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'Family Territory' to the 'Circumference of the Earth':

Local and Planetary Memories of Climate Change in Barbara Kingsolver's *Flight Behaviour*

In an article for the *New Yorker*, Carolyn Kormann suggests that climate change, a 'far-reaching, fundamental transformation,' raises 'a full array of big, important issues for fiction to take on'.¹ This article suggests that Barbara Kingsolver's *Flight Behaviour* (2012) responds to this challenge through charting interactions between local and planetary environments, prompting readers to contextualise the micro—geographically bounded human experience and memory—within the macro context of the Anthropocene. Kingsolver's oeuvre has consistently been attentive to the textures of ecology and place; in this novel, like her much-admired *Prodigal Summer* (2000), Kingsolver writes about rural Appalachia, exploring the vicissitudes of family life, environmentalism, and community. *Flight Behaviour* centres on the Turnbow family, and is focalised through Dellarobia: a young, poor white mother who, at the novel's opening, is ready to embark upon an affair. As she walks into the valley that neighbours her family's farm, she is met with an inexplicable sight, which she later learns is a flock of monarch butterflies. Apparently a result of climate change, their roosting site in Mexico has been destroyed, and thus the butterflies set down in rural Tennessee. While the mudslides in Mexico that displace the insects are real (as noted in Kingsolver's author's note), the butterflies' presence in Appalachia is fiction. Scientists and tourists then descend on Tennessee, and Dellarobia's life, changing not only the family's sense of themselves, but also its sense of place and planet.

Scholarly reactions to the novel have been varied; within the environmental humanities, Greg Garrard refers to the book as a 'climate fiction masterpiece', locating its 'genius' in Kingsolver's juxtaposition of 'true facts' (the unappealing reality of climate change) with markedly appealing, 'attractive' characters, whose conversations function as a humanised metanarrative that 'complement[s] [...] the necessary work of scientific investigation'.² Deborah Lilley has lauded *Flight Behaviour* for interrupting familiar epistemological norms that govern human perceptions of climate change, and, as such, stepping up to tackle the imaginative

challenges we face in an age of environmental precarity.³ This is a claim we consider further in this article, particularly in relation to issues of scale, in line with this special issue's focus on local-planetary memory and experience. Yet whilst Lilley has also argued that the novel may successfully illustrate Tim Clark's notion of 'scale effects',⁴ Clark himself is highly sceptical of its capacity to challenge 'readers' imaginations', which are 'so much more easily engaged and drawn in by the human drama [...] than by the environmental one.' He asks, 'Is the human imagination really so depressingly enclosed, able to be captivated only by immediate images of itself?'⁵ Clark's criticism is levelled at readers as much as the author, but the capacity of the novel to engage our imaginative investment in the non-human victims of anthropogenic climate change is firmly refuted. He also designates it as a sentimental tale about human (upward) mobility, with environmental issues merely as a backdrop.

Criticism outside academic circles has been similarly mixed. Hillary Kelley condemns the novel as 'boldly transparent literary activism' with a 'message [...] delivered as a sermon': the novel's 'scare tactics' do not convincingly 'stitch together literature and politics'.⁶ Michelle Dean in *Slate* expresses reserve not only over the 'unwieldy' style of the book, but because '[t]here is very little one person can do' to stop climate change, she concludes that, as a 'dramatic engine', it flounders.⁷ Nonetheless, it is clear that Kingsolver's novel has been largely well-received, from the White House and governmental bodies to the mainstream press who have largely welcomed Kingsolver's vision.⁸ *The Observer* says the book is 'complex, elliptical and well-observed'⁹ and the *New York Times* calls it 'majestic and brave'.¹⁰ Indeed, the many positive mainstream reviews are arguably of equal interest to their scholarly counterparts, as they demonstrate the extent to which a general readership has found some political and cultural potential in the novel, perhaps because, and not in spite of, the fact that it is both readable and easily consumable. For the purposes of this article, we locate such potential in the way in which the novel urges us to see ourselves within a planetary perspective without leaving our very human, localised attachments.

We argue that the novel remembers climate change and its effects through multiple and interrelated scales. As a longstanding process in the past, present and future, as well as affecting Earth on both local and planetary levels, climate change requires epistemological frames attuned to complex scales of time and place. Indeed, despite Clark's criticism of *Flight Behaviour*, his work affirms how essential it is to attend to scale in this context: 'reading at several scales at once cannot be just the

abolition of one scale in the greater claim of another but a way of enriching, singularizing and yet also creatively deranging the text through embedding it in multiple and even contradictory frames at the same time'.¹¹ Through the lenses of southern studies,¹² and emerging discourse in the environmental humanities and memory studies,¹³ we suggest that *Flight Behaviour* makes an attempt to perform such a creative derangement. The novel scales from the ground up: from the local/regional (specific bodies and places in rural Tennessee) to both the global *and* the planetary (migration, climate change and extinction). Following the work of Dipesh Chakrabarty, Mike Davis and Rob Nixon to name but a few,¹⁴ there can be little doubt that climate change and unelected migration (the deterritorialization of former 'citizens') are not mutually exclusive, for increasingly one 'produces' the other; however, we might also take from the Chakrabarty that it is 'crises of planetary proportions' such as anthropogenic climate change¹⁵ which mark the infiltration of the planetary into global phenomena (such as mass migration). Temporally, the novel situates its protagonist—and accordingly Kingsolver's readers—in a present caught between the past (in the form of rooted parochialisms) and the future (in which all rootedness is destabilised). In accordance with these dynamics, the novel suggests a definition of planetary memory as follows that echoes that outlined in this special issue's introduction. Planetary memory, in *Flight Behaviour*, is remembrance which is human (and global), but also more-than-human (exceeding the global, and moving to the planetary).¹⁶ It is also explicitly concerned with imagining (or re-membering) the future as much as the past and present. Memory which is planetary is rooted human experiences, but not bounded by them. It is therefore, and in contrast to Clark's suggestion that 'climate change seems more germane to modes of representation that involve unfamiliar nonhuman agencies, multiple and perhaps elliptical plots',¹⁷ we posit the potential inherent in the articulation of these frames for popular comprehension of climate change. Echoing the dynamics of the novel itself, this article works from the ground up, beginning with a brief but essential consideration of the environmental context of the State of Tennessee in which it unfolds.

Ground up: Appalachia and Tennessee

Whilst the communities of Feathertown and Cleary that provide the backdrop to Dellarobia's story are invented, the regional setting in Tennessee calls for a located

understanding of the impact of climate change at a state level. If *Flight Behaviour* presents a literary recognition of climate change, defined by Naomi Klein as ‘a crisis that is, by its nature, slow moving and intensely place based’, requiring ‘local knowledge’,¹⁸ it is essential to attend firstly to the specificities of the climate change narrative in Tennessee. There are environmental and cultural factors to be taken into account here, including the real-world documented impact, and forecast of the likely and significant future impact of climate change in the region.

Regional and national organisations currently report on past, present and future impacts of climate change in the state. These include the Southern Climate Impacts Planning Program (SCIPP) (‘a south central United States focused climate hazards and research program’) and the Tennessee Wildlife Resources Agency (TWRA). Recent reports from both agree that increased flooding and drought are major threats, with related consequences for land erosion, water supply and species loss. There is a clear sense then of why *Flight Behaviour*, which charts the impacts of flooding and drought, is suited to Tennessee’s very real geography. SCIPP also echoes Klein (and, we suggest, Kingsolver) in dubbing climate change ‘a localized problem with local solutions’.¹⁹ However, organizations such as SCIPP are focused on finding instrumental solutions to a changing climate, rather than on tackling the ideological barriers that prevent widespread recognition of the very existence and reality of climate change.²⁰ Such ideological barriers are visible in Kingsolver’s portrait of the region. The director of the National Center for Science Education (NCSE) commented that ‘the Tennessee legislature has now made it significantly harder to ensure that science is taught responsibly in the state’s public schools’;²¹ effectively, teachers are legally bound to present climate change to students as controversial: as a subject *about which there is no scientific consensus* following the recent default passing of Tennessee’s House Bill 368 (Senate Bill 893).²²

As we shall see, *Flight Behaviour* implies that robust education is fundamental to comprehending climate change; it is this lack, in tandem with religious conservatism, which appears to prevent local citizens in the novel from achieving a meaningful comprehension of the threat. As Kingsolver comments in an interview, ‘[t]he 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?’²³ Rural Appalachia carries further significance. With

historically rooted impoverishment, stereotypical images of the region ‘constitute Appalachians as victims and obscure the possibilities for agency and empowerment’.²⁴ As such, if Dellarobia’s family present a stereotypical image of Appalachian ‘culture-of-poverty’, Kingsolver yet provides a compelling portrait of its intergenerational effects, ultimately transcending one-dimensional characterization with a protagonist able to break away from this cycle and claim some ‘personal efficacy’.²⁵ Tennessee thus overall presents itself as the ideal region for the author to explore such questions and propose some provisional answers.

Globalizing and localizing the South

To move from this particular regional locale outwards, we identify the scope of southern studies and transnational American studies as they inform this discussion and contemporary U.S. fiction. Speaking of the ‘transnational turn’ in American studies, Shelly Fisher Fishkin argues that the field should ‘see the inside and outside, domestic and foreign, national and international, as interpenetrating’.²⁶ Fishkin’s binaries are perhaps not sufficiently flexible to account for the ways in which place, memory and climate change impact on particular U.S. and Mexican locales in Kingsolver’s novel, but her signposting of this new ‘turn’ is an important frame for understanding the U.S. South today. Globalizing the South has been concomitant with the globalizing of American studies more generally, and thus the region that has been historically discussed in particular terms is being unravelled and questioned.²⁷ Kathryn McKee and Annette Trefzer argue that the key to the global focus of new southern studies is the acknowledgement that ‘the U.S. South is not an enclave of hyperregionalism but a porous space through which other places have always circulated’.²⁸ Tara McPherson similarly celebrates the new ‘tendency to think about the South in context’, ‘in relation’, and ‘in terms of transit zones, not closed-off borders’.²⁹ At stake is a querying not only of the meanings of the South, but also how the region is entangled and imbricated in larger networks of place that are geographical, historical and cultural. While, as Christopher Lloyd has argued elsewhere,³⁰ the move to globalize and deterritorialise the South (and southern studies) can potentially occlude local significances that are rooted in place, McKee and Trefzer suggest that ‘studying a place or the idea of a place within its global context does not negate the value of the local; it rather intensifies that value by

suggesting all that circulates through it'.³¹ Our article amplifies this point by discussing the multiple significances of place that are regional, national and planetary. These forces do not necessarily circulate through the South, but rather scale back and forth from the ground up. We argue that to understand both the South and climate change, we need to attend to the ways in which local and planetary forces are scalar.

The global turn in southern studies has been a particularly keen framework through which to read Kingsolver's previous novels. Robert Brinkmeyer has located Kingsolver's work within a tradition of southern writers who have moved intellectually, creatively and geographically 'West',³² while Martyn Bone, writing on Kingsolver's *Prodigal Summer* argues that the novel's international characters and connections reveal a 'transnational' sense of place.³³ That is, the Appalachian farming communities that Kingsolver depicts are not merely extensions of southern history and identity, but transnational spaces and environments where local and global forces enmesh. Kingsolver is ever attentive to the ways in which these scales of place, peoples and communities intertwine. In her debut, *The Bean Trees* (1988), a Kentucky woman leaves her home and travels west to Oklahoma, where she is entangled in Native American adoption rights; in *The Poisonwood Bible*, a family of missionaries travel from Georgia to the Congo; and *The Lacuna* (2009) draws links between Mexico, the South, and the political climate of the twentieth-century. Each of these novels, in addition to Kingsolver's non-fiction work, enmeshes the local textures of southern communities with larger global forces and geographies. The multiple meanings of place are the focus of *Flight Behaviour's* engagement with climate change, a force which can also only be understood with due attention to global *and* local causes and consequences.

Senses of place and planet

Flight Behaviour should also be placed within the larger dialogue of environmental-literary studies bridging local and planetary scales. As discussed in this special issue's introduction, Ursula Heise's *Sense of Place and Sense of Planet* (2008) suggests that 'Rather than focusing on the recuperation of a sense of place, environmentalism needs to foster an understanding of how a wide variety of both natural and cultural places and processes are connected and shape each other around the world, and how human

impact affects and changes this connectedness'.³⁴ Thus, while the introduction's authors emphasize the *and* in Heise's title – bridging place and planet – there is, one could argue, a stronger dynamic that pushes towards planet *rather than* place. The interconnectedness of natural and cultural worlds central to Heise's dominant model are termed 'environmental allegiances' which 'reach *beyond* the local and the national' (our emphasis).³⁵ We want to suggest that Kingsolver unsettles Heise's formulation, offering a vision of climate fiction that clearly emphasizes both the importance of place—a specific farm in Appalachia—and a sense of planet—the movements of butterflies, climate change, and scientific study.

Similarly, Wai Chee Dimock argues that we need analytic frames that are not national or regional in focus. Dimock looks to 'nonsovereign' models which are 'offbeat': their 'paths jump from the micro to the macro' and their scales are both 'larger and smaller: operating subnationally [...], as a grass-roots phenomenon, and transnationally [...], as a cross-border phenomenon'.³⁶ These movements 'generate a cross-stitching of time', which enable a global democracy 'not necessarily nation-centered, but taking its circumference from the world'.³⁷ Echoing Kingsolver's chapter title, this epistemology is important for Dimock as it alters the ways in which we think about time, history, place and planet. While Dimock seems to reach past the local, as Heise does, she nevertheless argues that to push toward an enlarged sense of justice and change for the environment, we begin 'only with local knowledge, with micro-evidence and bottom-up chronologies'.³⁸

Dimock aligns here with Klein's *This Changes Everything*. In this wide-ranging survey of the local and planetary coordinates of environmentalism and capitalism, Klein analyses specific contexts, never overlooking the local for the planetary (or vice versa). Klein writes, as briefly quoted above,

this is a crisis that is, by its nature, slow moving and intensely place based. In its early stages [...] climate is about an early blooming of a particular flower, an unusually thin layer of ice on a lake, the late arrival of a migratory bird— noticing these small changes requires the kind of communion that comes from knowing a place deeply, not just as scenery but also as sustenance.³⁹

Klein is clearer than Heise and Dimock in her acknowledgement of the emplacement of climate change, in addition to its planetary effects and connections; Kingsolver's

novel presents a similar scenario. It is through a localised and embedded sense of southern place, in the book, that change is identifiable.

While Dimock offers ‘cross-stitching’ and Heise provides us with ‘collages’ and ‘alliances’ as models of understanding the planetary/local, these abstract terms and ideas might be more usefully complemented with a figure from Kingsolver’s novel itself. 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 hills of Mexico to rural Tennessee, the butterflies bridge disparate geographies and cultures. As only temporary visitors, however, they are not permanent emblems of ecological disaster, but transitive signs of an ongoing and shifting form of change. The butterflies embody the planetary interconnections of climate change. Travelling across national and state borders, the butterflies reveal both the porosity of place and the vital importance of locality. A small example from the book evidences this. Late in the novel, Dellarobia is told to bring some pillowcases from home to use when collecting butterflies that she and the scientists are studying: ‘Pete directed the helpers to scoop all the butterflies from [...] their quadrats into pillowcases’ (375). Pete then tells Dellarobia to take the pillowcases home, pin them to a clothesline in the house, ‘Open-side up. [...] And then you can just watch them’ (379). Dellarobia will wait until the live butterflies wake up, and try to climb out: ‘At the end of the day you count the living and the dead, and do the math. [...] that’s your mortality estimate’ (379). This task, Dellarobia thinks, will be a perfect job for her and Preston, her young son: they ‘would cheer for the stragglers, because [...] it was something they could do’ (379). Here Kingsolver distils the planetary into the local: contained within a simple household item (the pillowcase), the butterflies are observable and, perhaps, understandable. Domesticated into a small physical space—hung up in a southern sitting room—the butterflies, with their (de)territorial reach, bridge planetary and local places. This singular image allows Dellarobia and her son to remember and forecast the startling effects of climate change as they are registered in scaled ways.

Butterflies are an obviously ‘poetical’ species that have long been aestheticized and used for symbolic purposes, a representation of “‘nature” which so many hold dear’ in the vein deplored by Timothy Morton for obscuring attention to ecology.⁴⁰ As traditional symbols of death and rebirth, butterflies are perhaps an obvious choice for Kingsolver. Nonetheless, her depiction of butterflies in their

enormity (en masse) and smallness (individually) represent something perhaps beyond our instinctive epistemological frames. They scale up and down and span geographies, all the while offering a visual emblem of climate change's abstractions, however easily consumable.

Narrating between the local and the planetary

In the above sections, we mapped a number of geographical scales, from local to planetary. Here, we outline the ways in which the structure of *Flight Behaviour* demonstrates oscillation between these scales. Thus, whilst the novel does not necessarily offer the enmeshed, simultaneous scales that Clark outlines in, for example, his discussions of Raymond Carver's 'Elephant', it produces its own 'scale effect' in the structural signposting of transitions from one scale to another. The narrative progresses through chapters titled to signpost movement from an intimate realm to that of the entire earth (and back again), ultimately, to the landscape of the body (one of the most particular sites of experience) itself. These headings highlight the nature of the spaces and spheres inhabited by Kingsolver's characters, the experiences and memories they generate, and the forms of power which limit or control the agency of the characters.

The book opens with 'The Measure of a Man', in which Dellarobia's blurred vision of a sublime lake of fire her from embarking on an extra-marital affair, forestalling her first step towards an escape from the intensely local 'Family Territory' of her life on the sheep farm and her parochial husband Cub, who 'hadn't seen a state line, and didn't care' (61). Attempting to dissuade Cub's father from logging their land, she guides the family to the site of her vision, which is, in reality, the monarch colony. Through 'Congregational Space' and 'Talk of a Town' Kingsolver builds a picture of a community in which education takes marginal priority in comparison to both religion and the capitalist trappings of the American dream, represented by the recurring backdrops of the church and the discount store. Attendant ideologies significantly delimit the inhabitants' response to the subject of climate change. In a broader context, As Klein notes, 'for many conservatives, particularly religious ones', the threat of climate change threatens 'core cultural narratives about what humans are doing here on earth'.⁴¹

On meeting a displaced Mexican family fleeing the same mudslide that sent the monarchs to Feathertown, Dellarobia's categorization of the butterflies' arrival as a 'local' phenomenon is re-orientated by her comprehension of causal factors far away. '[A]bashed for the huge things she didn't know' (141), she begins to acknowledge her implicated subjectivity in catastrophe on a planetary scale. Her perception broadens further in 'National Proportions'⁴² as entomologist Ovid Byron arrives at her door from 'across a whole damn country' (147). His visit initially reinforces her sense of geographically embedded cultural identity; Dellarobia is well-aware of how her home State is perceived:

yuppies watched smart-mouthed comedians who mocked people living in double-wides who listen to country music [...] They would never come see what Tennessee was like, any more than she would get a degree in science and figure out the climate things Dr Byron described. Nobody truly decided for themselves. There was too much information. (228)

Locatedness here limits both her agency, education, and the extent to which she thinks outsiders might be able to understand her. However, she simultaneously recognizes that the problem of having 'too much information' may be universal in scope (one of Kingsolver's implied answers to the question of why there is widespread resistance against 'facing up' to climate change); the inability to decide about the course of one's own life is shared across the cultural divide she identifies.

Planetary factors such as extreme wet and warm weather prompt Dellarobia's gradual realization of the global significance of the butterflies' migration in 'Span of a Continent' and zooming out further in 'Global Exchange', Kingsolver describes Dellarobia's life 'unfolding into something larger by the day, like one of those rectangular gas-station maps that open out to the size of a windshield' (216). Nonetheless, she yet feels trapped by poverty. Fruitlessly searching for cheap Christmas presents in the discount store with Cub, she returns to her attempt to dissuade him from logging by explaining the planetary dimension of the butterflies' arrival:

'Do you know what they're saying about the butterflies being here? [...] something's really wrong.'

‘Wrong with what?’ Cub asked.

‘The whole earth, if you want to know...’ (237)

As the novel reaches its scalar limits in ‘Circumference of the Earth’, Dellarobia finds that the world has come to her, as a television reporter shows up to interview her about ‘the phenomenon’ in the forest which is beamed around the globe (273).

As the novel scales back down in ‘Continental Ecosystem’ Dellarobia’s perspective has undergone a fundamental shift. She demonstrates new agency in applying to work with Byron’s team against the will of her family. She identifies the anthropocentrism of her local community who ‘think nature will organize itself around what suits them,’ emphasizing the Tennessee farming communities’ exploitation of geographical features for profit (354). Yet she does so with demonstrable sympathy for those who are sceptical about climate change: ‘I think people are scared to face up to a bad outcome. That’s just human’ (318). The novel offers several such encounters, typical of Dellarobia’s attempts to mediate between the concerns of non-scientists (local community) to the scientists (cosmopolitan visitors).

The lens zooms in further in ‘Community Dynamics’, in Byron’s explanation of why a local trucker’s well-intentioned offer to transport the colony to Florida would be futile: ‘An animal is the sum of [...] community dynamics [...] The population functions as a whole being [...] You are who you are, because of a history of genetic combinations. So are they’ (437-8). Conferring the monarch with a collective planetary memory, Byron yet locates them in specific times and places: ‘For most of the year the genetic exchanges are relatively local [...] But then, in winter, the whole population comes together in one place’; a ‘system of local and the universal genetics’ (439-40).

As the novel zooms in further, in ‘Kinship System’, Dellarobia struggles to reconcile Byron’s scientific worldview with her capacity to empathize with animals at a biological level, as she compares her pregnancy to those of the farm’s ewes (458). Scrutinizing the transformation of her life since the butterflies’ arrival, she contemplates ‘the impossibility of returning to her previous self. The person who’d lit out one day to shed an existence that felt about the size of one of those plastic eggs that pantyhose came in. From that day on, week by week, the size of her life had doubled out. The question was, how to refold all that back into one package’ (471).

Her influence ‘limited to the family domain’ (472), the final chapters (‘Mating Strategies’ and ‘Perfect Female’) depict a frustrated Dellarobia returning to her first marital home in Cub’s childhood bedroom. Finally admitting her discontent with a married life based on an unplanned pregnancy, she compares herself (and Cub) with the farm’s flock of sheep: ‘Mistakes wreck your life. But they make you what you have [...] it’s no good to complain about your flock, because it’s the put-together of all your past choices’ (529). Whilst the focus narrows to corporeality here—in Dellarobia and her son Preston’s discovery of two monarchs mating and her rescue of a newborn lamb—Dellarobia seems equipped with new agency to transcend a life restricted by her own biology, and moves away from the family home to Cleary to study. As if emerging from a cocoon, flight becomes a possibility, and seemingly in sympathy with her desire for resurrection, the novel closes as a flood engulfs the land around the sheep farm and the butterflies embark on a collective ‘exodus’⁴³: to ‘gather on other fields and risk other odds, probably no better or worse than hers’ (597), a further allusion the indifference of climate change to species boundaries.

The overall narrative, which traces and embraces an interpellation of the local and the planetary, structures the novel and subsequently endows its protagonist with the ability to break away from an otherwise inevitable future. As such, Kingsolver demonstrates the possibilities of new lives and agencies arising in the wake of collapse, an optimistic conclusion to a book with a warning of total devastation at its core. As Naomi Klein postulates, we should *use* the fear that ‘makes us run’ from a dying planet, and ‘allow the terror of an unliveable future to be balanced and soothed by the prospect of building something much better than any of us have previously dared hope’.⁴⁴ The novel’s last paragraph, however, complicates the idea that a new and better world can rise from the ashes of the old:

The sky was too bright and the ground so unreliable, she couldn’t look up for very long. Instead her eyes held steady on the fire bursts of wings reflected across water, a merging of flame and flood. Above the lake of the world, flanked by white mountains, they flew out to a new earth. (597)

The flame and flood clearly evoke visions of apocalypse, the sublime landscape of ‘End Times’. Indeed, the positive image of flight to a new earth is problematized by

an earlier conversation between Byron and Dellarobia, in which she asked him where the butterflies would go if they survive to disperse in the Spring:

‘Into a whole new earth. Different from the one that has always supported them [...] This is not a good thing, Dellarobia [...] A whole new earth.’

‘I know’, she said. A world where you could count on nothing you’d ever known or trusted, that was no place you wanted to be. (449)

Southern landscapes of memory

Lingering on this final image of flooding and the ruined southern landscape can show how Kingsolver’s local memorative work has significant literary precedent in this region and beyond; as Trexler writes, ‘Over the last forty years, the dominant literary strategy for locating climate change has been the flood’.⁴⁵ His analysis of Maggie Gee’s *The Flood* (2004) also points to the fact that ‘social stratification distributes effluvia unevenly’, with ‘disproportionate effect’ on the poor⁴⁶ (echoing the reality of the aftermath of Hurricane Katrina), a trope certainly visible in Dellarobia’s fate. Such images of destruction also occur in other contemporary US writing: flooding dominates the South in Michael Farris Smith’s *Rivers* (2013); mountaintop removal, deforestation and flooding devastate Appalachia in Ann Pancake’s *Strange as this Weather Has Been* (2007); and longer histories of ecological damage appear in Annie Proulx’s epic *Barkskins* (2016). The combination of lost trees and flooding can also be found in Claire Vaye Watkins’ 2015 drought fiction *Gold, Fame, Cirtus*, whose female protagonist is swept away by water in an echo of Dellarobia’s final moments. When the two tropes—trees removed by human activity and overwhelming flood—follow one another at pace, these novels prompt readers to connect local human actions with large-scale consequences beyond their control, a narrative compression that renders the often slow and elusive dynamic of climate change visible.

As noted, early in the novel, Cub tells Dellarobia that his father is ‘fixing to sign a contract with some loggers’ (51), who will pay them a lot of money to clear the trees from their land. Dellarobia, having heard of other families doing the same thing, warns him: ‘They’ll make it look like a war zone’, ‘a trash pile. Nothing but mud and splinters’ (54). Kingsolver alerts us to the impact of logging—using up finite natural

resources—while at the same time highlighting the stresses put on small poor communities forced to take such action, especially in the South. Dellarobia figures logging continually in military language: ‘It looks like they blew up bombs all over [the farm]’ (55). However, she goes further saying that ‘Then all these rains started and the whole mountain is sliding into the road’ (55). Thus it is that the combination of local unsustainable logging with the globally inflected impact of climate change will ruin the landscape of the Appalachian farms. Through the novel, Dellarobia and her family debate the possibility of logging, but the arrival of the monarchs halts action. Indeed, the butterflies become a scientific and tourist attraction which funnels some money into the family and local community. Significantly, too, it is a mudslide—caused by global warming—that displaces the butterflies from Mexico in the first place. Eroding landscapes echo throughout the novel.

The threat of logging runs throughout other accounts of the southern environment, such as Janisse Ray’s discussion of her childhood in a poor white family in rural Georgia.⁴⁷ Ray is attuned from a young age to the fragile ecology of the region as she tells us that over decades, the forests are logged and over-tilled, rendering the landscape empty and flat. Her memoir—often called a southern companion to Rachel Carson’s landmark *Silent Spring* (1962)—calls for an environmental rethinking and rearticulation of southern identity. ‘The memory’ of her ancestors settling this land, Ray writes, ‘is scrawled onto my bones, so that I carry the landscape inside like an ache’: place and memory are mutually productive.⁴⁸ The book’s afterword, carrying this memory forward, offers a warning much like that signalled by Dellarobia. Ray writes, ‘Culture springs from the actions of people in a landscape, and what we, especially Southerners, are watching is a daily erosion of unique folkways as our native ecosystems and all their inhabitants disappear’.⁴⁹ Logging the South, Ray argues, means that ‘we steal from each other and from ourselves. We swipe from our past and degrade our future’.⁵⁰ Moving from the past to present, scaling from the local to planetary, Ray’s sense of southern place is attuned to the micro-knowledge of certain regional landscapes as well as larger ecologies.

In relation, the ending of *Flight Behaviour*, as noted, presents an ambiguous and in some ways catastrophic response to the Turnbow predicament. As Dellarobia leaves her husband, and moves out of the family home, she wakes one day to witness winter snows melting and a flood engulfing the farm. Much like the ‘mudslides’ that Dellarobia warns against if the farm is logged (and those that displaced the butterflies

to begin with), the novel concludes with a disintegrating landscape. She walks outside, ‘completely surrounded here by moving water,’ a ‘dead world’ (593). The flood, at once Biblical and environmental, wipes away the farm so that ‘all memories of her home’s particular geography [are] erased’ (594). Climate change here partly eradicates (as in Ray’s account) local memories of place and past. However, the butterflies take off from the farm, in ‘aggregations’ (596) and numbers so large (‘Maybe a million’) they amaze Dellarobia (597). The monarchs’ ‘fire bursts of wings’ reflect in the water, ‘a merging of flame and flood’ (597). *Flight Behaviour* ends with a wiping away, a forgetting, of place, as well as an ecstatic escape on a planetary level. Dellarobia’s life starts anew away from her husband, and the monarchs take off, but Kingsolver is unclear whether the Turnbow farm escapes unscathed. Kingsolver’s Tennessee is as deeply connected to its future as it is the past. Memories of the region are processed through the book, signalling the ways in which climate change is altering place on small and large scales. Though easily consumable images like floods and droughts dominate climate fiction, and critics are demanding an ‘engagement beyond individual locales’, Trexler is right to suggest that ‘readers have little problem inferring that a local disaster is part of a global alteration of the climate’.⁵¹ Kingsolver’s emphasis on particular events and places does not necessarily limit its vision. A woman leaves her family; butterflies are displaced, then migrate; a farm is submerged in water; a home’s particularities are forgotten. From the local to the planetary, Kingsolver’s presentation of climate change affects from the ground up. The book works through and provokes memories that are once regional and planetary, orientated towards both past and future.

Reconciling scales of memory and temporality

The representation of memories at once regional and planetary is inherent in Kingsolver’s writing. This could be seen as a notable achievement of *Flight Behaviour*; whilst academic studies increasingly draw attention to the transnational and transcultural dynamics of memory in a global era,⁵² some of the most valuable contributions to the field remind us that the intensely grounded and localised environments in which memories are constructed remain fundamental. As the introduction to this special issue asserts, ‘critical enquiry must not lose sight of the manifold layers of temporality, spatiality, and experience that link the micro to the

macro'. Furthermore, Susannah Radstone suggests, 'our associations and our visions are shaped by our own inescapable histories of locatedness and culture, albeit that such histories have been constituted through the movement of for instance, colonialism and refugeedom'.⁵³ As such, 'the *locatedness* of engagements with memories' even with memories that appear to be 'on the move'⁵⁴ as they travel across time and space,⁵⁵ remains essential to those engaged in tracing transnational, or planetary, mnemonic dynamics. Memories and experiences in *Flight Behaviour* are subject to this sense of locatedness, be it those of Dellarobia whose lack of memories of anywhere *but* Tennessee delimit her agency and movement, or of, for example, the Mexican climate refugees who carry their mudslide memories to her doorstep.

Even more recently, and of crucial relevance to the novel in question, scholars have begun to raise questions about interconnections between memory and ecology, including that of how memory can 'be made to be more useful in our conceptualization of climate change, and, perhaps, be used to assuage the impact of climate change, and generate genuine ecocritical mindfulness in our collective consciousness?'⁵⁶ As Claire Colebrook suggests in summary of a plethora of recent cultural texts, 'climate change [...] is now being figured in modes of preliminary mourning'.⁵⁷ Such texts are often temporally located in 'future perfect subjunctive', the 'grammatical tense' of climate change. 'We're being forced to look forward in order to look back upon ourselves today with a sense of shame and embarrassment that we didn't act sooner'.⁵⁸ Or, in Groes' words, such texts 'form a kind of "preliminary" or "proleptic" mourning, whereby we lament our fate and grieve for ourselves as if we were extinct already'.⁵⁹

Flight Behaviour's 'tense' is somewhat different. Set in the (approximate) present, there is some sense of 'if we had known, we could have acted differently'; because the monarch's habitat has already been destroyed and is thus to be mourned in a traditional sense. Dellarobia even imagines as much, picturing the 'Feathertown site' as a future 'memorial, the place where a species met its demise' (377). Yet there is still time to act, because some monarchs live on. Whilst the threat of extinction—of the butterflies and other species, such as humans—seems to cast a shadow over the novel, this is a foreshadowing of what *may be* inevitable rather than a depiction of what *may happen* after the inevitable has occurred. Byron tells Dellarobia that a wet monarch will freeze to death at minus four degrees centigrade, 'an inevitable event' for the latitude of the local forest (312), but Dellarobia and Preston later see

butterflies mating in the road; the monarch system may be ‘disintegrating’, but Byron will continue to live his life ‘at the whim’ of this ‘livid ecosystem’ for years to come (543). Thus the novel provides an ever-so-slightly optimistic variation of ‘the anticipation of retrospection’ inherent in preliminary mourning.⁶⁰ As Groes argues, narrative forms like the novel ‘have a key role [...] in understanding what is happening to temporality’ in the Anthropocene era, and *Flight Behaviour* makes an original contribution in this light.

Groes also points to the ‘huge gap between big data and complex predictions of IPCC reports and the everyday, lived reality of individual human beings’, creating ‘confused and contradictory identities’.⁶¹ This coming-together of two apparently irreconcilable scales is played out in *Flight Behaviour* through Dellarobia’s experience with Byron and his team. As she becomes involved in their research as a volunteer, the ‘complicated system’ of butterfly migration becomes something she ‘could faintly picture’ (202), even though in her experience a conversation about such an ancient pattern spanning ‘thousands of years’ ‘always ended with the same line: The Lord moves in mysterious ways’ (204). She makes sense of the laboratory equipment because of its similarity to normal kitchen appliances; the drying oven ‘about the size of any oven’ (298), the ‘Tissuemizer’ blender, a freezer she covets for her own kitchen (299). Byron explains scientific concepts in domestic and rural terms that she will understand: cause and correlation as families that take vacations and own televisions (336) and storm fronts that make crows fly (336). However, the flow of knowledge and expertise is not simply top-down, unidirectional, but part of a process of exchange; for, despite her sense of inferiority, Dellarobia has her own insights to offer, in bottom-up perspectives and practices as alien to the scientists as their jargon is, initially, to her. Byron’s postgraduate researchers Bonne and Mako are ‘floored’ by Dellarobia’s offer to replace the zipper in Mako’s coat: “‘You’ve got, what, like a sewing machine?’” [...] “‘But how did you learn to do that?’” (208). Despite their grasp of scientific concepts beyond her purview, Kingsolver here implies that Dellarobia, whose mother was a seamstress, has a capacity for sustainable practices that are foreign to the students. She is able to offer Byron an explanation for why no volunteers are forthcoming to assist with his project; the experience which would help with a college resume is entirely irrelevant for local young people, a revelation that leaves Ovid with eyes ‘wide, as if she’s mentioned they boiled local children alive’ (308). The insights from her personal experience introduce the scientists to the reality

of the lives of those who refuse to listen to their ‘empirical’ arguments. Scales of knowledge, memory and experience seem to reconcile at the end of the novel, as Byron and his wife come to dinner in Dellarobia’s home, their gift of Riesling served in her best blue plastic cups (538), and his subsequent paving the way for Dellarobia’s official entry into scientific circles at college.

Conclusion: Butterflies in Appalachia

We have demonstrated an oscillation between the Appalachian setting of the novel and the planetary issues of climate change and its attendant consequences, thus claiming *Flight Behaviour* as a text that reconciles scales of memory, knowledge and experience. In the introduction to this volume, the editors suggest that, as a human faculty, memory may be ill-equipped to deal with planetary issues, yet the reconciliation we highlight here offers a glimpse of how personal memories and lived experiences, like those of the novel’s protagonist, may ‘unfol[d] into something larger’⁶² to accommodate such scaled up issues and temporalities. As Susan Friedman suggests, the planetary perspective is valuable because it ‘is cosmic and grounded at the same time, indicating a place and time that can be both expansive and local. Planetary also gestures at a world beyond the human, even beyond the Earth’.⁶³ The oscillation between the expansive and the local made explicit in the novel’s narrative speaks to this understanding of the planetary, as does its conclusion, when the butterflies depart towards a new Earth.

Whilst clearly relying on a sentimental attachment to natural beauty, the butterflies are a useful and ambitious device. Dellarobia’s emotional response to their dead bodies is juxtaposed with images of counting that recontextualise them as a subject of abstract scientific scrutiny. Kingsolver is aware of our human investment in the fragility of the ‘natural world’, but is interested too in the scientific understanding of the Anthropocene. The tension between sentimentalizing a changing planet and attempting to rigorously understand it in scientific terms is not lost on Kingsolver. Through her prose, climate change is given artistic and cultural importance in clear and precise ways (perhaps beyond that of mainstream scientific discourse). In its wide-ranging impact, *Flight Behaviour* may be achieving what scientists, such as the fictional Ovid, cannot: large-scale recognition of the present crisis. Like the British

women in the novel who knit butterflies from recycled orange sweaters—as ‘Icons [...] symbols [...] So people all over the world will know about the monarchs’ plight’ (470)—Kingsolver has made the butterflies iconic literary images that have planetary reach.

Moreover, *Flight Behaviour* remembers through its pages an event that has so far not taken place: the ‘sudden relocation [of monarchs] [...] to southern Appalachia is a fictional event that has occurred only in the pages of this novel’ (598), Kingsolver writes. Thus, it proleptically memorializes the irrevocable damage of climate change through a literary text. Ann Rigney has articulated ways to think about the ‘long-term dynamics of cultural memory’, and she suggests that literature can become a ‘portable monument’ for remembrance, with qualities of stasis and movability.⁶⁴ ‘Where stone monuments are fixed in particular locations,’ Rigney writes, ‘stories travel’.⁶⁵ *Flight Behaviour*’s portable monumentality—its afterlife—means that the text may persist over time as it (re)generates meaning; the book’s movement through different spheres already—from book groups to the White House—shows something of its portability. Rigney also argues that cultural memory ‘can only survive [...] if [it] feed[s] into the preoccupations of later generations [...] if there is something at stake for the future’.⁶⁶ Though rooted in a specific part of the rural South, Kingsolver’s novel has an imaginative reach beyond its pages and locale. Its memory work, ever-moving while in place, speaks particularly to the era of the Anthropocene. Scaling from the local to planetary, the (present and future) memories of climate change are expansively remembered by *Flight Behaviour*’s breadth.

¹ Carolyn Kormann, ‘Scenes from a Melting Planet: On the Climate-Change Novel’, *New Yorker*, 3 July 2013. <http://www.newyorker.com/books/page-turner/scenes-from-a-melting-planet-on-the-climate-change-novel>

² Greg Garrard, ‘Conciliation and Consilience: Climate Change in Barbara Kingsolver’s *Flight Behaviour*’, in Zapf, Hubert ed. *Handbook of Ecocriticism and Cultural Ecology* (Berlin: De Gruyter, forthcoming 2016).

³ Deborah Lilley, ‘Editorial: Critical Environments’, *Alluvium*, 3.1, 24 September 2014. <http://dx.doi.org/10.7766/alluvium.v3.1.01>.

⁴ Lilley, 'Editorial: Critical Environments'.

⁵ Timothy Clark, *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept* (London and New York: Bloomsbury, 2015) p.178.

⁶ Hillary Kelley, 'Green Piece—Barbara Kingsolver's Eco Obsessions', *New Republic*, 20 November 2012. <https://newrepublic.com/article/110108/green-piece-barbara-kingsolver-eco-obsessions-flight-behavior>

⁷ Michelle Dean, 'Not as Nice as You Think: On Barbara Kingsolver and the problems of socially responsible novels', *Slate*, 2 November 2012. http://www.slate.com/articles/arts/books/2012/11/barbara_kingsolver_s_flight_behavior_revised.2.html

⁸ Nina Martyris, 'Barbara Kingsolver, Barack Obama, and the Monarch Butterfly', *New Yorker*, 10 April 2015. <http://www.newyorker.com/books/page-turner/barbara-kingsolver-barack-obama-and-the-monarch-butterfly>

⁹ Robin McKie, 'Flight Behaviour by Barbara Kingsolver – review', *The Observer*, 11 November 2012. <http://www.theguardian.com/books/2012/nov/11/flight-behaviour-barbara-kingsolver-review>

¹⁰ Dominique Browning, 'The Butterfly Effect: Flight Behavior, by Barbara Kingsolver', *New York Times*, 9 November 2012. http://www.nytimes.com/2012/11/11/books/review/flight-behavior-by-barbara-kingsolver.html?_r=0

¹¹ Timothy Clark, 'Scale', *Telemorphosis: Theory in the Era of Climate Change*, 1 (2012).

¹² See Janisse Ray, *Ecology of a Cracker Childhood* (Minneapolis: Milkweed Editions, 1999); Martyn Bone, *The Postsouthern Sense of Place in Contemporary Fiction* (Baton Rouge: Louisiana State University Press, 2005); Robert H. Brinkmeyer Jr., *Remapping Southern Literature: Contemporary Southern Writers and the West* (Athens: University of Georgia Press, 2000).

¹³ See Wai Chee Dimock, 'World History According to Katrina', in Russ Castronovo and Susan Gillman (ed.), *States of Emergency: The Object of American Studies*, (Chapel Hill: The University of North Carolina Press, 2009) pp.143-160; Ursula K. Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (Oxford: Oxford University Press, 2008); Naomi Klein, *This Changes Everything: Capitalism vs. The Climate* (New York: Simon and Schuster, 2014)

¹⁴ See Dipesh Chakrabarty, 'Postcolonial Studies and the Challenge of Climate Change', *New Literary History*, 43.1 (2012), pp. 1-18; Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2011); Mike Davis, *Planet of Slums* (London and New York: Verso, 2006).

¹⁵ Chakrabarty, 'Postcolonial Studies', p. 15.

¹⁶ In utilizing the phrase 'more-than-global' to encompass global dimensions *as well as others* (in this case the planetary) we follow Hayden Lorimer's logic in proposing 'more-than-representational' approaches to place within the discipline of cultural geography, in preference to Nigel Thrift's 'non-representational' thesis. As such, 'more-than-global' goes beyond the global without eliding global matters. See N. Thrift, 'Non-representational theory', in R.J. Johnston, D. Gregory, G. Pratt and M. Watts (eds.) *The Dictionary of Human Geography* (Oxford: Blackwell, 2000) and H. Lorimer, 'Cultural geography: the busyness of being "more-than-representational"', *Progress in Human Geography* 29, 1 (2005) pp. 83–94.

¹⁷ Timothy Clark, 'Some Climate Change Ironies: Deconstruction, Environmental Politics and the Closure of Ecocriticism', *The Oxford Literary Review*, 32.1 (2010), pp. 131-149, 144.

¹⁸ Naomi Klein, *This Changes Everything: Capitalism vs. The Climate* (New York: Simon and Schuster, 2014).

¹⁹ SCIPP, 'Climate Change in Tennessee',

www.southernclimate.org/documents/climatechange_tennessee.pdf, p. 2; see also Klein's argument, cited later in this article, that climate change is this is 'a crisis that is [...] intensely place based', *This Changes Everything*, p. 158.

²⁰ See for example SCIPP's mission statement to 'help Tennessee residents increase their resiliency and level of preparedness for weather extremes now and in the future' ('Climate Change in Tennessee', p. 1.); Similarly, the TWRA works towards identifying 'adaptation strategies that we believe can help wildlife under a warming climate. In most cases, these strategies would address issues and stresses that are already impacting wildlife, which will worsen in a warming climate.' ('How Climate Change Affects Tennessee's Wildlife', <https://www.tn.gov/twra/article/climate>)

²¹ Eugenie C. Scott cited in Jeanna Bryner, 'Teaching Evolution Just Got Tougher in Tennessee', 12 April 2012. <http://www.livescience.com/19659-teaching-evolution-tennessee-bill.html>

²² See for example "'Monkey Bill" enacted in Tennessee', National Centre for Science Education, 10 April 2012, <http://ncse.com/news/2012/04/monkey-bill-enacted-tennessee-007299>; and Charles Cooper, 'Creationists notch big win in Tennessee', *CBS News*, 8 April 2011, <http://www.cbsnews.com/news/creationists-notch-big-win-in-tennessee/>

²³ Barbara Kingsolver, in Hermione Hoby, 'Barbara Kingsolver: Interview', *The Telegraph*, 22 October 2012. <http://www.telegraph.co.uk/culture/books/bookreviews/9618239/Barbara-Kingsolver-Interview.html>

²⁴ Dwight Billings and Kathleen Blee, *The Road to Poverty: The Making of Wealth and Hardship in Appalachia* (Cambridge and New York: Cambridge University Press, 2000), p. 13.

²⁵ See Billings and Blee, *The Road to Poverty*, p. 13.

²⁶ Shelley Fisher Fishkin, 'Crossroads of Cultures: The Transnational Turn in American Studies—Presidential Address to the American Studies Association, November 12, 2004' *American Quarterly*, 57.1 (2005), pp. 17-57, 21.

²⁷ Jon Smith and Deborah Cohn's edited volume *Look Away! The U.S. South in New World Studies* (Durham: Duke University Press, 2004) and James Peacock's *Grounded Globalism: How the U.S. South Embraces the World* (Athens: University of Georgia Press, 2007) are but two recent works that situate the South within a transnational perspective.

²⁸ Kathryn McKee and Annette Trefzer, 'Preface: Global Contexts, Local Literatures: The New Southern Studies', *American Literature*, 78.4 (2006), pp. 677-690, 679.

²⁹ Tara McPherson, 'On Wal-Mart and Southern Studies', *American Literature*, 78.4 (2006), pp. 695-698, 697, 698.

³⁰ Christopher Lloyd, *Rooting Memory, Rooting Place: Regionalism in the Twenty-First-Century South* (New York: Palgrave Macmillan, 2015).

³¹ McKee and Trefzer, 'Preface: Global Contexts, Local Literatures: The New Southern Studies', p. 688.

³² Robert H. Brinkmeyer, *Remapping Southern Literature: Contemporary Southern Writers and the West* (Athens: University of Georgia Press, 2000).

³³ Martyn Bone, *The Postsouthern Sense of Place in Contemporary Fiction* (Baton Rouge: Louisiana State University Press, 2005), p. 248.

³⁴ Ursula K. Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (Oxford: Oxford University Press, 2008), p. 21.

³⁵ *Ibid.*

³⁶ Dimock, 'World History According to Katrina', pp. 146-7.

³⁷ *Ibid.* p. 147, 152.

³⁸ *Ibid.* p. 157.

³⁹ Klein, *This Changes Everything*, p. 158-9.

⁴⁰ Timothy Morton, *Ecology Without Nature* (Cambridge, MA and London: Harvard University Press), p. 1.

⁴¹ Klein, *This Changes Everything*, p. 41.

⁴² We might note, here, that some of the chapter titles themselves—like 'National Proportions' or 'Global Exchange'—are frequently 'zoomed out' in a literary sense; there is a certain detachment of 'objective' or scientific language that accompanies the scale-work Kingsolver is embodying in the chapters.

⁴³ It is notable that Kingsolver utilizes religious imagery, such as ‘exodus’, ‘flooding’ and ‘apocalypse’, even while critiquing the aspects of organised Christianity are central to the climate change denial we see in the novel and culture at large. As we explore below, the use of catastrophic images which are rooted in the Biblical imagination often appear in climate change fiction. There is certainly a tension here—between invoking or utilizing religious imagery, while simultaneously critiquing the parts of this religion that obscure climate change knowledge—but this article is not the place to investigate it further.

⁴⁴ Klein, *This Changes Everything*, p. 28.

⁴⁵ Adam Trexler, *Anthropocene Fictions: The Novel in a Time of Climate Change* (Charlottesville and London: University of Virginia Press, 2015), p 82.

⁴⁶ Trexler, *Anthropocene Fictions*, p. 113.

⁴⁷ Janisse Ray, *Ecology of a Cracker Childhood* (Minneapolis: Milkweed Editions, 1999),

⁴⁸ *Ibid.* p.4.

⁴⁹ *Ibid.* p. 271.

⁵⁰ *Ibid.* p. 272.

⁵¹ Trexler, *Anthropocene Fictions*, p. 77.

⁵² See Rick Crownshaw (ed.), Special Issue: *Transcultural Memory, Parallax*, 17:4 (2011); Kendall R. Phillips and G. Mitchell Reyes (eds.), *Global Memoryscapes: Contesting Remembrance in a Transnational Age* (Tuscaloosa: University of Alabama Press, 2011); Lucy Bond and Jessica Rapson (eds.), *The Transcultural Turn: Interrogating Memory Between and Beyond Borders* (Berlin: De Gruyter, 2014); Chiara de Cesari and Ann Rigney (eds.), *Transnational Memory: Circulation, Articulation, Scales* (Berlin: De Gruyter, 2014).

⁵³ Susannah Radstone, ‘Transcultural Memory and the Locations of Memory Studies’, in Rick Crownshaw (ed.), Special Issue: *Transcultural Memory, Parallax*, 17:4 (2011), pp. 109-123, 111.

⁵⁴ *Ibid.*

⁵⁵ Astrid Erll, ‘Travelling Memory’, in Rick Crownshaw ed., Special Issue: *Transcultural Memory, Parallax*, 17.4 (2011), pp. 4-18.

⁵⁶ Sebastian Groes, ‘Introduction to Part III: Ecologies of Memory’, Sebastian Groes (ed.) *Memory in the Twenty-First Century: Critical Perspectives from Sciences and Arts and Humanities* (London: Palgrave Macmillan, 2016), pp. 140-146, 140.

⁵⁷ Claire Colebrook, ‘Time that is Intolerant’, Sebastian Groes, (ed.) *Memory in the Twenty-First Century: Critical Perspectives from Sciences and Arts and Humanities* (London: Palgrave Macmillan, 2016), pp. 147-158, 147.

⁵⁸ Greg Garrard, cited in Sebastian Groes, ‘Introduction to Part III: Ecologies of Memory’, Sebastian Groes, ed. *Memory in the Twenty-First Century*, pp. 140-146, 141.

⁵⁹ Groes, ‘Introduction to Part III: Ecologies of Memory’, p. 141.

⁶⁰ Mark Currie, *About Time* (Edinburgh: Edinburgh University press, 2010), p. 29.

⁶¹ Groes, ‘Introduction to Part III: Ecologies of Memory’, p. 143.

⁶² Kingsolver, *Flight Behaviour*, p. 216.

⁶³ Susan Stanford Friedman, *Planetary Modernisms: Provocations on Modernity Across Time* (New York and Chichester: Columbia University Press, 2015), p. 8.

⁶⁴ Ann Rigney, *The Afterlives of Walter Scott: Memory on the Move* (Oxford: Oxford University Press, 2012), p. 9.

⁶⁵ *Ibid.* p. 20.

⁶⁶ *Ibid.* p. 223.