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The Benefits of Bringing Cognitive Sciences into Ecocriticism

- Alexa Weik von Mossner, Affective Ecologies: Empathy, Emotion, and Environmental Narrative. Columbus: Ohio State UP 2017. X, 288 p. [$ 149,95]. ISBN: 978-0-8142-1336-0.

As its succinct title indicates, Alexa Weik von Mossner's *Affective Ecologies: Empathy, Emotion, and Environmental Narrative* makes the case for incorporating insights from cognitive science in environmental studies. It is somewhat surprising, Weik points out, that this case still needs to be made after more than twenty years of ecocritical scholarship. Not only did the entire ecocritical project derive from an empirical science – ecology – but it built to a significant extent on the assumption that environmental texts exert a deep and effective impact on their readers. Nevertheless, few ecocritics have drawn on cognitive science, and even fewer have done so in a systematic manner. *Affective Ecologies* fills this gap and convincingly demonstrates the benefits of a cognitive ecocriticism.

The study is organized around the question of how environmental »narratives appeal to our sensual perception and embodied cognition […] to immerse us into their storyworlds« (2–3). The term ›embodied cognition‹ refers to the work of neurologists, most influentially Vittorio Gallese, who have shown that humans respond to their social and material environments by mapping movements around them onto their own bodies. This kind of embodiment, which Gallese calls ›simulation‹, serves various functions, including empathy, which we attain by recreating facial expressions and bodily contortions. Research indicates that these mechanisms are at play regardless of whether the counterparts we perceive and emulate are human or nonhuman, real or imaginary.

This remarkable observation creates various openings for literary and film studies, which, after all, specialize in examining the creation and impact of imaginary worlds. The obvious point of connection is reader-response criticism. It is ideally positioned to bridge the gap between neurological research and textual analysis, or in other words, to explain how textual structures activate embodied cognition. A narrative of someone's experience of the environment, Weik points out, »is different from a scientific account in that it will allow those who receive it […] to simulate that sense of feeling in their minds« (7). The six chapters of *Affective Ecologies* draw on reader-response theory accordingly, but also on narratology and animal studies, to make a comprehensive yet coherent case for imaginative narratives as particularly complex and effective vehicles of embodied simulation.

The first chapter examines the traditional environmentalist claim that nature description can raise awareness of environmental issues. It brings the concept of embodied simulation to bear on John Muir's classic *The Mountains of California* (1894) and on a recent environmental novel, Bonnie Nadzam's *Lamb* (2011). A main insight of the chapter is that the reader's perception of and transportation into the literary environment is affected by narrative and descriptive strategies that work the same way in fictional and non-fictional texts. The second chapter points out, however, that expectations of authenticity continue to make a difference because recipients bring them only to non-fictional texts. Drawing on environmental film, the chapter shows once again that viewers' perception of the environment works along the same lines in disaster movies and documentaries. In terms of cognition, it does not matter whether the film

was really shot in the environment in which it is set, as audiences' responses to the extraterrestrial settings of many science-fiction films indicate. Non-fictional documentaries are measured by different standards, however, which indicates the interplay of biological and cultural factors in the reception process.

A main reason why audiences demand authenticity from environmental documentaries is that the ethical arguments these documentaries raise usually presuppose the facticity of the environments, actors, and stories they present. The third chapter of *Affective Ecologies* shows that these ethical arguments too rely on the skillful manipulation of cognitive processes, especially the creation of empathy with people who have been wronged. The chapter examines a range of environmental justice narratives to demonstrate the importance of narrative and filmic perspective in creating empathy. The following chapter extends the scope to representations of animals and shows that trans-species empathy relies on the same cognitive processes as human empathy. While animated movies can directly tap this potential by anthropomorphizing their animal characters, other filmic genres often deploy human characters who empathize with suffering animals as objective correlatives in order to cue corresponding responses in the audience. The use of masked human actors or computer-generated imagery blurs the boundaries between purportedly authentic and animated movies, as Weik highlights in a reading of Michael Apted's *Gorillas in the Mist* (1988), so that anthropomorphism can be found across the genres. A more extensive discussion of literary texts could have supported and further deepened the argument of this chapter, as writers have a broader range of anthropomorphizing strategies at their disposal (adopting the perspective of animals, for example) and can mix these strategies more subtly with realistic description.

The last two chapters turn to narratives about the future, which tend to have a strong environmental dimension because they often feature a drastic change of ecosystemic conditions that separates the narrative future from the present. These chapters draw on sociological and psychological research to inquire how literary and filmic texts activate recipients' emotions to create or negotiate a sense of risk. Drawing on a wide range of examples, from T. C. Boyle's *A Friend of the Earth* (2000) to James Cameron's *Avatar* (2009), the chapters examine negative and positive emotions respectively. They conclude that both kinds of emotions can successfully be activated by imaginative narratives and that both can (but do not necessarily) instigate the recipients to promote political and social change.

Chapter 5, on negative emotions, offers a particularly strong analysis of narrative strategies and the temporalities they establish in literary texts. This indicates one of the contributions the study makes to the environmental humanities. It taps the literary studies heritage of ecocriticism for a dialogue between the natural and the cultural sciences—in this case, between cognitive and textual research. A close reading like that of John Muir's writings in chapter 1 demonstrates the value of the kind of nuanced approach and aesthetic sensitivity that literary studies can bring to this dialogue. While many of Weik's insights about literary and filmic texts could have been attained without the cognitive studies framework, that framework often sharpens the readings and helps contextualize their findings. It also challenges several myths that continue to influence ecocriticism, for example the assumption that texts need to transmit an authentic experience of nature in order to instigate environmental awareness. ›Authentic‹ is a rather fluid category already, but the finding that the cognitive effect of films does not depend on a correspondence between the fictional and the actual location is a striking example of the discursive construction of environmental awareness.

Weik actually makes a more complex argument at this point in her study, suggesting that in non-fictional texts the authenticity of the setting and the human and animal protagonists matters to audiences (cf. 69–70). Confronted with a dearth of empirical research on audience responses,

her argument here leaves the realm of cognitive science and shifts to the discursive mediation of filmic experience, for example to paratexts that assert or question the film's authenticity. This indicates a general challenge in cognitive ecocriticism: the uneven availability of empirical data. Scholars who do not have the means of conducting large-scale studies themselves are left with the choice between limiting their discussion to a few empirically researched examples, or foregoing empirical validity and conducting their own close readings in the philological tradition of reception aesthetics.

Weik chooses the latter, which enables her to offer a broad, representative discussion of contemporary environmental narratives but sometimes limits her discussion of cognitive reception processes to her own reading or viewing experience. As critics of reception aesthetics have pointed out, this strategy entails the risk of universalizing one's own perspective. Weik notes at the beginning of her study that »we interact with such narratives on the mental and affective level in ways that are both biologically universal and culturally specific« (3). The interplay of the universal and the specific recurs throughout the study but is not always addressed explicitly. Weik often refers to the viewers and readers of her texts as ›we‹, which raises the question of who that ›we‹ is and to what extent it is culturally specific. Sometimes the viewer or reader is individualized as ›she‹, suggesting that some reception processes may be gender-specific, but this is not explicitly discussed either.

Where the study does take cultural specificity into account, it succeeds in offering nuanced interpretations of the reception process, for example on the Western and Japanese responses to the dolphin-hunting documentary *The Cove* (2009). Such passages indicate that the cultural and historical locatedness of specific audience groups provides rich material for further research in cognitive ecocriticism, particularly for scholars interested in questions of environmental justice. *Affective Ecologies* convincingly demonstrates that ecocriticism has much to gain from incorporating the insights of cognitive studies. The abovementioned questions around universality and specificity indicate that this interdisciplinary dialogue could fruitfully be extended to the methodological level. Its wide range of material, deep familiarity with ecocritical debate, and innovative use of insights from the cognitive sciences makes Weik's study an important addition to environmental scholarship in general, and to ongoing inquiries into the role of empirical approaches in ecocriticism in particular.

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