Adeline Johns-Putra (ed.), *Climate and Literature*. Cambridge: Cambridge University Press, 2019, 346 pp. \$120 hardback.

One might expect a new book sporting this title to be mainly about literary responses to anthropogenic climate change, which has played such a large role in public discourse over the last few decades. While that certainly *is* one focus of this collection of essays by a number of (primarily American and English) scholars, the scope of the work is much broader, tracing connections between climate and literature all the way back to the beginnings of the latter — and the former as well: climate and literature have always been inextricably linked, in an important sense, as editor Adeline Johns-Putra proposes in her introduction: "climate emerges discursively....[it] necessarily possesses an intimate relationship with language, and through language, to literature" (pp. 1-2).

The work consists of 17 chapters (besides the introduction), grouped into three sections. Part I, "Origins," opens with Robert Markley's "Literature, Climate, and Time," which considers several 19th- and 20th-century works in some detail, but also exposes more general issues that reappear frequently in subsequent chapters: turning points in the historical representation of climate in literature; the potential utility of literary treatment of climate; the association of climate literature with science fiction; and the relationship between religious belief and climate thinking. (I will defer discussion of these common themes until all the essays have been introduced.) Chapter 2, by Jesse Oak Taylor, concentrates on *atmosphere* as both literal and figurative component of the novel, taking *Wuthering Heights* as the prime exemplar; it is followed by Tess Somerwell's account of how the cycle of seasons figures in (European) literature as a link between nature and culture.

The remainder of Part I, and the book as a whole, follows a mostly chronological arc. Daryn Leboux explores "Climatic Agency in the Classical Age," noting that one author (possibly Hippocrates, but that is not definitively known) claimed that "one can attribute the characteristics of individual cities, of whole nations, and even whole regions, to their climates" (p. 72). P. S. Langeslag moves ahead to the medieval period, addressing two aspects: the prominent setting of borderline-habitable climates in Norse literature, and the part played by climate in "end-time" writings in the medieval Church. The section closes with an essay on Shakespearean climate by Lowell Duckert, who — citing a pair of climate scientists who place the start of the Anthropocene in 1610 — argues for its relevance to our own climate thinking.

Part II is labeled "Evolution;" its first chapter, by historian of science Jan Golinski, suggests that the Enlightenment brought about a major alteration of our conceptions of weather and climate. Particularly in Britain, increased attention to the measurement and recording of data led people "to conceive of weather as a constant — and not merely occasional — presence in human lives" (p. 111). The perception of extreme weather events as manifestations of divine intervention gave way to a more stable view of climate, and even to early belief that climate could be

altered —improved, specifically — by human activity, thus ameliorating the inhospitable North American environment towards one more like Europe, better fit for civilized people. The next two chapters amplify on those themes: David Higgins' "British Romanticism and the Global Climate" explores literary responses to the climatic effects of two immense volcanic eruptions around the turn of the 19th century, while Morgan Vanek looks into how transatlantic climate differences influenced political developments of the period. Jessica Howell shows how the theme of climate as cultural determinant informed thinking about race and empire in writers such as Burton, Conrad and Kipling.

The last three chapters in this section take us into the 1900s. Justine Pizzo's "Ethereal Women: Climate and Gender from Realism to the Modernist Novel" harnesses its multivalent title word to relate climate and feminine spirituality in works from the Victorian era through the first half of the 20th century, followed by Chris Pak's examination of the theme of terraforming in several classic 20th century SF novels (Arthur C. Clarke's *The Sands of Mars*; Frank Herbert's *Dune*; Kim Stanley Robinson's Mars trilogy). Part II closes with Andrew Nestingen's discussion of climate in "Nordic Noir" crime fiction, whose focus on challenging environments and ecocatastrophe intriguingly echoes the earlier chapter on medieval Norse literature.

The last section, "Application," concentrates on contemporary developments, particularly the growth of climate fiction ("cli-fi") in the Anthropocene age. Axel Goodbody and volume editor Johns-Putra's joint survey of "The Rise of the Climate Change Novel" lists over 30 examples — most from the 21st century — and, among other general themes, questions whether literary realism can effectively deal with the problems and emotions that climate change entails. Johns-Putra delves more deeply into that point in the following chapter (the most densely theoretical of the entire volume). Drawing in part on Walter Benjamin's concept of history, she casts doubt upon the validity of any traditionally realist account of the Anthropocene, offering David Mitchell's *Cloud Atlas* as a promising novel (in both senses of the word) approach. Claire Colebrook continues the theme of broad historical perspective by tracing changes in how the concept of extinction has been perceived over the past few centuries; and the book concludes with Daniel Cordle's piece on parallels between "Climate Criticism and Nuclear Criticism."

I do not have space to address more than a fraction of the important issues raised in this well-written and well-curated collection; I will highlight just a few that are treated in more than one essay. While the aptness of the last section heading might be questioned — its four essays largely continue the quasi-chronological pattern established in the preceding ones — one particular aspect of "application" merits further consideration: the potential of literature to "provide drama, and thereby engage readers' attention" (Goodbody and Johns-Putra, p. 234) when "today's policy of climate mitigation is plagued by difficulties activating some of its target audiences (Langeslag, p. 90). That's unquestionably a laudable and essential goal, but there may be risks inherent as well. Both Johns-Putra (p. 6) and Markley (p. 15) comment on the "appropriation" of climate writing by science fiction, which could tend to relegate the status of the topic from real current science to speculative future fiction in readers' minds, thus potentially diminishing any sense of urgency. Perhaps some sociological studies aimed at optimizing the strategic application of cli-fi in political strategy might be rewarding.

The interplay between climate and religiosity, as manifested in visions of extinctions and end times, has changed markedly over the centuries. As we saw above, the predisposition to blame apocalyptic weather events on God's displeasure waned during the Enlightenment, in favor of a more secular, science-driven picture of stability; whereas today (in the US at least) religion goes hand in hand with climate change *denial*, while it is the scientists who alert us to the coming apocalypse. Colebrook draws "a stark contrast between biblical apocalypse...where the end of this fragile and fleeting world is a haunting possibility that allows for the thought of a world beyond the mundane, and the current vogue for imagining the 'end of the world' as nothing more than the end of liberal and affluent capitalist urbanity" (p. 279), and goes on to lament the impoverished vision of contemporary cli-fi: "Far from climate change prompting writers to question whether the mode of human existence that altered the planet as a living system should be extinguished to make way for other forms of life, the threat to human existence...has enabled a contraction of the human imagination not merely to the human species, but to humanity in its urban, affluent, hyper-consuming, and globally subsuming form" (p. 277). That may be a little exaggerated — surely there is *some* literature out there proposing that extinguishing our current mode of human existence is needed to save the world (I can think of at least one such, John Brunner's 1972 The Sheep Look Up) — but the idea that the linkage between climate change thinking and late capitalism may be problematic appears in several other essays as well.

Lastly, many of the authors address (implicitly or explicitly) the question of whether there have been significant discontinuities in climate thinking over the years. Most of the essays in the last section suggest that Anthropocene climate literature differs substantially from what came before, and several in Part II point to a major shift in the Enlightenment. On the other hand, Langeslag notes that "flooding and runaway atmospheric warming are prominent literary concerns in the apocalyptic literature of medieval Europe" (p. 90), while both Golinski and Vanek highlight the belief in anthropogenic climate change during settlement of the New World. (At that time, deforestation was considered to be a wholly *positive* contributor (pp. 123, 153) — a rather ironic contrast to today!) So does modern cli-fi represent a sea (level) change in climate and literature, or nothing much new under the sun? Somewhere in between; but I found the overall tenor of this historical survey supports a position closer to the latter.