

Introduction: Literature, Science, and the Natural World in the Long Nineteenth Century

Claire McKechnie and Emily Alder

In the twenty-first century, nature occupies a crucial position in social, environmental, and economic debates about global sustainability. Many of these debates over humanity's relationship with the natural world are not new, but emerged in response to an Enlightenment worldview positing human capacity to control nature through science and technology. The circulation of ideas about the impact of new technologies, the use and misuse of resources and landscapes, and human responsibilities towards the environment and its preservation intensified over the nineteenth century, due partly to the growth of industrialism and the new discourses to which it gave rise. "And what is impossible to science?" asked Friedrich Engels in 1844, arguing against the existence of natural limits in light of human ingenuity (qtd. in Dresner 14). Yet humanity's ability, and its right, to control nature were also debated and questioned over the course of the nineteenth century, a period which saw rapid social, industrial, and scientific change, bringing the natural world to the forefront of the Victorian cultural imagination. John Ruskin's image of clouds as meteorological omens of the effects of modern industrialisation in *The Storm-Cloud of the Nineteenth Century* (1884) encapsulated nature's central function as metaphor as well as the focus of scientific investigation; the natural world itself responded to changing times and a changing Britain. The natural world was intricately bound up with how Victorians thought about themselves and how they related to their social world, to the extent that we can hardly extricate the idea of nature from the idea of the nineteenth-century imagination.

Traditionally, literary studies of nature in the nineteenth century have tended to focus on the Romantic period. As Onno Oerlemans and P. M. Harman have recently shown, conceiving Romanticism as a movement towards the construction of scientific thinking in literature has led to the placement of nature and the natural world at the centre of how we think about the Romantic imagination. Part of the aim of this special issue is to extend this attention to how nature was perceived and imagined to focus on writers in the latter half of the nineteenth and early part of the twentieth centuries. By doing so, the four essays that follow this introduction provide fresh literary and historical context for studies of nature during this period and bring to light the ways in which both well-known and understudied writers engaged with science and nature through the century, from Charles Kingsley to Richard Jefferies and D.H. Lawrence. These essays explore the boundaries between urban and natural, real and imagined, past and present, place and time to reveal the complexities of Victorian and early twentieth century attitudes to the natural environment and how these influenced the popular imagination through fiction.

Scholars of the nineteenth century broadly agree that nature itself is scarcely a fixed or stable concept, existing rather as "multiple, socially constructed and contested 'natures,' each operating from within different, historically specific constellations of social, discursive, and material practices" (Hess 5). As a flexible concept, then, the idea of nature is continually reconstructed in literary texts and is deployed for a range of political and didactic purposes. The essays in this special issue each engage with different formulations of nature in literature, and explore how

these function within their specific cultural and historical contexts. They show how constructions of nature are bound up within a wider cultural web of concerns and preoccupations drawn from social and scientific developments of the nineteenth century, particularly those relating to industrial progress, imperial expansion, religion, and education.

Over the course of the nineteenth century, science became both a topic and a means of education. As literacy levels and child participation in state education increased, scientific knowledge could be more widely communicated, and helped to stimulate a widespread practical curiosity about the natural world and activities such as fossil collecting or aquarium keeping. However, scientific discoveries and influential publications such as Charles Darwin's *Origin of Species* (1859) also had philosophical implications, construed as questioning human kinship with the animal world and bringing biological materialism into conflict with Christian doctrine. Literature had an influential part to play in exploring these implications and thinking through, for example, their consequences for the role of religion and spirituality in an increasingly materialist modern world. Ruth Murphy's essay argues that children's literature was a genre that particularly lent itself to the didacticism of science in the mid-nineteenth century. Science, she points out, was seen to be morally and spiritually improving and, in literary form, it provided a moral compass for both adults and children. Concepts of nature were shaped and controlled through the generic space that literature and science created in Victorian culture. As Murphy's paper shows, children's literature also played an important role in educating less literate adults, promulgating the reach of nature education beyond the lectures and publications of scientists themselves.

Major scientific debates almost always took place in London and Britain's other major cities, such as the famous confrontation between T. H. Huxley and Bishop Wilberforce. However, the ripples of change and progress eddied far beyond urban centres. Rural communities, far more than city dwellers, while benefiting from new farming techniques and machinery, also confronted a rapidly changing landscape and the prospect of the loss of ancient heritage or traditional practice. Rebecca Welshman's essay examines the binary of past and landscape in the fiction of Thomas Hardy and Richard Jefferies. Writers like Hardy and Jefferies, as Welshman explores, negotiated this ambivalence between progress and tradition, between the permanency of natural features of the landscape and their ongoing transformation.

Certain modernist writers were ambivalent in their attitude towards Victorian literature, seeking to distance themselves from outmoded narrative strategies and systems of thought, including discourses about the natural world. In her article, Sarah Bouttier extends the discussion into the early twentieth century, putting the concept of nature into a Modernist framework. She argues that Lawrence conflates evolution and sequential time by re-conceiving 'presence': both in opposition to 'absence' and in terms of the 'the present' in time. She concludes that we should position Lawrence between Victorian and Modern in that he combines the Victorian conception of evolutionary time with the Modernist desire to express the experience of living through time. Re-evaluating perspectives on the natural world in this way, Bouttier provides a new way of thinking about temporality in literature. The newness of Modernist literary models both demanded and drew upon new models of natural science, including reconsiderations of Darwinian biology and its implications for human existence, as Bouttier's essay explores. D. H. Lawrence, writing in the period between the two world wars, reflects in his poetry a fragility of existence in the present moment quite distinct from mid-Victorian confidence. Such fragility is legible

within developing twentieth century concerns over the potential destructiveness of modernity, particularly through science, technology, and war, and its impacts on the functionality, biodiversity, or aesthetic value of the natural world.

The ways in which writers of the long nineteenth century imaginatively negotiated such changes and explored the cultural significance of nature remain important because the questions with which they grappled still resonate with twenty-first-century global social and environmental problems. This special issue, appearing at a time of burgeoning interest in ecocritical approaches to literature following an "environmental turn" in literary studies (Buell), highlights ways in which the natural world played an important part in nineteenth-century fictions concerned with education, science, morality, urbanisation, human identity, and with a rapidly modernising world.

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