

Victorian Ecology

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Allen MacDuffie, *Victorian Literature, Energy, and the Ecological Imagination* (Cambridge University Press, 2014), 319 pp., \$95.00 cloth.

Heidi M. Scott, *Chaos and Cosmos: Literary Roots of Modern Ecology in the British Nineteenth Century* (Penn State University Press, 2014), 224 pp., \$64.95 cloth.

As it has moved into the critical mainstream, ecocriticism has regularly focused on British Romantic literature; although somewhat less common, insightful ecocritical readings of Victorian literature have also begun to appear in recent years. Both of these new books represent valuable contributions to nineteenth-century literary studies, and both convincingly demonstrate that a broadly conceived ecocriticism has become extraordinarily useful in opening new avenues for the study of literature from this era. These books exemplify distinctly different approaches to how ecocriticism might be practiced, but they nicely complement each other and suggest productive new directions for the study of Romantic and Victorian literature.

Each is the first volume-length publication for its author, but there is no trace of “dissertation language” in either of these polished, meticulously documented, and ultimately very readable studies. MacDuffie is currently Assistant Professor of English at the University of Texas at Austin, while Scott holds the same rank at Florida International University. Scott, it should be noted, has academic training (both undergraduate and graduate) in biology and in environmental science, and her familiarity with contemporary science serves her in good stead in this

project. In terms of the scope of each book, MacDuffie focuses exclusively on Victorian texts, while Scott examines a range of representative writers from both the Romantic and Victorian eras before turning to Keats as a fully developed case study.

Although both books are informed by both Victorian and contemporary science, MacDuffie largely takes an historical approach, looking back on the development of Victorian science and the ways in which science and literature exerted powerful reciprocal influences upon one another. In this respect, MacDuffie's book might also be described as a New Historicist analysis of the cultural meanings of the concept of "energy" in the nineteenth-century. Scott, in contrast, traces parallels between nineteenth-century scientific and literary texts and twenty-first-century scientific theory. In fact, several sections of her book are specifically focused on twenty-first-century scientific concepts that these earlier writers anticipated in significant ways. Both authors remain cognizant that many of their readers trained in the humanities will have little (or no) scientific background, and thus both authors provide helpful definitions and extensive background information. For many readers, the introductory chapters of both volumes may provide the most useful elements.

MacDuffie's introduction is especially well written, offering definitions of such key terms as "Anthropocene," a twenty-first-century term describing the period in which humans emerged as a major contributor to environmental change, an awareness that MacDuffie argues was anticipated by several Victorian writers. He also provides extensive background on the significance of the laws of thermodynamics, which exerted a strong influence on both Victorian science and in the cultural imagination of the century. As MacDuffie explains, Victorian interpretations and applications of the laws of thermodynamics often took on theological or cosmological significance, connecting discussions of energy to other types of narratives that attempted to account for the place of humans in the universe. For example, MacDuffie argues that the second law of thermodynamics was influenced by the concept of "productivism,"

a position that views the cosmos as possessing a nearly unlimited supply of energy designed to fuel both the "work" of nature and of human society. However, this period also saw the emergence of the first major anxieties about the finite amount of energy available to human beings – most particularly coal. Perhaps surprising to modern readers, these initial concerns emerged as early as the 1780s, as coal usage hit such dramatic new levels that seemed impossible to maintain, even as the Industrial Revolution shifted into high gear. In such discussions today, we often refer to issues of "sustainability," a concept that MacDuffie argues was also anticipated by several Victorian writers. In a later chapter, MacDuffie further probes the definition of "sustainability" as it was used in the nineteenth century to designate a logical lapse that cannot withstand scrutiny, and he links discussions of energy to broader political and economic issues in the period.

All of this background material proves fascinating for anyone interested in interdisciplinary Victorian studies and especially in representations of the environment. In the major part of the book, MacDuffie provides full-length chapters on Dickens, Ruskin, Stevenson, Conrad, and Wells, all of whom focused on human energy systems and created what MacDuffie calls "alternative thermodynamic narratives" in their writings. Highlights include two full chapters on Dickens – the first on *Bleak House* and the second on *Our Mutual Friend*. MacDuffie argues that in the first novel the Court of Chancery might be regarded as a metaphor for a resource-intensive system that is clearly not sustainable in the Victorian sense. In his analysis of *Our Mutual Friend*, MacDuffie concludes that human beings ultimately have become defined as "fuel within a system of production" (118), a particularly troubling consequence of Victorian interpretations of the laws of thermodynamics. In the same novel, there is also a steady focus on what today we would term recycling—which in certain respects represents a Victorian fantasy of endless energy, but which inevitably results in increased consumption as well as increased waste. Another highlight is MacDuffie's treatment of Conrad's *The Secret Agent* and other fiction, an analysis which extends

discussions of Victorian applications of thermodynamics and concerns of “energy flow, efficiency, and waste” (199) to the Empire and the vast untapped energy reserves to be found in the colonies.

While MacDuffie presents convincing arguments that all of these authors express both Victorian fantasies and anxieties about energy, it nevertheless seems striking that he excludes discussion of how women writers of the period articulated these same concerns. One wonders, for example, how his analysis might be applied to a novel such as Elizabeth Gaskell’s *North and South* or Charlotte Brontë’s *Shirley*. In fact, MacDuffie’s analysis avoids dealing with women characters at all. Thus, one wonders how he might handle the seemingly misdirected energies of Mrs. Jellyby in *Bleak House*. It is certainly not his intention to discuss issues of gender, but it does seem a limitation in his analysis that MacDuffie does not address the intersection of energy and gender. In fairness, it should be noted that, although she deals with women writers, Scott does not address gender in any sustained fashion either.

In her title, Scott announces the two master tropes that Western culture has typically used in analyzing nature: chaos and cosmos. The second, the more familiar and comforting model, views nature as “balanced, nurturing, and intelligible” (1) and is represented in the nineteenth century by a deep interest in the various forms of microcosm. The other model, the model favored by postmodern ecology, views nature as chaotic and unstable. From this second position, evolution is shaped by small- and large-scale ecological disturbances as much as by adaptation. Scott asserts that many nineteenth-century writers anticipated both theoretical models, and she argues that literary writers should be regarded as crucial contributors to a developing interdisciplinary study of ecology.

Scott’s excellent introductory chapter should probably be required reading for anyone interested in how scientific and literary studies might be reconciled in key ways. In clear, down-to-earth language, Scott outlines basic definitions and theoretical assumptions, including a clear distinction between “ecologist” and “environmentalist” positions. Scott also offers a nuanced, multi-level definition of the concept of “nature” that includes “an

environment entangled with human uses" (7). One of Scott's major points is that many basic constructs in the contemporary study of ecology have clear roots in the nineteenth century, a time when firm disciplinary boundaries simply did not exist and when early scientists were also trained in literary scholarship.

Modeling the concept of the microcosm through her own methods, Scott offers several brief case studies in the first part of the book, aiming for broad coverage rather than exhaustive depth. For example, she initially turns to the nature writings of Gilbert White. Whereas White expected to find balance and harmony in the microcosm constituted by his home parish of Selbourne, over the course of nearly twenty years he recorded significant variations in animal populations and weather patterns. One major factor during these years was the eruption of a volcano in Iceland in 1883, which influenced weather patterns throughout Europe. Thus, while White's letters represent a kind of early microcosmic modeling, they also record the influence of chaotic environmental forces outside the ecosystem. Scott pairs White's work with Mary Shelley's novel *The Last Man*, which was influenced by another major natural disaster, the eruption of Tambora, an Indonesian volcano. Although the two works are extraordinarily different in terms of their genre, style, and tone, both illustrate the use of the tropes of chaos and cosmos so commonly found in the nineteenth century. To illustrate the pervasiveness of these tropes, Scott offers a second pairing in Richard Jefferies' *After London* and H.G. Wells's *The Time Machine*. Jefferies' novel stands as particularly enlightening since his narrator attempts to account for the ecological disaster that has befallen London and offers both theories of gradualism and catastrophism.

Scott concludes her brief examples by launching into a wide-ranging discussion of how ecological science – from its origins in the nineteenth century to the present day – relies extensively on narrative. She claims that "Ecology is not a cluster of empirical strategies continuous with physics, chemistry, and biology; it is the most humanistic of the sciences because it is an interwoven fabric of landscape stories" (86). While literary critics

might not be in the best position to prove or disprove this claim, her focus on the persistence and value of narrative is intriguing and connects her work to MacDuffie's. Moreover, as Scott points out, a culture's understanding and acceptance of ecological models and theories typically depend heavily on narratives. As does MacDuffie, Scott cautions that many of these narratives (including ecological narratives in our own century) tend toward oversimplification or distortion. Because the story of the environment is inextricably linked to politics, economics, and religion, there seems to be no escape from the power of narrative, as we continue to see in our own century.

In the middle section of the book Scott traces connections between the nineteenth-century fascination with the microcosm and the concept of the poem as one type of microcosm. Here she offers analysis of the work of William and Dorothy Wordsworth, as well as Coleridge and Clare. Turning to the Victorians, she examines the poetry of Arnold and George Eliot, among other writers. In this section she also focuses on some of the ways in which Victorian scientists reveal the influence of Victorian aesthetic theory.

In the final section of the book, Scott provides her only extended case study in turning to the work of Keats, whom she argues utilizes a technique similar to ecological modeling in much of his poetry. For example, she claims that *Hyperion* anticipates many of the chaotic patterns characteristic of a postmodern view of evolution, which abandons comforting myths of gradualism or progressivism. She also claims the poem obliquely references the pollution associated with the use of various metals in the industry of the time. However, probably the most effective element in this case study is Scott's analysis of the ways in which Keats's major odes represent microcosms of nature. Ultimately, her approach results in creative and substantially new views of such major works as "To Autumn."

In conclusion, both books represent valuable ecocritical analyses of nineteenth-century texts. In general, Scott makes broader, more theoretical claims, in arguing for the overall significance of literary ecocriticism and

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its potential contribution to a broadly conceived study of ecology. As a result, her book may reach a potentially wider audience interested in how literary scholars and scientists share both common roots and a linked future. In contrast, MacDuffie's book reflects somewhat more traditional literary scholarship and focuses on providing closely argued analyses of how canonical writers participated in cultural debates about energy. However, these differences do not point to flaws in either approach, for one of the major strengths of contemporary ecocriticism is its breadth and its adaptability to multiple perspectives.

Perhaps the most basic and most valuable point that both authors make is that theories of the environment are inextricably caught up in narratives that both reveal and conceal the truths about the environment and humans' impact upon it. In discussing environmental sustainability, MacDuffie writes that "a culture can change the way it consumes resources, or it can change the story it tells itself to keep the consequences out of view" (106). In focusing on Romantic- and Victorian-era "stories" about the environment and probing our own ecological insights and blind spots, both writers also advance the ethical imperative that scientists and literary critics alike should share a common goal in addressing our current environmental crises.

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