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Local and Global

Cultural ecology and the ethics of texts

In this concluding chapter, I am looking more explicitly at the relationship between the local and the global that has implicitly been a frame of reference throughout this book. In one important sense, this question is tied up with the relationship between ecology and ethics in literature, which I am discussing in this subchapter, before I turn to the analysis of local/global relations in contemporary American and in postcolonial novels, and finally frame the relationship between local and global within the theory and literature of climate change and the Anthropocene. To be sure, environmental ethics has long been an integral part of ecocriticism and of the environmental humanities. It has shaped and informed the ecocritical discourse since its beginnings, highlighted by such landmark contributions as Aldo Leopold's land ethic, and further differentiated in various ways such as in the environmental justice debate, in postcolonial ethics, in a personal ethics of relinquishment, an ethics of alterity and answerability (Murphy), in the animal rights debate, and, in general, in a call for a fundamental ethical transformation of culture and consciousness from an egocentric to an ecocentric orientation. Many of these points have been discussed in different contexts in the course of this book, but it is worth examining this emergence of a multiform field of eco-ethical perspectives and orientations once more within a cultural-ecological framework and with a special view to the contribution of imaginative literature to such an ecological ethics of texts.

If one tried to point out some of the convergences and common tendencies within recent studies of ecology and ethics in literature, one could name the following: (1) Both of them presuppose not a merely *self-referential* but a *relational* form of thought and cultural agency (2) Both of them focus on the

relationship between *text and life* which had been reduced to only one pole in the pantextual and pansemiotic universe of radical postmodernism. (3) Both of them deal not only with existing discursive practices but with *values*, i.e., with a critical attitude to a given state of society and with the necessity to think beyond it and imagine possible alternatives. (4) For both of them, the relationship between *culture and nature*, and thus between the *natural sciences and the humanities* seems to have special significance, even if they approach this relationship from different angles. (5) Both of them share the assumption of an interconnection between *local and global* issues and are therefore profoundly transcultural and transnational in orientation.

Yet it may be helpful to approach any such conversation between ecology and ethics from an awareness not only of the affinities but also of the differences and indeed the tensions between the disciplines involved, which are not so easily subsumed under each other's premises as it may seem at first sight. After all, ethics has been that branch of traditional western philosophy in which the dichotomy between culture and nature, human and nonhuman life provided the foundational terms and concepts. Human consciousness and conscience, the freedom of the will, the autonomy of the subject, the moral sense of good and evil, the hierarchy of values between the spiritual, intellectual, psychological, and physical spheres have been characteristic axioms of the dominant forms of ethical thinking from Aristotle to Kant and into the twentieth century. In its traditional form, ethics appears therefore as an expression of precisely that logocentric and anthropocentric ideology which modern ecological thought tries to overcome.

On the other hand, ecological science, from its origin in biology, has long been an empirical-descriptive rather than a normative-philosophical form of knowledge, favoring a collective and objectifying rather than a decision- and subject-oriented approach and acting on an assumed priority of nature over culture, and by extension of the natural sciences over the humanities. Thus, the bringing together of scientific and humanist-cultural versions of ecological thought, which is a hallmark of recent ecocriticism and an integral part of cultural ecology, is not as unproblematic and self-evident as it may seem. In his influential book *Consilience. The Unity of Knowledge* (1998), Edward O. Wilson proposed to overcome the much-deplored division of modern knowledge into the "two cultures" (C. P. Snow) by arguing for a concept of knowledge that is fundamentally the same throughout the various fields of science. With regard

to the basis of the “great branches of learning” (9) that Wilson differentiates (biology, social science, environmental policy, and ethics) an example of such a form of “consilience” would be the following: on the basis of the laws of nature in biology, and of their role in the functioning of human societies in terms of “gene-culture-coevolution,” the impact of human civilization on the earth under the conditions of a global free-market economy can be studied in the social sciences, from which an environmental policy can be derived which is based on an “ethics of sustainable development” (Wilson 1998: 289).

Yet there are unresolved problems in Wilson’s approach, which cannot be solved by a merely causal-empirical concept of knowledge. Wilson is right, of course, when he argues for the necessity of sufficient and competent information about the findings of the natural sciences for any responsible environmental policy and contemporary ethics. Yet the principles of an environmental ethics that he postulates cannot really be based on and derived from “facts and fact-based theory” (8) alone, as he claims. The need to “think globally” (Wilson 1998: 10) requires not only information, but reflection and imagination, a capacity and readiness to think beyond oneself and one’s own immediate interests and life-world. Even though the notion of “biophilia” that Wilson introduced, that is, of an instinctual emotional attachment of humans to other animals, suggests a biological basis for a species-transcending empathetic disposition of humans (Kellert and Wilson 1993), it provides no sufficient foundation for environmental ethics. Any ethical stance involves intellectual, moral, and emotional decisions by the individual subject as a culturally embedded agent. And such decisions are neither merely conditioned by objective natural laws, genetic dispositions, or cultural contexts nor do they take place in an ahistorical vacuum of free subjective self-determination. Instead, as this book argues, they are mediated and ultimately made possible by the communicative medium of language and of texts. This is where literature can contribute in important ways to the contemporary dialogue between ecology and ethics. Indeed, the function of literature as cultural ecology implicitly involves an ecological ethics as well, since it posits the interconnectedness of mind and body, text and life, human and nonhuman world as a necessary context of human responsibility, which in its fundamentally cooperative and dialogical rather than monological orientation is relevant in the spheres of the general culture and of science as well. In a way, this corresponds to significant changes that have been going on in both the fields of ecology and ethics in the past few decades.

On the one hand, as has been seen, ecology has branched out from a purely biological into a multidisciplinary project, with ramifications into psychological, social, and, more recently, into cultural ecology, a process in which former deterministic assumptions about the culture-nature-relationship have been superseded by more complex views of interdependence-yet-difference. On the other hand, there have been equally significant shifts within the field of recent ethical theory, which have brought it closer not only to ecological thought but to literature as well. In these recent debates within literary ethics, the following points have found special attention: (1) the ways in which the narrative mode is necessary to provide a medium for the concrete exemplification of ethical issues which cannot adequately be explored on a merely systematic-theoretical level; (2) the ways in which literature, as a form of knowledge which is always mediated through personal perspectives, reflects the indissoluble connection between ethics and the human subject, a subject, however, not understood as a mere cognitive ego but a concrete, bodily self implicated in multiple interrelationships; (3) the ways in which the imaginative staging of other lives in fictional texts provides a forum for the enactment of the dialogical interdependence between self and other, and beyond that of the irreducible difference and alterity of the other which is central to ethics, and (4) the ways in which literature and art are not merely illustrations of moral ideologies but symbolic representations of complex dynamical life processes, whose ethical force consists precisely in their resistance to easy interpretation and appropriation.

As theorists such as J. Hillis Miller, Paul Ricœur, or Martha Nussbaum have pointed out in their different ways, ethical issues seem to require the fictional mode of narrative, because the ethical is a category which resists abstract systematization and instead needs concrete exemplification of lived experience in the form of stories which allow for the imaginative transcendence of the individual self toward other selves (Miller 1987). Ethics in this sense is not the same as morality, on the contrary, it involves precisely a critique of moral systems as far as they imply fixed, conventionalized, and impersonal rules of thought and behavior. On the other hand, and for this very reason, an ethics of literature also involves a resistance to unbroken, linear, moralistic story-telling which would subsume the other under one's own categories, and instead requires a "new ethical sense" (J. Butler), an awareness of the potential violence of even well-intentioned acts of "understanding the other."

In his radical, deconstructive ethics of reading, as Hillis Miller has proposed it, the resistance of language to generalizing moral concepts would ultimately imply that the text is brought to the point of unreadability, the recognition of the impossibility of understanding the other, one's self, and, indeed, the meaning of the text. Nonetheless, ethics does seem to necessitate some kind of intersubjective perspective, a move beyond the self-referential aporias of language towards an involvement of texts in questions of "life"—even and especially in the deprivatized sphere of aesthetics and literary studies. In the German-speaking world, Edgar Platen or Mathias Mayer have worked in this direction of linking the narrative, fictionalizing, and metaphorical power of texts to their ethical potential (Mayer 2005). Mayer speaks of an "ethics of textual cultures," in which both the textual mediatedness and the plurality of ethical approaches to the contemporary world are expressed, and in which the aesthetic mode provides a means of communicating ethical issues in such a way that it simultaneously resists conventional moralizing (Mayer 2005). The awareness and recognition of the alterity of the other can be seen as an essential characteristic of the recent discourse of ethics, and narrative seems to be a form in which this discourse can find a specifically instructive, because complex, medium of (self-)exploration.

These tendencies within ethical theory have challenged and radically transformed the universalist, subject-centered, and exclusionary anthropocentric bias of traditional ethics. Instead of unified systems of knowledge and belief, plurality, diversity, and dialogicity have been foregrounded as new ethical orientations (Inglehart 1997: 27).¹ In what has perhaps been the most influential version of recent ethics, Emmanuel Lévinas radicalized traditional ethics into an existential dialogical process in which the obligation toward the other becomes the highest possible value, which manifests itself only in moments of concrete face-to-face encounter. More than ever before, this ethical reorientation includes ecological issues. This fusion of ethics, ecology, and literature as transdisciplinary frames of the humanities has found increasing attention in contemporary contributions to the debate.

¹ See, e.g., Ronald Inglehart, who interprets the shift from modernism to postmodernism, somewhat schematically, as a shift from materialist to postmaterialist values, "[w]hich emphasize human autonomy and diversity instead of the hierarchy and conformity that are central to modernity," *Modernization and Postmodernization*, 1997: 27.

Thomas Claviez, taking up Lévinas's ideas, has demonstrated how Lévinas's ethics of radical otherness can be extended to include the nonhuman world and thereby contribute to an ecologically inspired ethics. Claviez points out the special power of literature and the aesthetic in representing this ecological ethics. Combining ideas from Lyotard and Lévinas, Claviez sees the aesthetic mode in which this ethics of the unrepresentable other can be realized in literary texts in a particular mode of the sublime, an "undomesticated sublime [...] in which the traces of obligation, irreciprocity, and the disintegration of the self are kept alive" (Claviez 448–449). In a more positive, dialogic vein, Patrick Murphy persuasively applies concepts from Bakhtinian critical theory to ecological ethics by focusing on the notions of answerability and transgression. "Answerability" implies the obligation of ecocritics and writers to represent the mutually entwined inter-human and human-nature relationship, which must be thought together in order to evolve into a sufficiently complex, open, and multiperspectival ethics. "Transgression" designates their readiness and capability "to see themselves through another's perspective: those of the rest of the natural world at the general level, and of specific ecosystems, plants, or animals at the particular level" (Murphy 2009: 156). The "aesthetic empathizing" (159) which enables such acts of imaginative adoption of other perspectives in the act of reading creates a shared eco-ethical space where different cultural and personal worldviews can meet, while the semantic openness of the text at the same time maintains the sense of uniqueness both of the imaginatively embodied phenomena of nonhuman nature and of the reader's activity. The latter, however, is always embedded in a multi-layered communicational process with the author, the language, the generic codes, and the cultural conditions within which such eco-ethical communication can occur in the first place. The human-nature relationship is always entwined with an inter-human dimension, both of which must be thought together in order to enable a sufficiently complex, open, and multiperspectival ethics.

This inextricable entanglement and multidimensional aesthetic negotiation of human and nonhuman ecologies in literary texts is emphasized in Roman Bartosch's concept of *EnvironMentality*, which fuses the material domain of the environment with the mental domain of an ecological ethics and aesthetics into one interrelated assemblage, combining an ethics of alterity with an awareness of culture-nature-coexistence as a shared material/mental space

of distinct singularities. Characteristic procedures of literary texts such as defamiliarization, emplotment, narrative focalization, or dialogic process are specifically suited to articulate and communicate this precarious alignment of alterity and singularity in the multivoiced staging of cultural and natural diversity. This is why the formal aspect of literature is not sufficiently described as a mere embellishment or didactic illustration of ecological truths which remain the same and are accessible across different media but that it is an intrinsic part of the cognitive, creative, and ethical potential of texts. Form in this view is not opposed to content and meaning but is the very medium through which the ecocultural communication of literature becomes possible. “*EnvironMentality* depends on a stance towards literature that understands fiction as an aesthetic discourse, and we need to realise that, for example, a text’s polysemantic nature is neither a coincidence nor something that distracts us from the ‘real world’. Instead, it is a thoroughly *cultural* way of dealing with what we want to know and feel about the natural world, or the world-as-text” (Bartosch 157). It is in such contributions that the intersections between the recent discourses of ethics and of ecology become especially apparent. And as I am arguing in this book, the rich potential of “aesthetic empathizing” with “anotherness” (Murphy) without discursive appropriation, which characterizes works of imaginative literature, makes textual and literary culture a specifically important medium and connecting frame for the dialogue between these discourses.

Within this debate, certain key issues have emerged which have been dealt with in various ways in the preceding chapters. They center around characteristic eco-ethical questions such as mind and body, self and other, human and nonhuman nature, which have been the recurring focus of theoretical comments and textual analyses in this book. One issue that deserves particular attention in this concluding chapter is the relationship between the local and the global as a much-disputed and highly complex issue of contemporary ecology and ethics, which provides one of the central foci and generative frames of aesthetic productivity in literary texts. In earlier versions of ecocritical thought, the focus of literary ecology was very much on the concept of place, that is, on concrete local and bioregional conditions as the real material basis of the interaction between humans and their environment as it is reflected in the text. With this emphasis on place, ecocriticism tried to counteract anthropocentric abstractions and the alienating forces of a purely economic form of globalization that was indifferent

to the concrete ecosystems of particular places and regions. With the shift from such a regional-realist to a cultural-ecological concept of the text and of the literary imagination, however, and particularly in the context of the dialogue of ecocriticism with recent ethics, the relationship between the local and the global in texts appears in a new light. Arguments from global sociological risk theory, as in Ursula Heise's plea for extending ecocriticism's narrow focus on place into an "environmental imagination of the global" (Heise 2008), as well as arguments from transnational and postcolonial ecocritical theories, have meanwhile met with such an overwhelming international response, that they have helped to transform the whole field of ecocriticism in terms of acknowledging the multiple and inevitable, if often troubled, interconnections between local and global dimensions of ecological thought and practice. This relationship between the local and the global can be explored in many different genres and media—in nonfictional reports, documentary films, or TV series on environmental disasters such as the Bhopal accident, Chernobyl, or Hurricane Katrina, which are investigated as exemplary cases of interaction between local, political, national, transnational, and global forces (Schliephake). All of these are important and indispensable, but again, I would like to emphasize once more the particular contribution that literary aesthetics and narrative can make to representing and exploring that crucial eco-ethical interconnection between the local and the global. Literary aesthetics and storytelling live from the double impulse and the productive tension between regionalization *and* universalization, from the exploration of concrete life in the local here and now on the one hand, and the transgression of all internal and external boundaries toward a potentially worldwide significance and audience on the other. In literary texts, attention to phenomena of local nature and their eco-ethical potential implicitly includes and metonymically extends to all forms of life on earth.

The local and global in American novels: Silko, *Ceremony*, Don DeLillo, *Underworld*, Marc Estrin, *Insect Dreams*

In the following, I will examine this interdependence of the local and the global as an eco-ethical focus of contemporary literature within the historically unprecedented transformations of a world risk society in three novels from

recent US literature.² All three of these novels deal with the worldwide impact of military technology in its most destructive form, the nuclear bomb, and with its implications for and effect on local natures and personal life-worlds. As Catrin Gersdorf rightly points out in reference to an interview with Elaine Scarry in the volume *Environmental Criticism for the Twenty-First Century*, “the greatest environmental risk of all [is] the existence of an arsenal of nuclear weapons on this planet that by far surpasses the power of any other environmental hazard” (Gersdorf 2013: 457).

As a first text, I come back to Silko’s *Ceremony* (1977), which is an especially rich example of various aspects of a cultural ecology of literature. Set in the historical context of the Second World War, the novel blends traditional and modern polyphonic narration in forms which are unique and yet also characteristic of much of postcolonial writing within and beyond North America. Its protagonist Tayo, who has been traumatized by the war, feels responsible for a drought that has haunted his tribal homeland since he killed a Japanese enemy who looked exactly like his uncle. In this Native American version of magical realism, the opposition between Americans and their Japanese enemies is dissolved from a transcultural perspective, and the exploitation of local nature in the uranium mines of New Mexico is connected with the destructive power of modern technology in the shape of the atomic bomb. This monstrous aberration of modern civilization can only be symbolically healed, in the mythopoetic logic of the text, by the reappropriation of ancient Native American rituals, among them, first and foremost, the ritual and ceremony of storytelling itself. Tayo can heal himself, his land, and his community only by enacting a regenerative ceremony which leads him to the place where the ethical and ecological catastrophe of his experiences began:

He walked to the mine shaft slowly, and the feeling became overwhelming: the pattern of the ceremony was completed there. He knelt and found an ore rock. The gray stone was streaked with powdery yellow uranium, bright and alive as pollen; veins of sooty black formed lines with the yellow, making mountain ranges and rivers across the stone. But they had taken

² The subsequent analyses are taken, in part, from my essay “Literary Ecology and the Ethics of Texts.” *New Literary History*, 39.4 (2008): 847–868.

these beautiful rocks from deep within the earth and they had laid them in a monstrous design, realizing destruction on a scale only they could have dreamed. (Silko 246)

What is emphasized in the rich and conflictory imagery of this description is the “liveliness” of this apparently dead piece of rock excavated from deep within the desert earth. There are contrasts embodied in this rock between light and dark colors, regular and irregular forms, a microworld corresponding to the forms of mountains, rivers, and veins, and of living organisms in the larger ecosystem. Local nature and global responsibility are clearly connected here, since the lack of respect for the one, as the novel shows, ultimately leads to unforeseeable consequences for the planetary ecosystem as a whole. This notion of ecological and ethical interconnectedness across cultural differences is presented here within a magical-ritual worldview and a deliberately non-modern, shamanistic form of story-telling in which Silko’s second self, spider woman, fabricates and weaves the world of the text and the text of the world from her own imagination. Yet it is simultaneously presented with reference to the historical conditions and catastrophes of the modern world and therefore has a potentially global contemporary significance.

A different, postmodern example is Don DeLillo’s *Underworld* (1998), which examines the global implications of nuclear power in an age of computer and information technology, and particularly of nuclear and other civilizational waste. “Everything is connected” is the fundamental thematic and aesthetic principle of the novel, while at the same time the mixture of many different textual genres and the nonlinear, radically fragmented form of narration highlight the infinite multiplicity of life which is threatened by worldwide forces of uniformity, depersonalization, and ecological exploitation. Again the myriad interconnections of the global with local places and personal life-worlds are explored, and the text becomes at once a critical reflection of and an imaginative counterforce to those life-threatening tendencies. This is highlighted in the land art/waste art project of Klara Sax, the central artist figure in the novel, who paints nuclear warplanes which had been circling the globe during the years of the Cold War and are now deposited as waste in the Arizona desert, emphasizing in her aesthetic project the tension and interaction of this technological war machinery with the local natural

environment. To Nick Shay, the narrator, who is watching the artwork from the bird's eye view of a plane, the project conveys a rare intensity of aesthetic experience:

The painted aircraft took on sunlight and pulse....The air was color-scrubbed, coppers and ochers burning off the metal skin of the aircraft to exchange with the framing desert. But these colors did not simply draw down power from the sky of lift it from the landforms around us. They pushed and pulled. They were in conflict with each other, to be read emotionally, skin pigments and industrial grays and a rampant red appearing repeatedly through the piece—the red of something released, a burst sac, all blood-pus thickness and runny underyellow. And the other planes, decolored, still wearing spooky fabric over the windscreen panels and engines, dead-souled, waiting to be primed. (DeLillo 1997: 83)

Art here becomes a force of returning life to a death-culture symbolized by the planes and their Cold War past. The apparently dead material is transformed into a living energy field in which the exchange between technological civilization and environment, culture and nature becomes the primary focus of aesthetic production and reception. As Christina Ljungberg has argued from an ecosemiotic perspective, “wildness” marks not just a transgression from the human to the nonhuman but a space of possibility, a productive imaginative boundary sphere between these domains (Ljungberg 2001). Such boundaries are especially fertile not only in an ecological sense (Finke) but in a semiotic sense. According to Jurij Lotman, boundaries are “the hottest spots for semiotizing processes” (Lotman quoted in Ljungberg 2001: 180). DeLillo demonstrates this in his novel, which is a literary form of postmodern waste art that is ekphrastically performed in Klara Sax’ land art project. Like the novel as a whole, this project presents the artistic transformation of the waste products of a life-threatening civilization as a monstrous form of birth. An excessive imagery of wildness, color, conflict, sickness, and the grotesque explores aesthetic possibilities here which are not restricted to nonhuman nature but focus on the liminal, intensely charged boundary zone of its interaction with the artifacts of human civilization.

Jewish-American writer Marc Estrin’s *Insect Dreams: The Half-Life of Gregor Samsa* (2002) is a political novel in which Gregor Samsa from Franz Kafka’s “The Metamorphosis,” who has turned into a human-sized cockroach,

does not die as in Kafka's story but survives and, separated from his family, lives on as a half human, half animal being. By this double identity, he has intimate knowledge of both cultural and natural phenomena and is therefore an exemplary narrative medium for a cultural-ecological diagnosis of modern civilization. After some years as an exhibit in a freak show in Vienna, Gregor escapes the rising threat of anti-Semitism and emigrates to the United States in the 1920s where from humble beginnings as a liftboy he rapidly moves up the social ladder, and in the 1930s becomes a member of F. D. Roosevelt's kitchen cabinet and advisor of the president. Because of his scientific competence as a physicist, he is engaged to collaborate as a risk manager in the Manhattan Project, that is, the project to develop the atomic bomb started off by Einstein's warning about Nazi Germany working toward this goal. Gregor moves to Los Alamos and initially participates in the project but distances himself from it when it is continued even though the Germans are no longer pursuing their nuclear plans. In his double perspective as outsider and insider, in his exceptional intellectual talents and in his equally exceptional eco-ethical sensibility symbolized by his never-healing wound, this human-animal hybrid comes to represent an unsuccessful but eloquent and highly moving oppositional voice to the preparations for the bomb. For his views, he enlists the support of the major cultural achievements in world history in the fields of philosophy, literature, music, and science, which are interspersed with a wealth of historical material and with detailed descriptions of social milieus and natural environments, turning his narrative into a powerful counter-discourse to the actual military and political developments of the era.

In its fusion of history and fiction, serious philosophical reflection and playful bricolage, political satire and deeply felt sympathy with all living beings, the novel assumes a consciously unstable shifting tone from which the contradictory developments of western civilization in the first half of the twentieth century between the forces of democratization and dehumanization are traced. In a truly eco-cosmopolitan manner, the novel incorporates all sorts of different sources, modes, and genres. It not only fuses scientific and literary culture but makes reference to texts and artifacts from western and non-western cultures alike, particularly to Japanese culture as the culture of the enemies against whom the bombs are to be used. At the end of the novel, the plot escalates in a grotesque fantastic climax when a nuclear test is conducted

in Alamogordo, New Mexico, on July 16, 1945, a few days before the dropping of the bombs on Hiroshima and Nagasaki. Gregor, who feels helpless against the inexorable course of events, performs a final, self-sacrificing act of protest by hiding at the explosion site and letting himself be blown up with the bomb. The concrete locality of the test site in the Jornada del Muerto desert becomes the focal point of a global message of protest, and the destructive technological use of the powers of nature is symbolically staged as an act of human self-destruction. This “most expensive assisted suicide in history” (458), however, represents not a purely fatalistic conclusion to the novel. As a symptom of the death culture in which Gregor has become imprisoned, it simultaneously marks the final stage and culmination point of his ongoing “metamorphosis” and thus maintains, against all odds, the life-affirming, counterdiscursive energy flow of the text. “Tief und tausendfach zu leben” (“To live a thousandfold profoundly”) is the line from Hermann Hesse’s death poem “Beim Schlafengehen” (“Upon Going to Sleep”) with which Gregor’s friend Dr. Bernard, many decades later at the beginning of the new millennium and confronted with his own approaching death, interprets the secret meaning of Gregor’s subversive use of the Manhattan Project. It is an imaginative fullness of life that is envisioned here as a counter-fantasy to the human-made catastrophes of the twentieth century and which is opened up by the novel itself for the reader, who can share Gregor’s story as a testament of unrealized alternatives to the actual course of history that are still relevant for us today.

The examples just discussed show that the relation between the local and the global is explored in literary texts in special complexity and imaginative intensity, bringing together spatially distant worlds, historically separate times, and heterogeneous cultures in the aesthetic medium of concretely staged scenarios of life which can, potentially, be shared by readers across cultural differences and national boundaries.

Postcoloniality, transculturality, and literary ecoglobalism: Amitav Ghosh, *The Hungry Tide*

Let me briefly return once more in this context to the question of the place of postcolonial literature in this field of cultural ecology. Radical postmodernism

insisted on the absoluteness of difference, on the ultimate unbridgeability of the rift between signs, texts, and cultural identities. With the transition to postcolonial and cross-cultural paradigms, this doctrine of absolute difference became questionable (see also Banerjee). Even though in earlier versions, postcolonialism tended to simply reverse former binaries and claim radical incompatibility not only of cultures but of fundamental verities and values, its main impact on literary and cultural studies has been to call attention to various forms of cultural and textual hybridity, liminality, and ambiguity as productive features of postcolonial literature and art, without of course advocating any leveling of differences, conflicts, and asymmetries of power in favor of superficial harmonizations. This is where postcolonialism and cultural ecology converge in important ways. In ecological thought, there are no absolute but only relative, or *relational*, differences. Binary semiotics is opened up to the ecosemiotic diversity of historically, culturally, and personally distinct manifestations of human life within its irreducible connectivity with all other life on the planet. This is not to claim an ahistorical universal validity of the model of a cultural ecology but to assume a *transcultural* potential of texts that, by the very logic of ecological thought, provides the basis for such a cross-cultural interpretation and dialogue, while at the same time always also offering resistance to easy appropriation and generalization.

I would like to illustrate this here in a final example of a postcolonial text which has been widely discussed in recent ecocriticism, Amitav Ghosh's *The Hungry Tide* (2004), a novel which helps to demonstrate the enormous complexities in the relationship between the local and the global as both a challenge and a source of creative possibilities for imaginative literature in an age of ecoglobalism. In the novel, the huge mangrove wetlands of the Sundarbans, a cluster of low-lying islands in the Bay of Bengal off the easternmost part of India, form the narrative site of multiple interactions between nature, culture, politics, and personal lives against the background of violent ethnic strife and displacement, but also of conflicting models of culture-nature relations between myth and modernity. The radically unstable boundary between water and land in the Sundarbans is omnipresent in the novel as a both destructive and life-enabling environment of human culture. Piyali Roy, or Piya, a US marine biologist of Indian descent, comes to the Sundarbans to pursue a scientific research project on a rare river dolphin species, the *Orcaella brevirostris*, a project which leads

her into a journey of rediscovering her cultural roots in her family ancestors' battles for social and environmental justice. Politics, ecology, kinship, and love are interwoven in a richly textured network of interacting plots and narrative voices. "Western" ecological science as represented by Piya at first sharply contrasts with the "indigenous" knowledge of nature represented by Fokir, a native fisherman, whose perspective is associated with the deep-time story-world of legends and songs that alternates with the postmodern time-shifts of the narrative. Significantly, however, the novel's process consists in bringing Piya and Fokir ever closer together. In the course of the novel, their apparently incompatible approaches to nature are presented as mutually enriching and complementary rather than as merely contradictory and mutually exclusionary forms of ecocultural knowledge.

A third major character, who illustrates this interplay between local and global epistemologies and narrative frames is Kanai Dutt, a worldwide connected businessman, who returns from his upper-class urban milieu in Delhi to his native Sundarbans to retrieve the diaries of his dead uncle Nirmal. The diaries record the personal role of Kanai's relatives in the Bengali resistance against their forced resettlement in the historical Morichjhanpi massacre of 1978–1979, when thousands of Bengali refugees were forcibly evicted on the alleged grounds of environmental protection of the Mangrove forests and Bengal tigers. In these conflicts, humanist and environmentalist issues clash in sometimes unsettling and ethically incommensurable ways, while the traumas of the past are still present as deep-time scars in contemporary social and political life. This continued presence of the past is inscribed into the novel's narrative structure in multiple time shifts, mainly between the politico-personal stories of conflict and resistance recorded in Nirmal's diaries and the narrative present that is revolving around the triangle of interactions between Kanai, Piya, and Fokir.

In their narrative functions, these three characters can be loosely associated with the triadic model of cultural ecology. Kanai's behavior and mentality display features of a culture-critical metadiscourse in that he approaches the complex entanglements of history and human-nonhuman relations from a posture of superior intellectual knowledge, relying on the unquestionable authority of social status, learning, and literate culture. From this mindset, he looks down on the illiterate native Fokir as incarnating naïve pre-modern

ignorance, whereas for Piya and the implied reader, in contrast, Fokir gains considerable counterdiscursive stature precisely because of his intimate, experiential knowledge of nature's ways that he has acquired in his day-to-day-life as a fisher in the mangrove waters.

On a textual level, this knowledge is woven into the narrative in the traditional mythic stories, songs, and poems of the Bengals about the tide and the tigers as natural forces shaping humans' lives and options of survival. The novel's title condenses the hunger of humans, tigers, and the tide into one complex signifier for all those forces that both drive and limit human life and culture under the conditions of this vast liminal region between land and water, rivers and sea, plant and animal, solid and fluid forms of existence. And it is the deeper intuitive knowledge of these complex interconnections which Fokir personifies. Piya stands between Kanai and Fokir in this triangle of characters, in which Fokir, somewhat like the whale caller in Mda's novel, is associated with a biosemiotic life knowledge linked to water, eros, the body, and the kinship to nonhuman life, while Kanai, in contrast, represents civilizational reason and organized knowledge. Even though she cannot communicate with Fokir through language, Piya is irresistibly drawn to him while establishing a kind of working relation with Kanai. She thus embodies a reintegrative force in the narration, bringing together modern and premodern, scientific and experiential, global and local forms of life and ecological knowledge. This mutual eco-epistemic enrichment is underlined in the final turn of the novel's plot: the hidden habitats and movements of the dolphin, which Fokir knows from personal experience and to which he has initiated Piya, are saved on the data files of Piya's GPS after Fokir dies in a typhoon during their common exploration of the dolphin's life patterns. They are becoming one symbiotic being in this climactic storm at the end, in which Fokir meets his death in saving Piya's life, who in turn commits her survival to preserving his legacy ("...it was as if the storm had given them what life could not: it had fused them together and had made them one." 390). Fokir's data provide the "empirical" basis for Piya's future scientific research, in which she will possibly be supported by the cosmopolitan intellectual Kanai, who has himself profoundly changed in the encounter with Fokir and his indigenous ecological knowledge of the Sundarbans (Bartosch, Heise).

Again, of course, this interdiscursive dimension of the novel implies no superficial harmonization of conflicts or erasing of existing differences.

On the contrary, it acts out a “logic of complexity” (Nicolescu) that relates contradictory positions to each other in multilayered ways while at the same time maintaining their irreducible distinctness and difference. In interweaving otherwise separate cognitive and experiential domains, the reintegrative function reveals incompatibilities and internal contradictions that can, however, enrich ecological knowledge in a narrative that resists easy solutions but instead opens up “clefs and gaps that have to be filled with meaning in the interpretive process” (Bartosch 179). In its alternations between multiperspectival modernist narrative techniques and indigenous forms of storytelling, *The Hungry Tide* exemplifies the entanglements of individual characters’ lives between the deterritorializing pull of modernization and the reterritorializing pull of local living conditions, which are framed in turn by an all-pervading ebb and flow of the narrative process that follows the tidal rhythm of the novel’s setting and shapes the characters’ lives as a condition of both threat and survival.

On a poetological level, the mutual connection between the local and the global, between East and West is additionally underlined by the novel’s undercurrent of ecoglobal awareness that is marked by the presence of Rainer Maria Rilke’s *Duinese Elegies* not just in the preceding motto, but throughout the novel as an intertextual reference to another poetic culture and another coastal landscape—that of Duino’s Mediterranean coast with its steep cliffs and stormy winds—as the source of an entirely heterotopic yet also transculturally relevant ecopoetic imagination. The novel is thus a paradigmatic example of the necessary fusion of a “sense of place” with a “sense of planet” in what Ursula Heise calls “eco-cosmopolitanism” (Heise 2008).

Amitav Ghosh’s *The Hungry Tide*, but also other examples of postcolonial writing discussed above, such as Leslie Silko’s *Ceremony*, Toni Morrison’s *Beloved*, or Zakes Mda’s *Whale Caller*, demonstrate two things: On the one hand, the postcolonial context of their various, distinct forms of cultural self-positioning between global forces and indigenous traditions constitutes a characteristic matrix of their textual uniqueness and aesthetic productivity. On the other hand, they are shaped by a multi-layered transcultural dimension which is due to both an intratextual and an intertextual quality—to the polysemic indeterminacies of their texture, which invite the reader actively to participate in the production of the texts’ meaning and significance; and

to the manifold references to other literary texts from within and outside their own literary traditions, which situate the texts within a larger archive of imaginative literature and art that transcends the boundaries of self, nation, and cultures. Silko's adaptation of literary modernism and postmodernism into her reactivation of Native American rituals and trickster myths; Morrison's integration of modernist stream-of-consciousness techniques into communal African American storytelling traditions; Mda's conversation between contemporary South African society and archaic myths of art; or Ghosh's framing of his postcolonial eco-narrative within an intertextual dialogue with the German poet Rilke—all of these gestures indicate that literary texts react not only to their own sociocultural worlds but to each other across the boundaries of nations and the separations of cultures.

Literary ecoglobalism in the age of climate change and the Anthropocene

Beyond questions of inter- and transculturality, however, the inherent ecoglobal dimension of literature as always already world literature (Arac, Dimock) seems to gain an unexpected new urgency within the context of climate change and the Anthropocene. I am coming back here to a topic already addressed in Chapter 3 but deserving some more general comments at the end of this book, since it has turned into one of the most widely discussed issues of current ecocritical theory and practice. It has been argued that in view of the new global environmental, economic, techno-scientific, intellectual, and ethical challenges posed by climate change and the Anthropocene, not only political agendas and sociocultural practices need to be drastically changed but inherited categories of literature need to be adjusted to a post-human condition, which limits the range of human agency and entangles the lives of individuals in hyper-real interdependencies that exceed their cognitive and emotional grasp. The multiplicity of causes for climate change as a slow, mostly invisible but nevertheless uncannily real phenomenon of global threat makes it hard for individuals to comprehend or effectively intervene in processes “whose scale, complexity and incalculability is such as to resist representation or being conceptualized” (Clark 2010: 132). As Timothy Clark and others have

argued, climate change has led to a derangement of scale in terms of inherited frameworks of human knowledge and agency, because actions and life styles of individuals on the local scale can no longer sufficiently be interpreted within the frame of personal decisions and responsibilities but have become part of a huge cumulative effect of unintended and unpredictable consequences of everyday activities. "Numerous acts of individual unimportance and insignificance mutate into an impersonal geological force" (Clark 2010: 135). Trivial practices characterizing a supposedly self-determined modern life style (such as driving cars, traveling in airplanes, buying clothes, or consuming food) can in their sum contribute to catastrophic consequences for the planetary ecosystem. It is not alone the individualistic ideology of a capitalist consumer society but also the liberatory values of an oppositional ecocritical discourse that find their limits or their "closure" as Clark calls it in the language of Derridean deconstruction, in these uncontrollable long-term consequences of human activities. In an age of late modernity, the promise of unlimited economic or personal development finds its ecological nemesis in the "material finitude of the planet" (Clark 2010: 134). Ecocriticism must become aware of this self-contradictoriness of even the best-intentioned individual and intellectual agendas of political-social and environmental change or it is itself in danger of becoming "the covert legitimization of consumer society" (Clark 2010: 147).

Environmental thought and literature can only respond adequately to this trap of self-contradictoriness by confronting these multiple quandaries in ecocritical theory but also in a literary aesthetics that does not "turn on acts of individual decision or heroism that reinforce a culture of narcissistic individualism already implicated in consumer democracy and environmental danger" (Clark 2010: 144). Such pseudo-solutions are all too often presented in the highly conventionalized plots of apocalyptic end-of-the-world science fiction novels or films such as *The Day After Tomorrow* or, more subtly, in Kim Stanley Robinson's trilogy of climate change novels. Instead, as Clark argues, climate change can itself be seen as a "deconstructive force," which seems "more germane to modes of representation that involve unfamiliar non-human agencies, multiple and perhaps elliptical plots. The situation invites a writing that might be a form of secularized magic realism, in which seemingly rational procedures and modes of thought and representation interact with bizarre and counter-intuitive non-human agencies, kinds of action-at-a-distance,

with plural conventions of characterization, symbolization and plotting” (Clark 2010: 144). Following Heise, Clark mentions David Brin’s speculative science fiction novel *Earth* (1990) as an example of such a form of literary representation “that might be adequate to global environmental dangers and quandaries” (Clark 2010: 144).

The reasons Clark gives for this are worthy of closer attention within the framework of a cultural ecology of literature and the concomitant redefinition of ecocriticism as proposed in this book. The adequacy of Brin’s novel as a literary response to the challenge of climate change consists not in its explicit thematization of climate change but its multilayered staging of a global disaster “conveyed through a multiplication of fragmented narrative viewpoints and through various generic modes—myth, epic, allegory—techniques that is, previously associated with the urban novel of literary modernism (James Joyce, John Dos Passos)” (Clark 2010: 144). What this implies is four different points that are also relevant to a cultural ecology of literature. The first is that texts need not directly confront environmental topics and agendas on the level of theme and content, in order to become ecologically relevant contributions to a more fundamental ecocultural self-reflection and self-exploration of human civilization. The second point is that in appropriately complex forms of literary response to new historical-geological phenomena such as climate change and the Anthropocene, human agency is to be situated in transindividual contexts of collective and nonhuman material agencies, which deconstruct literary conventions of linear plot, consistent characterization, individual agency, and anthropocentric framing in favor of nonlinear, multi-scalar, and pluralized complexities that refuse any monosystemic closure. The third implied point in Clark’s adequacy argument is that the response of literature to a global crisis like climate change is not to be conflated into an all-pervading, epistemologically prior environmental or political agenda, but consists in its own distinctive imaginative and aesthetic procedures, through which it creatively transforms rather than mimetically reproduces existing regimes of cultural knowledge and reality. And the fourth point implied in this argument is that such procedures are not necessarily different in kind but only in degree from procedures of imaginative literature that evolved in earlier literary history, in this case the multiperspectival and multigeneric narrative techniques of literary modernism as represented by the novels of Joyce and Dos Passos.

In fact, all of these points have been part of the argument of a cultural ecology of literature as expounded in this book, even though the emphasis has been somewhat different here than in a substantial part of the current ecocritical discourse on climate change and the Anthropocene. I would like to illustrate this difference in taking up these points and relating them to the more general theoretical and aesthetic assumptions underlying this book. One important difference concerns the relation between *theme and form, text and context*. In spite of the increased theoretical sophistication of certain branches of ecocriticism discussed above, a considerable part of ecocritical work still adheres to a rather derivative conception of this relation between a given theme and its textual/literary representation, between an anterior environmental or sociohistorical content and its expected “reflection” in the text. Such a mimetic-deductive view of form-content and text-context relations, which influenced ecocriticism especially in its earlier phase, no longer seems tenable in the light of the functional, non-deterministic thinking in complexity that characterizes a cultural-ecological concept of literature. Such a mimetic determinism moreover assumes the singular relevance of one overarching topic, in this case of climate change, as a mega-signifier and normative hyper-issue in the ecological debate, at the expense of the multiplicity of other relevant topics in contemporary ecology as well as in politics, society, and culture. It likewise remains blind to the long history of the ways in which imaginative literature has been dealing with crisis and disaster. Large-scale natural and civilizational catastrophes have been topics of literary narratives involving floods and earthquakes, pandemics and the Plague, poverty and starving, slavery and exploitation, the mass wars of modern times, the fears of nuclear annihilation, or the hypertrophies of global waste. And the aesthetic responses of texts to these disasters have challenged, in ever new ways, any conventional forms of textual representation and narrative control. As Heise and Clark rightly point out, experimental strategies of climate change literature have been anticipated in multiperspectival modern and postmodern writing such as in Joyce, Woolf, Dos Passos, Faulkner, or DeLillo (Clark 2010; Heise Afterword 2010). More specifically, the criteria of a “secular magic realism,” in which “rational procedures” interact with “bizarre and counter-intuitive nonhuman agencies,” that Clark associates with climate change writing (Clark 2010: 144), can *mutatis mutandis* be applied to postcolonial ecoglobalist novels such as

Ceremony, *Monkey Beach*, *The Hungry Tide* and other core texts discussed in this book.

Another difference concerns the relation between human and nonhuman agency, between *anthropocentric* and *non-anthropocentric* factors in the diagnosis and representation of an extreme political, economic, scientific, and ecocultural challenge such as climate change. As has become clear in the analyses of texts from different historical periods, any convenient dichotomy between former, supposedly anthropocentric, and contemporary, supposedly non-anthropocentric forms of thinking and writing is basically misleading, even though more explicit emphasis has been placed on the latter in recent ecocritical thought and environmental writing. It is helpful again to consider that nonanthropocentric factors and nonhuman agencies have been part of the literary negotiation of the culture-nature-relationship from the beginnings of literary history. This concerns nonhuman animals and forces of material nature, as has been demonstrated in the deep-rooted motif of the “human-animal dance” (Westling) and the manifold forms of symbiogenetic co-evolution of human and nonhuman life pervading literary history both in terms of conflict and of ecosemiotic communication and metamorphosis (Wheeler). But this also concerns the structures of human civilization itself, which have been depicted as alienating biophobic “hyper-objects” (Morton) already before the explicit literary thematization of climate change, such as the inescapable prison-house of walls in Melville’s “Bartleby,” the bureaucratic labyrinths of Kafka’s *Das Schloß* (*The Castle*), the urban monstrosities of Alfred Döblin’s *Berlin, Alexanderplatz*, the Babylonian semiotic mazes of Paul Auster’s *New York Trilogy*, or the global nuclear waste scenarios of DeLillo’s *Underworld*. In all of them, nonhuman material agencies represent not only thematic issues but structural forces shaping, limiting, and indeed obstructing the subjective intentions of human actors. When describing emergent features of environmental and climate change literature, it seems therefore helpful to remain aware of this rich repertoire of literary representations of individual *non-autonomy* and of the co-agency of the nonhuman in the ecocultural scenarios of imaginative texts.

In fact, in view of climate change literature, the question of the relationship between anthropocentric and non-anthropocentric factors in literary explorations of human agency and identity is posed in particularly urgent but

by no means unequivocal ways. On the one hand, literary responses to climate change appear as new, globally expanded forms of a sensibility to the unpredictable consequences of unlimited human self-empowerment, which is already inscribed into archetypal literary figures and narrative models of modernity such as *Faust* or *Frankenstein* that have influenced numerous texts up to the various forms of eco-dystopian fantasy and science fiction novels. On the other hand, the revaluation of the non-anthropocentric has its limits in the condition of all writing and discourse, namely that literary representation remains, even in its most radical acts of transgression, deconstruction, and fragmentation, inescapably dependent on an anthropocentric perspective in a broad sense. The linguistic categories, acts of selection, sensory perceptions, figural orientations, empathetic imaginations, narrative focalizations, compositional arrangements, and ethical evaluations that constitute the medium and form of texts are inevitably shaped by the specific biosemiotic place of the human species and of human culture in the overall process of culture-nature co-evolution.³

This paradox also applies to the literature of climate change and the Anthropocene, which can, even in its increased emphasis on non-anthropocentric agencies, never completely eliminate this residual anthropocentric framing from its modes of characterization, plot construction, and narrative conception. Let me just briefly consider such diverse examples as Max Frisch's *Der Mensch erscheint im Holozän* (*Man in the Holocene*), T.C. Boyle's *A Friend of the Earth*, Frank Schätzing's *Der Schwarm* (*The Swarm*), Margaret Atwood's *Oryx and Crake*, Cormac McCarthy's *The Road*, and Ilja Trojanow's *EisTau* (*Melting Ice*). It is true that nonhuman agencies assume an important role in the plot conception of these novels—massive rainfall and threatening landslide in Frisch's *Holocene*; multiple ecological disasters in T.C. Boyle's *A Friend of the Earth*; mutated sea creatures in Schätzing's *The Swarm*; chimeras and genetically transformed humans in Atwood's *Oryx and Crake*; lurid environmental wastelands in McCarthy's *The Road*; rapidly melting glaciers and global climate disruptions in Trojanow's *Melting Ice*. It is likewise true that the

³ This paradox makes strategies of imaginative anthropomorphization in literature appear useful as a means of acknowledging both the recognition of eco-ontological affinity with the nonhuman other, and of the necessarily species-bound human constructivism involved in all acts of literary and discursive representation of the culture-nature and the human-nonhuman interaction (cf. Barad; Iovino and Oppermann).

formal-aesthetic processes of these novels are significantly shaped by those agencies. The disintegration of the narrator's consciousness and his mental metamorphosis into a fire salamander in Frisch's *Holocene*; the swarm intelligence of the Yrr as subliminal form of transspecies communication in Schätzing's *The Swarm*; the diffractions of time, space, and narrative in the monstrous posthuman dystopias of Atwood's *Oryx and Crake*; the vicious circles of endless repetition in language and plot in McCarthy's *The Road*; the fracturing of the personal story line through collage-like interstices with streams of impersonal newsbits in Trojanow—all of these are formal traces of more-than-human forces infiltrating and transfusing the narrative process.

Nevertheless, in all of these novels, the perspective of interpreting and interacting human beings, who try to organize their survival within these radically altered circumstances, remains present throughout: in Frisch's *Holocene*, Herr Geiser, an old man with growing dementia, reacts to the loss of external and internal control with desperate, improvisational creativity; in Boyle's *A Friend of the Earth*, the failed environmental activist Ty Tierwater, who has withdrawn from society into a fragile biophilic heterotopia, identifies himself to a young girl appearing in his post-pastoral retreat with the novel's concluding words: "And I'm a human being" (271); in Schätzing's *The Swarm*, the environmental scientists, who try to come to terms with the revolt of nature against a destructively anthropocentric civilization, act from an ecological perspective of transspecies respect to ensure the survival of both humanity and the planet's ecosystem; in Atwood's *Oryx and Crake*, the "Snow-man" Jimmy is faced at the novel's end with the very personal ethical decision of how to react to three human beings left over from the genetically programed species transmutation; in McCarthy's *The Road*, the father protects his child unconditionally and enables his survival in the midst of a posthuman death culture; in Trojanow's *Melting Ice*, the disillusioned glaciologist Zeno deplores the lack of public concern about climate change but withdraws into the role of ecotourist guide to the Antarctic, before he takes possession of the cruise ship and makes off with it in a suicidal act of desperate revolt at the end. In these and other novels, an uneasy relation between alienation and identification, irritation and precarious empathy is established in the communication between text and reader, whose ethical indeterminacy corresponds to the complexity but also the urgency of the challenges posed by climate change

and the Anthropocene. In their intensified focus on material processes and more-than-human agencies, and in their radical confrontation of the dangers brought about by a blindly anthropocentric worldview for the survival of humanity and the global ecosystem, these texts simultaneously cannot but retain an underlying anthropocentric perspective as a necessary condition of their constructions of plot, character, and narrative, and above all, of their interaction with their readers. In this, they follow a paradoxical ecological ethics and aesthetics which can be described, in Serenella Iovino's felicitous formula, as a "non-anthropocentric humanism" (Iovino 2010). It is this very paradox which seems to be a particularly productive point of crystallization for ecocritical research as well as for the literary imagination in an age of climate change and the Anthropocene.

Yet as has been seen, this paradox has also been a more general underlying feature of imaginative literature in its evolutionary function as a medium of cultural ecology. This approach therefore differs from other ecocritical theories of literature not only because it focuses on the unique contribution of imaginative texts to ecological knowledge and communication but also because it does not endorse an all too gloomy or alarmist tendency prevailing in some strands of the ecocritical discourse, which threatens to reduce ecological thought to a grand fatalistic disaster narrative. Cultural ecology recognizes the challenges posed by the crisis that the development of human civilization has brought about. But it also emphasizes the critical and creative potential that literature and art, as core media of cultural evolution, can activate in terms of the complex representation, transformation, and communication of these challenges. If Timothy Clark considers climate change as a "deconstructive force, intellectually inspiring despite its horror," a force working "to resist and open up the deep assumptions, pious enclosures and disciplinary parochialisms of current intellectual life" (Clark 2010: 147), then I would agree that even such monstrous challenges as climate change can become a source of critical energy and creative inspiration. But I would insist on the perhaps obvious but not always explicitly recognized point that it is not the phenomenon of climate change as such but its textual and literary representations which can mobilize this critical and creative energy. Climate change and other phenomena in the more-than-human ecosphere can only become a deconstructive force in its cultural transformation in texts.

Concluding remarks

The triadic functional model of a cultural ecology of literature and its various transdisciplinary contexts that I have discussed in this book indicate the multidimensional ways in which literature acts as an ecological force within the larger system of cultural discourses. Even though these contexts are actualized in various degrees in individual texts, they indicate elements of a shared generative code which enables literature to critically reflect and aesthetically explore a given state of civilizational development from a set of relational complexities that are indispensable in maintaining the vitality of cultural ecosystems. This continued vitality is dependent on the reflexive reconnection of cultural to natural ecosystems that is continually performed in literary texts. In this ecosemiotic recursivity to precultural processes of emergence and creativity, literature realigns culture and nature, mind and matter in complex forms of interactivity, without leveling their vital differences in either anthropocentric or ecocentric grand narratives. The transformative interplay between critical, counterdiscursive, and reintegrative functions, which the triadic model describes as a basic feature of imaginative texts, represents not merely an abstract set of discursive operations but is intrinsically linked to the multiple tensions and force-fields at the interface between culture and nature that those transdisciplinary contexts of cultural ecology circumscribe. These transdisciplinary force-fields are, in some way or other, present in different variations in all of the texts discussed in this book. And they do not only designate thematic polarities but actively shape the formal aesthetic processes through which the texts perform their cultural-ecological functions.

As ecological metanarratives of their culture, literary texts follow an underlying dynamics of transgression and polysemic excess which opens up a potential of revitalization and symbolic regeneration—even if this potential is almost never fully achieved on the level of mimesis and plot but only in an aesthetic reflexivity of discourse that is to be realized in the cognitive-emotional participation of the reader. As has been seen above, the “life” to which literary texts relate includes but also goes beyond individual life. “Life” as a precarious process of constant semiosis, interpretation, and adaptation between self and other, autopoiesis and ecopoiesis, is therefore also a crucial

dimension of the ways in which imaginative texts, *as* texts, are acting as an ecological force within culture. In their performative and communicative dimensions, they are primary examples of what has been distinguished as “*in vivo* knowledge” from the “*in vitro* knowledge” of the objectifying natural sciences (Nicolescu 2008: 3). The force-fields between the poles of chaos and order, connecting patterns and creative energies, matter and mind, solid and fluid, wound and voice, absence and presence, local and global that have been discussed in this book are all contributing to and interacting in these explorative processes of texts. From the microstructure of tropes to the macrostructure of narratives, the imaginative processes of texts are made up by such tensions and connecting patterns, which transgress the separations of hegemonic discourses and release creative energies that can be activated for the self-criticism and self-renewal of the cultural ecosystem.

Long before contemporary debates about local vs. global issues in society and ecology, literary texts have at least implicitly included this transcultural and (eco)global dimension in their aesthetic processes. Wai Chee Dimock has called this transnational and potentially global dimension the “deep time” encoded in literature, a time beneath the actual narrative that reflects and refracts in multiple ways the mutual influences and dialogic connections of national literatures to transnational literatures, connections which are not just supplying an additional frame but constitute the very substance of literary texts (Dimock). With regard to American literature, for example, Dimock points out the degree to which transnational mutual influences of European, African, Indian, Chinese, and other literatures, provide formative intertexts of classical and modern American texts. I fully agree here with Dimock and others in their conviction that literature, and not only American literature, has always already been coded in such a transnational way, that literature is always, in principle, world literature (Arac). Today, obviously, this process has intensified and has tended to include regions and cultures that have become more accessible to each other due to globalized economic, political, and cultural networks as well as to modern travel and information technologies, which also have helped bringing formerly remote traditions of art and writing closer together. This transculturality of literature opens up the “dialogue between all cultures” while at the same time preventing “their homogenization” (Nicolescu 2002: 108). But this global or planetary dimension has been part of literature even before

this latest phase of globalization, and this is one of the points which a theory of literature as cultural ecology is arguing.

The deep time implied in the rich intertextual fabric of literature that results from its innovative recycling of previous models of genre, style, and aesthetics is however not just the signature of a *cultural* memory of transnational interactivity and interdependence that is part of the very ways in which literary texts become what they are. It is also the signature of the deep time of culture-nature co-evolution, which is inscribed into the generative code of texts as a biocentric or biosemiotic memory that must always again return to the beginnings and archaic-elemental conditions of cultural evolution, in order to find new ways of continuing and renewing cultural and literary creativity. This creativity, as has been seen, consists not primarily in the eco-didactic transmission of thematic issues, ideological beliefs, or ecologically revised moral systems. It rather emerges from the complex staging of semantic tensions, ideological conflicts, and discursive indeterminacies, which are inevitably bound up with issues and problems of the changing evolutionary relationship between culture and nature, human and nonhuman world that is a central generative matrix of literary texts. The various relational complexities that have been discussed above indicate these explorative spaces between and beyond discursive and disciplinary boundaries, which make up the creative material and formal procedures of literary texts. In this in-between status, literature is, both by its deep evolutionary signature and by its evolved modern cultural function, a multiply coded and highly indeterminate form of discourse, which invites and is dependent on the creative activity of its readers to actualize its rich semantic potential under always changing historical and cultural conditions. The sustainability of literary texts consists in their potency to represent renewable sources of creative energy across time and space for ever new generations of readers, not only for its culture of origin but for other cultures. In this transcultural dimension as well, literary texts provide a sustainable matrix for an ongoing process of ecocultural communication, criticism, and self-renewal, which can potentially be shared by a worldwide literary community and can thereby help to promote the awareness of a global ecological citizenship.