

Michael Thomas Gaffney, ‘The birth of the ice age: on narrative and climate history in the nineteenth century’, *Nineteenth-Century Contexts*, 42:5 (2020): 567-580.

Michael Thomas Gaffney’s article examines the imaginative constructions of the ice age in the nineteenth century, arguing that it depends upon particular narratives about geology and climate change that competed for influence over the telling of climate history.

The article begins by describing how the idea of ‘ice age’ was conceived by a nineteenth-century poet, Karl Friedrich Schimper. Finding its way into the topic via the immediacy of a poem allows the writer to forge a direct connection between the 1830s and today’s moment, locating our own contemporary period in what, geologically, is still an ‘ice age’. The article then turns to two works of nineteenth century climate science, by Louis Agassiz (*Studies on Glaciers*, 1840) and James Croll (*Climate and Time*, 1875), to explore the ways in which ice ages were constructed culturally, as well as existing geologically.

The argument that “the discovery of ice ages was as much a profoundly imaginative and narrative act as it was a great feat of careful observation” is hardly a surprising one; the same can be said about other geological process such as fossilisation and how they function in the creative and scientific imaginary as well as in data and practice (568). More important, however, is *how* ice ages were so figured. Gaffney reads Agassiz’s and Croll’s books as enactments of “the two most important narrative forms in geology: catastrophism and gradualism” (568). In nineteenth-century ice age theory, Gaffney identifies the foundations of modern climate science.

The article then turns to its methodological framework, through historiography and narrative are read in relation to geology. It puts a case for how geology can be seen in narrative terms, not least as a mechanism by which to explain and communicate events taking place over vast extents of time. The study of ice ages in particular, however, (compared to that of geology as whole) was particularly rife with the conflicts arising from the competing theories of catastrophism and gradualism, as examined by the article. Gaffney understands these ideas primarily as narratives - narratives distinct from either scientific theory or literary narrative, though related to them. A different approach, the article argues, is deployed here in order to plot a story that does not arise from the drama of human actants.

Two sections follow that address Agassiz and Croll in turn, beginning with Agassiz’s theorising of the ‘glacial epoch’, which describes the content and general thrust of Agassiz’s book, including the way that understanding the movement of currently existing glaciers opened the way for understanding the existence of vaster glaciers in the deep past. This reasoning led Agassiz to a ‘hypothesis of great glaciers’ shaping Europe’s geography. Agassiz’s book also provided a story about the history of life, and how European animal and plant life were affected by these climate changes, which he understood and represented in catastrophic, though also cyclical, terms. Gaffney hints at this point that it was human activity that disrupted the relationship between geology and life, implying, perhaps, that recognition of human impact would lead to a change in the narrative construction of ice ages.

Agassiz’s work, however, unlike Croll’s, did not attempt to explain why ice ages happened. In this section, the article develops its core theme of how Croll deploys

a narrative approach based on uniformitarianism to explain the workings of ice ages and climate change. Largely a summary of Croll's work and ideas, there is disappointingly little close examination of Croll's interesting text.

The concluding section compares the legacy of each thinker's work and reflects on the greater hold that Croll's narrative exerted on later understandings of climate change and geohistory. It concludes with some reflections on how and why ice ages were so important in understanding global warming and the early works on this theme in the late nineteenth century. Yet, Gaffney argues, while early ice age science may no longer be so crucial to today's climate science, the persistence of the narratives told about them endures in the public imagination. A more planet-centred way of thinking these narratives might helpfully disrupt some of the problematic narratives of the Anthropocene in circulation today.

The article is well-written and handles ideas and materials clearly and capably, and I learned a lot about nineteenth-century ice age theory. As a study of interest to literature and science scholars, literary analysis is limited and readers might seek more thorough demonstration of ice age cultural narratives through close reading, as informed by key relevant scholars of the period such as George Levine and Gillian Beer. The article is commendable for the wider connections it makes towards the end – if anything, it is *too* modest or diffident about its claims, and being more up front about the significance of the argument's implications from the start would make it even more persuasive

Emily Alder
Edinburgh Napier University