts Dellarobia to inquire what the worry in terms of time is and Ovid tells her that the butterflies could be in danger if a winter storm were to come and "kill every butterfly on that mountain" (p. 311). This deeply unsettles Dellarobia as the potential death of the butterflies seems impossible to her: "That the butterflies could be wiped out, completely apart from the logging she hoped to forestall, was inconceivable" (p. 311). Ovid then tells her that the temperature at which wet monarch butterflies freeze "is minus four degrees centigrade" (p. 311). He proceeds to state:

> "That is an inevitable event, for this latitude. The mid-twenties, Fahrenheit. The forest might shield them to some extent, where the canopy is closed. Large trees are protective; the trunks create a thermal environment like big water bottles. That's why

> you see them covering the trunks. Maybe it's why they ended up in that stand of old conifers for their roosting site when they went off track. These firs are similar to the Mexican oyamels, in terms of chemistry. We have no idea of the cues involved. But to protect them from the kind of winter they will have here, that forest is far from adequate." (p. 312)

Yet it is imperative for the monarch population to survive winter because "breeding and egg-laying are still impossible for them until spring, when the milkweeds emerge" (p. 313) and "the reproduction is hardwired" (p.312), "even for these individuals with aberrant migratory flight behaviour" (p. 312). A few pages later, Ovid concludes: "Most likely, this is due to climate change. Really I can tell you I'm sure of that. Climate change has disrupted this system" (p. 315). Not only does Kingsolver, in these passages, establish the reality of the situation that they are in and its worrisome and urgent aspect, but the author also brings the scientific rational explanation to this likely scenario: the butterflies can only survive above a certain temperature and this winter habitat is not suited for it. Moreover, she also demonstrates through the character of Ovid that this uncanny migration is all due to climate change, further giving a scientific explanation to the event that unsettled the people of Feathertown. Later in the novel, Ovid explains the concept of carbon footprint in relation to climate change: "Three hundred fifty parts per million, he replied. The number of carbon molecules the atmosphere can hold, and still maintain the ordinary thermal balance. It's an important figure" (p. 383). He also tells her that it is a greenhouse gas and that the number has been increasing. He then adds that "the thermal stability of the planet" (p. 384) will go awry after passing this mark. What is said next is a shock to Dellarobia, as the mark has in fact been passed already. She then wonders "why hasn't everything blown up" (p. 384), and therefore why she cannot observe the results of this. Ovid thus tells her that:

> "Some would say it has. Hurricanes reaching a hundred miles inland, wind speeds we've never seen. Deserts on fire. In New Mexico we are seeing the inferno. Texas is worse. Australia is unimaginably worse—a lot of the continent is in permanent drought. Farms abandoned forever." (p. 384)

These passages show that the uncanny natural phenomena that Dellarobia has witnessed are in fact a consequence of climate change and that the excess of carbon in the atmosphere is making the Earth unstable. This passage thus allows Dellarobia and the reader to perceive the scientific reason behind the natural catastrophes and distorted weather that have been occurring. Therefore, not only do the scientists provide a scientific education to Dellarobia, but they also

help establish the conditions that have made the seemingly uncanny and improbable events possible. This scientific subtext allows the novel to remain in the realist genre as we depart from a completely uncanny, impossible and biblical vision of climate change to reach a rational and scientific explanation; thus providing the scientific probable frame that Andersen (2016) mentions in his article. Dellarobia then departs from her neighbours in Feathertown in that she relinquishes religion, and gradually comes to endorse science as a frame of explanation allowing her to make sense of the developments. Indeed, in the eleventh chapter of the novel, Dellarobia tells Dovey that Hester believes God is protecting the butterflies by keeping the weather mild. She also indicates that it is not only Hesther who thinks that as some people from their church also do. More specifically, they think that "the butterflies knew God was looking after things here, and that's why they came to Feathertown" (p. 415). This passage further illustrates the crucial role that the scientists play in providing the scientific explanation because, as we know, Dellarobia is the only character who dares to truly approach them. Furthermore, despite Dellarobia's attempts to introduce her husband to the reality of climate change, Cub sticks to this biblical perspective. Moreover, the scientific explanation makes the events of the story somewhat probable as the reader comprehends that they could happen in their world as well.

Scientific rationalization can be perceived in *The Rapture* as well, and like Kingsolver, Jensen does this through scientists. As we know, Jensen introduces elements of fantasy in her story with the character of Bethany; however, she then provides a scientific explanation to justify Bethany's visions. Indeed, when Frazer Melville lists all of the predictions that have become reality, he says that it cannot be a 'coincidence' or 'lucky guessing' (p. 117). Gabrielle then wonders what they should do afterward and Frazer tells her that they should look "for a scientific explanation" (p. 117). Frazer then introduces his theory to Gabrielle and claims that, in terms of time, they should consider meteorology and geology in a different way. Indeed, "weather can be brewing for a week or more before it becomes violent" (p. 118). He then illustrates his theory through Istanbul and hypothesizes that Bethany is able to perceived signals that are otherwise undetectable to the rest of the population. Frazer proceeds to say:

> "Let's say that in each case, she's sensing the beginning of a build-up of pressure, whether it's atmospheric or underground. And then let's hypothesise that she's somehow been able to imagine very accurately the time it will take to develop into an event, and where it will manifest itself. She knows the globe pretty well, for someone

> of her age. But in any case I'd suggest it's more about instinct than knowledge." (p. 118)

Ultimately, Bethany is supposedly able to detect pressure changes. Dr Melville then states that she is not, in all likelihood, able to do this solely instinctively. This prompts him to tell Gabrielle that birds are able "to know which direction to fly in when they migrate" (p. 118) thanks to some kind of 'directional magnetism' (p.118). He then states that animals are sensitive to this sort of forces and that many species would be able to sense an 'earth tremor' (p. 118) even if it was located tens of kilometres away from them. Frazer then links this with Bethany's abilities: "Let's imagine that in Bethany's case, the ECT gives her extra sensitivity to energy fluctuations. Or just an awareness of when natural flows are disrupted enough to trigger some radical event" (p. 118). As we know, ECT is the electroshock treatment that Bethany receives in the hospital in which she resides. Thus, Frazer mentions this therapy as the rational explanation behind Bethany's sudden visions. This scientific rationalization thus allows Jensen to reduce the fantasy aspect of her novel and to remain within the realm of the genre of realist fiction that Ghosh considers as serious fiction.

However, Jensen does not solely exploit this process to make Bethany's visions scientifically possible. Indeed, she proceeds to give a rational explanation for the upcoming end of times. Notably by having Gabrielle research the subject of methane catastrophes in relation to climate change: "Twice in the distant past, the planet's atmosphere has been microwaved – resulting in the devastation of most of life on Earth. One of the main culprits was methane" (p. 162). However, Jensen has the scientists demonstrate the possibility of the catastrophe as well. Indeed, Kristin, one of Frazer's scientist acquaintances, says that if there is a miscalculation in the amount of methane present under the ocean floor, the fissures that are already present will certainly widen which will, in turn, allow huge amounts of methane to escape. Ned, another scientist, then state that:

> "The sediment will destabilise and trigger a submarine avalanche. Possibly leading to the release of the entire methane reserve buried under the explored hydrate field. Thereby removing vast amounts of sediment above and adjacent to the methane. Creating further cascades across the whole area." (p. 195)

A tsunami will follow, "which is likely to destabilise more sediment packages, leading to more massive landslides" (p. 195). In these passages, Jensen provides a rational explanation to the main character as well to the reader that thus allows her to establish a scientifically probable frame in which climate change will be seen to destroy the Earth as we know it. However, an

aspect that should be mentioned is that Jensen scientific rationalizes to a smaller extent than Kingsolver does. Indeed, as we know, when Gabrielle mentions the super-hurricane that should occur in Rio de Janeiro, Dr Melville refers to it as highly unlikely. Yet, when the hurricane indeed occurs, Frazer simply tells Gabrielle that: "Meteorology, he insists eloquently, is a notoriously inexact science, and much of it is simply guesswork" (p. 73). Thus, instead of providing more scientific rationalization to scientifically justify the super-hurricane that came to pass in Rio, Dr Melville simply refers to the inaccuracy of meteorology.

Haynes (2016) similarly reflects on the use of science in the novelistic form and he warns that it could lead to an "information dump" (p. 138). When discussing *Flight Behaviour*, the author states that:

> Dellarobia, an uneducated but quick-witted woman who is naturally curious about the world, becomes [Ovid's] assistant; thus information can be delivered in small packets in response to specific incidents and questions, interleaved with Dellarobia's immediate survival concerns and her growing attraction to Byron. (p. 139)

Indeed, Kingsolver avoids providing too many details to her reader at once by the means of Dellarobia's relationship with the scientist. Besides, it can be argued that Jensen adopts a similar approach, since most of the scientific information in her novel is provided through Frazer Melville. However, Jensen does not solely exploit the character for this aim, for he becomes Gabrielle's love interest as well. Therefore, as Kingsolver, Jensen uses Gabrielle and Frazer's relationship to introduce small amounts of information during their conversations and avoid an excess of sudden information.

7. Conclusion

In conclusion, in this dissertation I have firstly presented the challenges that make writers resistant to representing climate change within a fictional domain, as they were demonstrated by Ghosh in *The Great Derangement*. I have then proceeded to demonstrate how Barbara Kingsolver and Liz Jensen have successfully solved these problems in their novels.

To begin with, I have discussed the taboo surrounding climate change in *Flight Behaviour*. Indeed, both Kingsolver and Jensen already bypass the taboo by thematising climate change in their work. However, Kingsolver goes one step further as she proceeds to thematise the taboo itself in her novel, too. In fact, the author depicts how the media collaborates in upholding it: they are more interested in chasing a story that will appeal to their audience and sponsors, and they contribute to the devaluation of science and scientists. However, she also shows through Ovid that not all journalists work in this manner and that they cannot be considered the sole culprit as our personal responsibility can be involved as well. Finally, Kingsolver shows that there is a certain distrust between the media and the scientists, that can lead to a lack of adequate communication, in addition to a certain gatekeeping that is happening within the scientific community.

Then, we have seen how the thematization of the taboo allows Kingsolver to broach the theme of education, as they go hand in hand. Indeed, a lack of education in addition to disinformation leads to ignorance on the subject of climate change on the part of non-scientists. We have also seen how poor people tend to be disregarded when it comes to making decisions around climate change despite their arguably being the most impacted. Moreover, Kingsolver and Jensen have depicted how the Church may play a role in alienating their followers from such knowledge as well. However, Kingsolver also provides a solution for this taboo: education. Indeed through the character of Dellarobia, she demonstrates how one can depart from climate denial by receiving some sort of scientific education. Finally, we have argued that the novels can serve as didactic tools for the reader, which is another way in which the authors resist the taboo: they grant an education to their readers.

Next, we have seen that the authors opt for an inclusive temporal and spatial setting so as to effectively represent climate change. Indeed, Kingsolver uses an unusual migration to show that any place on earth is potentially connected to other places, a form of globalization that is greatly enhanced by the reality of climate change. Jensen does something similar by using the character of Bethany who serves as a link between the local and the global. As for the temporal setting, Jensen is able to restrict it by not portraying the entirety of the Anthropocene era but by choosing to depict only the end of it. They are also able to represent the collective

implication of climate change by making their main characters outgrow their earlier individualistic concerns.

Finally, we have examined the genre of the novels. Indeed, the authors strive towards a sense of verisimilitude by aiming for realism in their fiction. However, we have argued that Kingsolver and Jensen do not always stay within this strict realistic frame in their respective novels. Indeed, they extend the limits of a conventional realism in order to be able to accurately represent the improbable and uncanny side of climate change, as they do not dismiss what may seem unusual about it. Then, it has been argued that the characters in *Flight Behaviour* resort to religious superstition to be able to somewhat comprehend the events that are unfolding in Feathertown. We have also argued that the authors use scientists to provide a scientific explanation to the uncanny and improbable events, which then allows them to remain within the plausible frame that is needed according to Ghosh.

Ultimately, one could argue that Ghosh's vision of the novelistic genre is rather narrowed and, that surely, the authors have proved him wrong with their work. Indeed, while Ghosh was quite strict in terms of setting and realism, Kingsolver and Jensen have not avoided experimenting with their limits. Their work shows that the limitations presented by Ghosh are not as rigid as he tends to think.

8. Bibliography

8.1 Primary sources

Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable*. Penguin Random House India, 2016.

Jensen, Liz. *The Rapture*. 1er édition, Bloomsbury Publishing, 2009.

Kingsolver, Barbara. *Flight Behaviour*. Main édition, Faber & Faber, 2013.

8.2 Secondary sources

‘About Liz’. *Liz Jensen*, https://www.lizjensen.com/about-liz/. Accessed 11 April 2022.

‘Accord de Paris’. *Commission européenne*, https://ec.europa.eu/clima/eu-action/international-action-climate-change/climate-negotiations/paris-agreement_fr. Accessed 24 December 2021.

‘Amitav Ghosh | Biography, Books, & Facts | Britannica’. *Encyclopedia Britannica*, https://www.britannica.com/biography/Amitav-Ghosh. Accessed 11 April 2022.

‘Amitav Ghosh - Literature’. *British Council*, https://literature.britishcouncil.org/writer/amitav-ghosh. Accessed 11 April 2022.

Andersen, Gregers. ‘Cli-Fi and the Uncanny’. *Interdisciplinary Studies in Literature and Environment*, vol. 23, no. 4, 2016, pp. 855–66. *explore.lib.uliege.be*, https://doi.org/10.1093/isle/isw068.

‘Barbara Kingsolver Biography’. *CliffsNotes*, https://www.cliffsnotes.com/literature/p/the-poisonwood-bible/barbara-kingsolver-biography. Accessed 11 April 2022.

Boykoff, Maxwell T., and S. Ravi Rajan. ‘Signals and Noise. Mass-Media Coverage of Climate Change in the USA and the UK’. *EMBO Reports*, vol. 8, no. 3, 2007, pp. 207–11. *explore.lib.uliege.be*, https://doi.org/10.1038/sj.embor.7400924.

‘Climate Change Evidence: How Do We Know?’ *Climate Change: Vital Signs of the Planet*, https://climate.nasa.gov/evidence. Accessed 18 April 2022.

‘Definition of THRILLER’. *Merriam-Webster*, https://www.merriam-webster.com/dictionary/thriller. Accessed 11 April 2022.

Gabbatiss, Josh, and Ayesha Tandon. ‘In-Depth Q&A: What Is “Climate Justice”?’ *Carbon Brief*, 4 October 2021, https://www.carbonbrief.org/in-depth-qa-what-is-climate-justice.

Grabianowski, Ed. ‘How Animal Migration Works’. *HowStuffWorks*, 8 January 2008, https://animals.howstuffworks.com/animal-facts/animal-migration.htm.

Haynes, Roslynn D. ‘Bringing Science into Fiction’. *Zeitschrift Für Anglistik Und Amerikanistik*, vol. 64, no. 2, 2016, pp. 127–48. *explore.lib.uliege.be*, https://doi.org/10.1515/zaa-2016-0015.

Hoby, Hermione. ‘Barbara Kingsolver: Interview’. *The Telegraph*, 22 October 2012, https://www.telegraph.co.uk/culture/books/bookreviews/9618239/Barbara-Kingsolver-Interview.html.

Jarvis, Christine. ‘The Educational Power of Fiction—An Interdisciplinary Exploration’. *Professional Education with Fiction Media: Imagination for Engagement and Empathy in Learning*, edited by Christine Jarvis and Patricia Gouthro, Springer International Publishing, 2019, pp. 1–26. *Springer Link*, https://doi.org/10.1007/978-3-030-17693-8_1.

‘Liz Jensen’. *Babelio*, https://www.babelio.com/auteur/Liz-Jensen/8522. Accessed 11 April 2022.

Lloyd, Christopher, and Jessica Rapson. ‘“Family Territory” to the “Circumference of the Earth”: Local and Planetary Memories of Climate Change in Barbara Kingsolver’s Flight Behaviour’. *Textual Practice*, vol. 31, no. 5, 2017, pp. 911–31. *explore.lib.uliege.be*, https://doi.org/10.1080/0950236X.2017.1323487.

Mosko, Sarah 'Steve'. 'The Taboo on Talking Climate Change'. *Natural Life (Unionville. 1991)*, 2018.

Paulson, Steve. 'Where's the Great "Climate Change Novel"? A Conversation with Amitav Ghosh'. *Los Angeles Review of Books*, 22 September 2017, https://lareviewofbooks.org/article/wheres-the-great-climate-change-novel-a-conversation-with-amitav-ghosh/.

Rosenthal, Debra J. 'Climate-Change Fiction and Poverty Studies: Kingsolver's Flight Behavior, Diaz's "Monstro," and Bacigalupi's "The Tamarisk Hunter"'. *Interdisciplinary Studies in Literature and Environment*, vol. 27, no. 2, 2020, pp. 268–86. *explore.lib.uliege.be*, https://doi.org/10.1093/isle/isz105.

Schneider-Mayerson, Matthew. 'The Influence of Climate Fiction: An Empirical Survey of Readers'. *Environmental Humanities*, vol. 10, no. 2, 2018, pp. 473–500. *explore.lib.uliege.be*, https://doi.org/10.1215/22011919-7156848.

van der Linden, Sander L., et al. 'The Scientific Consensus on Climate Change as a Gateway Belief: Experimental Evidence'. *PloS One*, vol. 10, no. 2, 2015, pp. e0118489–e0118489. *explore.lib.uliege.be*, https://doi.org/10.1371/journal.pone.0118489.

Young, Royal. 'Barbara Kingsolver Sets a Fire'. *Interview Magazine*, 7 November 2012, https://www.interviewmagazine.com/culture/barbara-kingsolver-flight-behavior.