

Experiencing Time with Trees and Swans: Understanding Climate Change through the Contemporary Novel

Charlotte Fraser, School of Geography and the Environment

Abstract – This article explores the role played by contemporary literature in navigating the climate crisis. It seeks to emphasise the value of creative responses to climate change in aiding transformative conceptualisations of nature and the environment. This will be explored primarily through an trees in Richard Powers' *The Overstory* (2018) and swans in Alexis Wright's *The Swan Book* (2013). By way of premise, I will consider the discontinuities between historical literary framings and our current conceptions of narrative and time, as prompted by our changing relationship with the environment. This discussion is informed largely by Dipesh Chakrabarty's notion of 'species thinking', as well as Amitav Ghosh's and Timothy Clark's more explicit criticisms of the contemporary novel's response to climate change. In response to these theories and criticisms, the timeframe of trees offered in Richard Powers' *The Overstory* is explored as an example of multi-scalar thinking. Alexis Wright's novel, *The Swan Book*, on the other hand provides continuous tension between anthropocentric and ecocentric conceptions of time that more explicitly query what is lost when time is conceived of in purely human terms. Both novels guide the reader to think through time in an ecologically informed way, imbuing the reader with a greater sense of urgency towards climate change.

Keywords: climate change, contemporary novel, time, ecocentrism

Introduction

Contemporary literature can help to foster alternative conceptualisations of the environment. Calls by scholars such as Esther Turnhout to 'creatively rethink what it means to do environmental knowledge' (368) are being answered in the social sciences through the suggested move towards ontological pluralism. This position recognises both the existence and the limitations of the various perceptual frames through which the Earth can be understood and experienced (Nightingale). Mike Hulme similarly argues for a shift from the epistemologically constrictive pursuit of answers to the embrace of a broader

conceptual horizon. This is achieved by 'adding layers of meaning to our experience and understanding of reality' (334): a process known as 'knowledge thickening' (336). In doing so, the scientifically defined boundaries of environmental knowledge are transformed into a more fluid set of responses. Hulme suggests that the Humanities play a particular role in this process, for they 'frequently pose normative questions that, rather than being resolved, can only be better or more deeply understood' (334). This results in the generation of introspective 'self-knowledge' (332) which in turn motivates climate action.

This article extends this logic to the arts themselves by exploring the contemporary novels of Richard Powers' *The Overstory* (2018) and Alexis Wright's *The Swan Book* (2013) as examples of creative responses to environmental knowledge production. Although both texts are fictional, they may offer an illuminated conceptual vision of the environment – specifically, the temporal order through which the environment exists. The texts query the linearity and short-sightedness of Western conceptions of time, looking instead at the natural signifiers of trees and swans to reflect on the multitude of temporalities that coexist on Earth. While they do not provide explicit answers for combatting the climate crisis, creative responses to climate change, as embodied in these novels, offer an imaginative site for querying our understanding of this issue and encourage introspective change.

Species Thinking: Re-evaluating Chronology

Creating a nuanced temporal understanding of climate change is no simple act. The nature of this perceptual change is explored by Dipesh Chakrabarty, who argues that the assumption of 'a certain continuity of human experience' throughout past, present and future imaginings is disrupted by the current climate crisis in the 'collapsing of human and geological chronologies' (Chakrabarty, 'Four Theses', 210). Making sense of this change, Chakrabarty argues, calls for 'species thinking' (213). Species thinking

'requires us to both zoom into the details of intra-human justice – otherwise we do not see the suffering of many humans – and to zoom out of that history, or else we do not see the suffering of other species' (Chakrabarty, 'Whose Anthropocene?', 111).

Thus, it asks us 'to mix together the immiscible chronologies of capital and species history' (220). This generally poses a challenge to Western epistemologies and anthropocentric conceptions of time; for, as seen in *The Swan Book*, indigenous and traditional modes of knowledge production often approach notions of time in an ecologically informed way. Such notions, however, conflict with short-sighted humancentric worldviews.

Anthropocentrism and the Contemporary Novel

Anthropocentrism is also identified as a prevalent feature of the novel form, making it a particular challenge for novels to incorporate the alternative chronologies outlined by Chakrabarty. Robert Macfarlane highlights how the discreet and incremental nature of climate change leaves the writer with questions of 'how to dramatise aggregating detail' and 'how to plot slow change'. This idea of gradual change is explored more politically by Rob Nixon, who emphasises that in order to 'confront [the] slow violence' of climate change and other environmental sources of harm, it is required

'that we attempt to give symbolic shape and plot to formless threats whose fatal repercussions are dispersed across space and time' (10).

Applied to contemporary literature, the 'dispersed' (10) nature of threats is typically incompatible with the anthropocentrically scaled timeframe that novels often adopt. In order to resolve this conflict, writers must devise ways of drawing attention to events that are 'low in instant spectacle but high in long-term effects' (10).

The temporal criterion required for exploring climate change is viewed by Amitav Ghosh as antithetical to the novel genre. For Ghosh, examinations of the novel are grounded in a stringent understanding of form. Novels exist in 'discontinuities of time' (59) and must be 'actualised within a certain time horizon' (59); the corollary of this is that the temporal uncertainty within discussions of climate change becomes hard for fiction to depict. For Timothy Clark, it is the 'anthropocentric delusion' present in the 'still-dominant conventions of plotting, characterization and setting in the novel' that prevent it from being an appropriate literary form for climate change (*Ecocriticism*, 164-65). Both Ghosh and Clark argue that the realist tendencies of the novel create a form of 'concealment' (Ghosh, 12), favouring the 'intelligible and coherent world at the personal scale, centred on individual agency' (Clark, *Ecocriticism*, 165). Although novels written in this way are able to depict the experience of the human, they often fail to capture greater global changes. Clark extends this issue of the 'personal scale' to the very way in which we read and criticise literature. '[The] professionally familiar circle of cultural representations, ideas, ideals and prejudices' found in literary criticism needs to be opened up to a global, long-term scale which explores 'physical cause and effect, or the environmental costs of an infrastructure', and which incorporates 'questions that involve non-human agency' (Clark, 'Scale', 164). Clark suggests reading through three scales – the personal, the national, and the global – as a way of 'creatively deranging the text through embedding it in multiple and even contradictory frames at the same time' (163).

These criticisms largely rest on a perceived resistance between the novel genre and an expansive view beyond the human. Stef Craps and Rick Crownshaw have suggested that this resistance is owed in part to the exclusion of climate change fiction from what some people consider to be “serious” modern literature’ (1). Such exclusion has resulted in authors writing texts that engage more explicitly with the troubles of time and nonhuman phenomena being ostracised from the critical discussions outlined above. The following sections of this paper explore two novels that engage with those themes: *The Overstory*, which examines the use of an arboreal timeframe through trees, and *The Swan Book*, which looks at time from the perspective of swans and other eco-phenomena.

Exploring Tree Time in *The Overstory* by Richard Powers

The Overstory structures itself around nine interacting narratives all connected through and by the trees that shape the characters’ perceptions. Trees are the unifying force in the novel, centering the arboreal processes of life and decay that take place over an extended timeframe, and they interrogate human notions of immediacy and scale. Richard Powers produces this alternative timeframe by adopting a chronology that is concurrently vast and intimate. From the moment Jørgen Hoel plants the first of his chestnut trees, the text’s sense of time shifts to align with both human and arboreal growth: ‘In four more years, the Hoels have three children and the hint of a chestnut grove’ (7). However, once the children and the tree have reached a certain level of maturity, the tree’s sense of time slows in relation to the children. John Hoel reaches adulthood, starts a family, and industrialises the farm, but for

‘the last remaining chestnut, all this happens in a couple of new fissures, an inch of added rings’ (9).

Human time and tree time run first in parallel, but then are opposed. This is seen most clearly when the Hoels take on the project of photographing the great tree on a monthly basis, contrasting the continuity within the printed photos with the changing emotional contexts in which they were taken. In fact, ‘[t]he photos hide everything’, for the human timescale is always ‘to Frank Jr.’s back, each time he opens the lens’ (16). The events suppressed behind each frame begin to overflow their confines:

‘The hushed-up incest, the lingering alcoholism, a daughter’s elopement with the high school English teacher. The cancers (breast, colon, lung), the heart disease, [...] the car death of a cousin’s child on prom night.’ (16)

The anaphoric 'the' sentence formulation grants specificity to each event in Frank Jr.'s life, even when details are rendered abstract on the arboreal timeline. Thus in *The Overstory*, as Umberto Eco suggests in *The Infinity of Lists*, '[t]he list becomes a way of reshuffling the world' (105). Powers' list here reshuffles the world within a new temporal order and brings events into alignment with increased rapidity. The use of brackets also creates an embedded list, mirroring the tree-rings, which become a temporal reference point for the book as a whole. The events which the family experienced are not effaced, but the centrality of the human experience in the timeline is reconsidered. Read in relation to Clark's 'derangement of scale' ('Scale', 158), Powers' punctuation may open the text up to readings at different scales which coexist and interact. Clark suggests that the third *global* scale, while highlighting the 'hidden costs of lower scale thinking', also has a 'tendency to register a person primarily as a physical thing' (163). In doing so, the global scale can be

'almost too brutally removed from the daily interpersonal ethics, hopes and struggles that it ironizes' (Clark, 'Scale', 163).

However, the contents of Powers' list can be seen to retain a sense of the 'hopes and struggles' of life whilst operating at a larger scale. Thus, Powers' use of tree time invites, rather than resists, a multi-scalar reading. By situating human perception in a space that is able to represent simultaneously the personal and the arboreal, *The Overstory* re-contextualises the 'personal scale' (Clark, 'Scale', 157) of the novel within a broader globalised setting.

The reader notes that a whole generation's lifetime exists in the space of time it takes for the tree to grow into 'early middle age' (*The Overstory*, 16), and it is this logic that will shape the reader's experience for the rest of the novel. The reader, like Adam, is guided to think in tree time; he says, 'Seventy plus seventy is nothing. A black willow plus a wild cherry.' (471). Powers' adoption of a new timescale creates a perceptual mode through which the reader is encouraged to think with ecologically informed meaning – meanwhile, keeping the details of the human experience mostly intact. In an online interview, Powers extends this logic to the very way in which 'we might just be able to save ourselves' from continued climate change, arguing that we can only achieve this 'by coming home to the world's influence and living in *its* seasons, not our own' (Hamner). Thinking in an arboreal timeframe has practical power; it encourages the reader to assign greater weight to future events, as they are no longer perceived as abstract possibilities. Instead, a heightened tangibility is integrated into an understanding of future climate change. This conceptual shift is needed especially from much of the Global North, whose experiences of climate change are currently less extreme, yet geographically and historically these populations account for the majority of CO₂ emissions. *The Overstory* encourages the reader to imagine

what might be gained by thinking through the temporality of a different species and to refuse the flawed short-sightedness of anthropocentric thinking.

Swans and Ecocentric Temporalities in Alexis Wright's *The Swan Book*

Alexis Wright also integrates an arboreal temporality into her 2013 novel *The Swan Book*. The 'giant eucalyptus tree' (6), to which the mute Oblivia Ethelyne repeatedly desires to return, acts as a portal to the 'primordial memory in these ancient lands' (6), representing the Aboriginal Australian worldview of Dreamtime. The tree grants Oblivia a uniquely sacred connection to a time that exists beyond the human, and which has been forcibly eroded in the rest of her community. *The Swan Book* follows Oblivia's story. It adopts a climatologically destructive world as its backdrop, in which 'climate change wars' (20) have already ravaged most nations and left 'countless stateless millions of sea gypsies looking for somewhere to live' (20). Oblivia is forced to navigate these terrains of uncertainty when Warren Finch, an international figure of peace and 'self-proclaimed Indigenous hero' (254), takes her as his promised wife and destroys her home.

In this process of extraction, Oblivia's and Warren's differing modes of temporal sense-making proceed to coexist in the structure of the novel. There is continuous tension between the ecocentric (Oblivia) and the anthropocentric (Warren and other characters) that pervades much of the text. Literary scholar Adeline Johns-Putra identifies Oblivia's muteness with an 'alternative, ecocentric reality', whereas the articulated voices of other characters in the text represent 'what is conventionally accepted as "reality" in anthropocentric and Eurocentric terms' ('The Rest is Silence', 35). Johns-Putra also points out that her muteness is created by a 'rupture in time' (34) caused by Oblivia's rape, forcing her to hide in a sacred eucalyptus tree and subsequently be connected to 'primordial memory' (*The Swan Book*, 6). From this perspective, Oblivia's muteness embodies an ecocentric temporality, as well as 'reality' (Johns-Putra, 35). Indeed, Oblivia is later refigured as the tree from which she emerges. Some people from the swamp say

'that she was really the tree itself; she had become the tree's knowledge; or, possibly she was related to the tree through Law, and the tree took her away from her people' (83).

Originally, the tree was seen as the physical embodiment of the 'reciprocal bond of responsibility' between the swamp people and their ancestors, a mutuality which 'held all times together' (69). However, once the Army destroys the tree, Oblivia becomes the final physical connection to the site at which 'the stories of the swamp were [previously] stored' (69).

Despite the tree's absence, Oblivia continues to be connected to the swamp people's stories: 'the Law that stretched back to the beginning of time' (97). Her transtemporality is also guided by the swans on which the novel is centred and with which her movements are deeply intertwined. The birds represent the natural rhythms of ecocentric time. They are also imbued with a culturally constructed history of 'swan artistry': references to swan-related poetry, opera, and literature that create what Ben Holgate calls a 'global swan mythology' (640), which is utilised to 'attract a transnational audience' (640). However, when interpreted as a reference to time, this swan mythology centralises a history of swan-oriented storytelling, emphasising the swan's ability to carry 'away the past, present and future on its webbed feet' (*The Swan Book*, 24). That said, this centralising process appears incomplete. The stories about the swans, no matter how numerous, can never be fully articulated by the humans in the novel, for

'nobody in the North remembered the stories in the oldest Law scriptures of these big wetland birds' (58).

Climate change has displaced the swans, and regimes of oppression have prevented the passing down of their Laws to the swamp people. Recognition that 'Swans had Law too' (58) articulates an absence in the human understanding of the swans, whilst affirming the birds' continued agency in retaining their Laws. Wright thus situates the swans in a deeply ecological narrative. This speaks also of the extreme loss experienced when Indigenous readings of the world are severed from human knowledge.

Manmade Time

The ecocentric temporality expressed through Oblivia and the swans appears in stark contrast to the manmade time of Warren Finch. Warren, an Indigenous man, is figured as a site of ideological dispute, with his colonised body acting as the vessel for colonial rhetoric, rendering him an 'assimilated other' (Johns-Putra, 'The Rest is Silence', 36). This is expressed through the development of a hierarchical anthropocentrism. Once a boy dancing with the brolgas birds, an adult Warren becomes

'far more excited about how the world danced for him from way up high [...].
The Warren Finch dance.' (109).

The shift from communal dancing to individualist dancing is mirrored in his conceptualisation of time. In contrast to Oblivia's connection to intergenerational and non-human temporalities, Warren's sense of time is firmly embedded in the manmade. His watch appears repeatedly as a reference point in much of his action, particularly when he

is forcing the swamp people to search for his future wife. He attempts to manipulate time through his technology by 'checking his watch to quicken the thinking in the room' (129). His obsession with immediacy and the speed that the watch signifies overpower any other conception of moving through time; even when he tells himself to 'Go slow Warren' (142) he is unable to stop himself from 'simultaneously checking the time on his watch' (142-3). This timekeeping highlights Warren's especial connection to the present. As a young boy, he is unable to 'understand that his dreams belonged to the future' (99), nearly costing him his life as he pursues a swan he recognises from his sleep upstream. As he ages, however, this obsession with the present becomes a far more insidious force. While the Army destroys the sacred tree for fear of its intergenerational connections, Warren decimates the swamp people's entire land in an act of retaliation against his own past. He extracts Oblivia from the swamp, choosing her as 'the last real link to a world he had severed' and 'the attachment he had planned to keep' (169). Warren decides, however, that there is 'no time' (207) for places like the swamp, and destroys the land in a way that mirrors the tree's explosive end.

Disrupting ecocentric time

The destruction of the tree and the swamp enacts a temporal erasure, this being a recurring theme throughout *The Swan Book*. Memory and forgetting exist in constant tension; intergenerational memory and traditions of the Swamp people are repeatedly under attack as the novel unfurls. The paradoxical nature of Oblivia's name – at once an identifier of herself as a person (*Olivia*) and a signifier of effacement (*oblivate*) – speaks also to the instability surrounding recognition and remembering events. Such instability can be seen when Oblivia is removed from her home by Warren, which disrupts Oblivia's unity with, and memory of, ecocentric time: 'Already she felt the swans becoming disconnected from her' (143). Disruption accumulates as Oblivia is integrated into the manmade environment of the city. Here, technology becomes invasive. Warren's mobile phone, for example,

'rang like an alarm bell interrupting her thoughts, to dominate the past, to insist the future be heard' (206).

It is the television, however, that becomes the most explicit site of temporal splitting. Oblivia comes to recognise herself on the screen when watching a televised alternative version of herself and Warren. At first, she is unable to 'understand how she kept seeing glimpses of herself' (227) and reaches the conclusion that 'Warren Finch was stealing parts of her life for his own purposes' (229). This version of Oblivia is 'the wife he

wanted her to learn to be' (229), something which 'was forcing the girl to go mad' (229) to begin with; but eventually, this wife becomes an ideal that she craves euphorically – a disruptive force. While walking with the owls and swans on 'a pilgrimage' (236–7), Oblivia

'would again feel an excitable urge exploding in her stomach, to rush back to the apartment in double-quick time before dawn, for she was always hoping to become the television wife, to see herself greatly loved' (237).

Her desire to run in 'double-quick' time cements the ecocentric–anthropocentric temporal splitting. Running at double pace places emphasis on the present and on immediacy – Warren's human obsessions – that destabilise the rest of the text. This desire to view herself as the 'television wife' signifies an embodied anthropocentrism: Oblivia turns her attention to the projected vision of herself rather than the world around her. In doing so, she abandons the natural seasonality and ecocentrism which had guided her intuitively to this point.

From the human to the global scale

The modern city which eats into Oblivia's memory almost eclipses her, until the sight of swans 'in numbers so vast they blocked the moonlight' (243) suddenly causes her to awaken:

'When had her swans bred? Where had time gone? How many seasons of swans' breeding had passed by and she had not noticed? How long had she lived in the city? [...] Now she knew there had been many seasons of swan-egg cradling and cygnets reared which signalled above all else, that she had spent more time in the city than she had ever expected.' (243)

This sudden reintegration into the cyclical seasons of swan breeding allows her to break free from the continual 'here and now' (242) that the city embodies. When read in light of Clark's scalar logic and Chakrabarty's dual chronologies, this moment can be considered a zooming out to a global/'species' timeframe (Chakrabarty, 'Four Theses', 213). Johns-Putra, building on the work of Clark, Chakrabarty and others, outlines the importance of a moment of 'arrest' that prompts the reader into 'an awareness of the myriad connections that constitute species history' (Johns-Putra, 'Climate and History', 259). This moment of arrest marks a 'critical interruption' whereby:

'the reader is called upon to see how certain events, figures, symbols, or even objects come together in a way that is both relevant to [the reader] Now and revelatory of something outside [the present moment]' (Johns-Putra, 260).

Oblivia's awakening can be read as an example of one such moment: both Oblivia and the reader are drawn into a mutual arrest where they suddenly re-acknowledge the ecological temporality that exists within the narrative. The city is the stage for anthropocentric realism, which Oblivia and the reader can only be 'shocked [...] out of' (Johns-Putra, 258) by this sudden epistemological interruption.

Thus, unlike *The Overstory*, which integrates an arboreal temporality into its structure, *The Swan Book* explicitly treats the difficulties that arise when characters and readers attempt to think through multiple temporalities and at multiple scales; notably the frequent messiness and tension that occur when different timeframes and scales interact, as identified by Clark and Chakrabarty. Wright in *The Swan Book* offers a creative way of thinking through these complications. In terms of knowledge 'thickening' (Hulme, 336), this work overtly examines moments of incompatibility between coexisting temporalities and what is lost when one temporality is subsumed into the other. Moreover, the reader's assumption that the narrative is complete and generally guided by Oblivia is brought into question: within the city, the reader accepts Oblivia's understanding of the swans as whole, before the moment it is suddenly revealed that Oblivia's knowledge of them is partial and detached. Although swans are present in much of the city narrative, their real actions are inaccurately depicted until the 'freak of nature' (243) occurs. It is only after this moment of shock that both the reader and Oblivia become aware of the ecocentric reality that has been existing silently, and continually, throughout the novel, removed from its human participants. The swans continue to breed and regenerate, unlike Oblivia and the other anthropocentric characters that remain entrapped in the present moment. The retrospective pull of this scene with the swans speaks to Chakrabarty's argument: that human history needs to be reassessed through the lens of species history in order to better comprehend the mixing of chronologies that now define our age. More broadly, this scene also points to the notion of time being cyclical, whereby actions are interlinked and in reciprocal relation. By returning to a form of species thinking and by 'read[ing] the country now as [the swans] do' (293), Oblivia can move forward and away from the city.

Conclusion

Both *The Overstory* and *The Swan Book* offer ways of reading the world that diverge from the typical anthropocentric tendencies of the novel genre and impart insight on how one might approach the 'untidy times' (*The Swan Book*, 97) of climate change. The importance of the arboreal in Powers' structure and timeframe affords a more robust reading of the text; it can be approached from multiple scales (human to global) and still possess clarity and coherence. This is ultimately achieved by decentering the human and instead recognising the other temporal realities which coexist on our planet. In this expanded temporal horizon, climate change and other environmental realities looming decades in the future seem far more tangible than when anthropocentrically imagined. In *The Swan Book*, the difference between immediacy and intertemporality is explored more overtly. Oblivia and the swamp people have their intergenerational and ecocentric modes of perception threatened by the markers of the present: Warren Finch and the Army. In the end,

'[the] Army owned everything, every centimetre of their traditional land, every line of buried song, stories, feelings, the sound of their voices' (301).

Thus, the book itself becomes an artefact of remembrance. By attesting to the alternative realities and temporalities, *The Swan Book* serves as a counter-narrative to Western epistemologies by highlighting the importance of Indigenous worldviews, which are guided more intrinsically by nature – views that continue to be oppressed by the Global North.

Both novels offer a conceptualisation of time that extends beyond anthropocentrism, opening the reader up to an understanding of 'species history' (Chakrabarty, 220) that recognises our place within nature rather than apart from it. These imaginative explorations of ecological thinking help to cultivate within the reader a 'self-knowledge' (Hulme, 332) that encourages critical reflection on the boundaries of human experience and on that which exists beyond. In our era of devastating climate change, ecological thinking needs to be harnessed for global action, particularly in the Global North, in order to move beyond 'anthropocentric delusion' (Clark, *Ecocriticism*, 165) towards a way of existing that complements other ecological realities, rather than competing with them. The two novels productively explore how this change in perception might be brought about, and give merit to the influential role of literature and the arts on the political plane.

References

- Chakrabarty, Dipesh, 'The Climate of History: Four Theses', *Critical Inquiry*, Vol. 35, No. 2, 2009, pp. 197-222.
- Chakrabarty, Dipesh, 'Whose Anthropocene? Revisiting Dipesh Chakrabarty's "Four Theses"', *RCC Perspectives*, No. 2, 2016, pp. 101-114.
- Clark, Timothy, 'Scale', *Telemorphosis: Theory in the Era of Climate Change*, Vol. 1, 2012, pp. 148-166.
- Clark, Timothy. *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept*. Bloomsbury, 2015
- Craps, S. And Crownshaw, R. 'Introduction: The Rising Tide of Climate Change Fiction', *Studies in the Novel*, Vol.50, No.1, 2018, pp. 1-8.
- Eco, Umberto. *The Infinity of Lists*, trans. by Alastair McEwan. Rizzoli, 2009.
- Ghosh, Amitav. *The Great Derangement*. Chicago UP, 2016.
- Hamner, Everett. 'Here's to Unsuicide: An Interview with Richard Powers', *LARB*, 2018. Available at: <https://lareviewofbooks.org/article/heres-to-unsuicide-an-interview-with-richard-powers/#!>.
- Holgate, Ben. 'Unsettling narratives: Re-evaluating magical realism as postcolonial discourse through Alexis Wright's *Carpentaria* and *The Swan Book*', *Journal of Postcolonial Writing*, vol.51, no.6, 2015, pp. 634-647.
- Hulme, Mike. "Gaps" in Climate Change Knowledge: Do They Exist? Can They Be Filled?', *Environmental Humanities*, Vol. 10, No. 1, 2018, pp. 330-337.
- Johns-Putra, Adeline. 'Climate and History in the Anthropocene: Realist Narrative and the Framing of Time', *Climate and Literature*, edited by Adeline Johns-Putra, Cambridge UP, 2019, pp. 246-62.
- Johns-Putra, Adeline. 'The Rest Is Silence: Postmodern and Postcolonial Possibilities in Climate Change Fiction', *Studies in the Novel*, Vol.50, No.1, 2018, pp. 26-42.
- Macfarlane, Robert, 'The Burning Question', *The Guardian*, 2005. Available at: <https://www.theguardian.com/books/2005/sep/24/featuresreviews.guardianreview29>.
- Nightingale et al. 'Beyond Technical Fixes: climate solutions and the great derangement', *Climate and Development*, Vol.12, No.4, 2019, pp. 343-352.
- Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Harvard UP, 2011.

Powers, Richard. *The Overstory*. Penguin, 2018.

Turnhout, Esther. 'The Politics of Environmental Knowledge', *Conservation & Society*, Vol. 16, No. 3
2018, pp. 363-371.

Wright, Alexis. *The Swan Book*. Washington Square Press, 2013.