

Science and Ecocriticism

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Ecocriticism, or "green" criticism, is one of the most recent interdisciplinary fields to have emerged in literary and cultural studies. Ecocriticism analyzes the role that the natural environment plays in the imagination of a cultural community at a specific historical moment, examining how the concept of "nature" is defined, what values are assigned to it or denied it and why, and the way in which the relationship between humans and nature is envisioned. More specifically, it investigates how nature is used literally or metaphorically in certain literary or aesthetic genres and tropes, and what assumptions about nature underlie genres that may not address this topic directly. This analysis in turn allows ecocriticism to assess how certain historically conditioned concepts of nature and the natural, and particularly literary and artistic constructions of it, have come to shape current perceptions of the environment. In addition, some ecocritics understand their intellectual work as a direct intervention in current social, political, and economic debates surrounding environmental pollution and preservation.

This kind of research seems at first sight to lend itself to the construction of interdisciplinary bridges between science and literary or cultural criticism, since science is arguably the most influential "construction" of nature in Western cultures. It has, moreover, contributed significantly to the evolution of environmentalist thought since the 1960s, and in large part enabled what credibility environmentalism currently has in the public sphere: from ozone depletion to species extinction and soil erosion, science has bolstered green claims regarding the deterioration of the environment. But even in environmentalist thought, science plays an ambiguous role. While its findings are readily called upon to support environmentalist policies, at least some sectors of the green movement understand themselves as antagonistic to science, which they perceive as one of the root causes of current ecosystem degradation in its historical conjunction with technology, industrialism, and urbanization. Particularly, environmentalist groups which advocate holistic thought and non-invasive approaches to the human body as well as the natural environment typically define themselves against what they view as the overly specialized, materialist, and aggressive methodology of modern science.

Given this ambiguity in the green movement itself, it is perhaps no surprise that the work produced by its academic offshoot has to date not established any significant links between literary and scientific approaches to the environment. Reservations about the role of science in bringing about environmental degradation are only partially responsible for this lack, however. Disciplinary traditions also play an important role: although "green" criticism may be a relatively recent discipline, the study of nature and of human relationships to nature in literature and art is not. Ecocriticism looks back on a long tradition of criticism that approaches nature as an aesthetic and not a scientific object, and that often sees scientific analysis as detrimental to aesthetic appreciation. Indeed, literature and art, in this framework, easily come to be perceived as bulwarks against science and technology (a view that goes back at least as far as

the Romantic era) rather than as sites of encounter between different types of knowledge and discourse. Even where science is not rejected, it frequently functions simply as a means of reconfirming the beauty and complexity that the author already assumes to be inherent in nature, without any real conceptual bridging between scientific description and aesthetic valuation.

A different kind of problem for the construction of eco-bridges between literature and science is pointed up by the shift in terminology from "nature" to the "environment." "Environment" is a more abstract and also a more vague concept than "nature," since it can (and sometimes does) encompass both natural and man-made habitats. This change in terminology is indicative of strong doubts, particularly--though not only--in the Humanities, about where one should draw the line between nature and culture: although we all have an intuitive grasp of this distinction, it is not at all easy to formalize. Most of the natural environments Westerners encounter in their own societies, at any rate, are anything but "wild" or untouched by man--even though they may continue to strike the observer as irreducibly nonhuman and other. Since the advent of deconstruction, New Historicism, and Cultural Studies, literary critics are justifiably wary of drawing precise boundaries between such concepts as "nature" and "culture" that seem to exclude each other but turn out upon closer analysis to be entangled with each other in multiple ways, whether these entanglements be semantic, historical, or power political.

Furthermore, within the context of Cultural Studies, there is at least one approach to the issue of environmental crisis that sees the new discourse on scarcity and limits in the natural world which emerged in the 1970s as based on social relations of inequality rather than scientific "fact." Andrew Ross's recent *Chicago Gangster Theory of Life* is an example of this approach. Ross does not deny the reality of environmental degradation (although he does not say how one ascertains this reality if scientific methodology, as he claims, is relative), but emphasizes that this degradation is in the last instance based on economic, social, and cultural inequalities that need to be addressed before anything like "sustainable development" can be put into effect. In his view, any political rhetoric that emphasizes scarcity is rooted in hegemonic interests that need to be examined with extreme care before any notion of "natural limits" can be accepted. Once again, the effect of this type of approach--whatever its value might otherwise be--is to shift weight away from the search for nexi between scientific and literary approaches to the environment in favor of an analysis in which science is no more than a tool for political interests which command the cultural critic's greatest attention.

Green literary criticism, therefore, is confronted from the start with a spectrum of different and not always compatible approaches to the environment: the "discursive construction," which foregrounds the extent to which the very distinction of nature and culture is itself dependent on specific cultural values; the "aesthetic construction," which places value on nature for its beauty, complexity, or wildness; the "political construction," which emphasizes the power interests that inform any valuation or devaluation of nature; and, finally, the "scientific construction," which aims at the description of the functioning of natural systems. Any specific ecocritical analysis has to situate itself in relation to these various discourses and to critically

interrogate their contribution to ecological projects. One of the central questions that necessarily emerges in such an interrogation is the question of how the value of the natural environment can and should be assessed in relation to human needs and goals. "Social ecology" generally insists that it is ultimately human needs and societal well-being which must determine our approach to nature, whereas "deep ecology" emphasizes on the contrary that nature has value in and of itself, independently of its functions for human society (this opposition has been discussed by Michael Bennett in *American Book Review's* recent Urban Culture issue). The goals and methods of an ecocritical project will be crucially determined by how it defines itself in relation to these broader divisions within environmental thought.

Ecocritical approaches with an interest in viewing literary texts and aesthetic artifacts as sites where scientific knowledge encounters other kinds of discourse, in particular, have to confront the conflict between science's claim that it delivers descriptions of nature that are essentially value-neutral, and the tendency of cultural analysis to see research as framed by specific ideological, political, and economic interests that do provide it with a set of more or less explicit values. But if the context out of which scientific research emerges is shaped by certain values, it does not necessarily follow that the results of this research will lend support to these values, a distinction that few cultural analyses of science bother to make. Due to its epistemological power as well as its pervasive cultural influence in the West and, increasingly, other parts of the world, the scientific description of nature, I would argue, should be one of the cornerstones of ecocriticism, one that is usefully confronted and compared with literary visions of the environment. This confrontation enables not only an assessment of how scientific insight is culturally received and transformed (rather than "constructed"), it also allows the critic to see where literature deviates--or, in some cases, wishes or attempts to deviate--from the scientific approach in view of particular aesthetic and ideological goals. The text thereby becomes a place where different visions of nature and varying images of science, each with their cultural and political implications, are played out, rather than simply a site of resistance against science and its claims to truth, or a construct in which science is called upon merely to confirm the inherent beauty of nature.

Such an approach seems all the more opportune as some ecocritics have applied environmentalist terminology to literary texts in highly metaphorical ways: notions such as ecology, ecosystem, ecological balance, energy, resources, and scarcity have been transferred to texts conceived of as systems with an internal logic that, when activated by the reader, reveals the dynamic coexistence of diverse components and the text's overall evolutionary, negentropic thrust (for example, in William Rueckert's characterization of green plants as "nature's poets" and poems as "green plants among us"). I find such metaphoric translations of ecological vocabulary highly problematic because they tend not only to revive the obsolete metaphor of the literary text as biological organism, but also to reintroduce, by way of nonliterary terminology, literary visions of nature as inherently creative, harmonious, and peaceful; significantly enough, the concept of "pollution" is rarely translated in the same manner. The approach I am advocating here eschews such metaphorical transfers in favor of a more literal and potentially more antagonistic confrontation between scientific and literary descriptions of nature.

In a time of intensifying ecological crises and increasing social conflict over the management and distribution of natural resources, as well as a growing number of engagements with environmental issues in literature and other art forms, literary criticism is only beginning to think through the implications of "green thought" for its own practices. Science, in one form or another, has formed a central part of ecological debates to date, and green criticism risks condemning itself to irrelevance if it ignores the contributions as well as the challenges that the scientific description of nature holds out to aesthetic articulations. With a scientifically informed foregrounding of green issues in literature, ecocriticism is likely not only to contribute significantly to the interdisciplinary dialogue between literature and science, but also to the broad rethinking of the relations between humans and nature that is currently taking place in Western societies.

References

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