The book has two main sections. The first is theoretical, i.e. it makes the case that literature functions in an ecological relationship with other discourses in its own culture. The second larger section is both an application and expansion of the theory to six American novels dealt with in chronological order: Nathaniel Hawthorne’s *The Scarlet Letter*, Herman Melville’s *Moby Dick*, Mark Twain’s *Huckleberry Finn*, Kate Chopin’s *The Awakening*, Toni Morrison’s *Beloved*, and Don Delillo’s *Underworld*. This review will focus chiefly on the original and exciting transfer of ecological thinking to literary theory in part one. It will only briefly speak about the six applications.

Zapf differentiates his use of ecology for literary criticism early on. Rather than deal with ecological content and the human/nature relationship as found in nature writing, eco-poetry, native religions, etc., he wants to apply ecological concepts to how literature functions within its own culture. What he sets out to do is to take the recent ecological organismic revolution in the life sciences and apply these ecological insights analogically to human culture. As ecology treats organisms in their interrelationship with others and their environment, so, analogously, Zapf wishes to treat literature as it relates to other discourses and its culture as a whole. Justification for this move is twofold:

(1) Discussing and evaluating literature as it succeeds or fails in communicating ecological precepts and issues subordinates literature to an extra-literary criterion. Such a criticism would join the list of other marginalized voices using extra-literary values — gender, race, class, multiculturalism, etc. Literature needs to justify its existence using innate criteria, not extraneous ones; and

(2) Because literature can no longer be viewed as autonomous and self-contained (whether revealing unique or eternal truths) but must subordinate itself as do all other present day discourses to history and open-ended social recreation, it must differentiate itself from being just another ‘text.’ It does this, says Zapf, through its unique tension-filled relationship with other discourses within culture at large. While gender studies, postcolonial literary criticism and cultural studies all brought important innovations to literary studies, the specific difference of literature achieved through its fictionalizing of experience and the aestheticizing of the linguistic world using its own complex, reflexive, representational and communicative processes has been lost sight of. Zapf wants to reinstate the ‘literary’ back into criticism and repudiate the leveling of all discourses into homogeneous ‘textuality.’

So, then, just how does he put old wine into new bottles? In his theoretical section, he proceeds from a general overview describing the relevance of ecology to literary history and culture (ch. 1); then to other various ecological influences and cultural responses (ch. 2, 3); ending with the genealogy behind his own specific use of ecology in literary criticism (ch. 4). In the second part, he applies this theory to six American novels spanning a century and a half to illustrate this ecological function as it played out in unique historical fashion. All of this is followed by a 21 page bibliography helpfully divided to support the major divisions and concerns of the book, and also by an index.

In his opening general observations, Zapf clarifies his analogical approach and wishes to persuade the reader that the ecological function of literature has been present at least from the very beginning of the modern period. He cites Nietzsche’s and Aristotle’s conceptions of the tragic as support for describing the ecological function of literature as compensatory. He interprets Shakespeare’s *The Tempest* as an early compensatory example of realigning and healing a corrupt civilization by using nature in both its paradise/savage aspects. He reiterates the widely accepted ecology-coming into-its-own during the Romantic period, citing in some detail its organic view of nature which moved nature from static universal machine to evolving processual reality, and the parallel drawn between its creativity and that of the artist. But he gives most effort to clarifying how literature operates ecologically. The ecological function of literature is twofold:

(1) it offers in symbolic-communicative form what has been excluded or left out, what is lacking in the dominant discourses of its time, and

(2) it offers to such increasingly sterile cultures or wastelands a creative renewal or reintegration with living nature.
Literature recognizes the blind spots and one-sidedness of dominant discourse systems and through linguistic activation of the culturally repressed brings about a regenerative and creative experience in the reader. What literature illuminates in ever new symbolic staging is the living relationship between any historical culture and the underlying needs of human and non-human life. Thus, Zapf transfers the negative anti-essentializing stance of most postmodern criticism (i.e. their deconstructive subversion of dominant ideologies) into a positive dialogism between any historical and necessarily limiting discourse and its larger natural frame — what lurks potentially in the background.

Literature should be viewed as the ‘in-between site’ where this opening-out dialogue takes place, where the polyphonic displaces the monophonic. Historically, literature has fought closure and sought open-endedness from the earliest times. Its cultural ecological role has become especially important with the rise of modern industrialization and its reductive scientism. For example, literature criticized enlightenment optimism from the beginning and asserted prerational contributions to reason and human consciousness as being absolutely necessary. Literature unites in a living relationship what exists culturally separated, pragmatically instrumentalized, and discursively made unanimous (e.g. politics, business, law, morality, ideology, science) by including the marginalized and excluded which are needed for the continued vitality and self-renewal of culture. As we shall encounter later, the categories of the aesthetic find new vitality and application under ecological auspices.

In chapters 2 and 3, Zapf selects important traits and issues from ecological thought that transfer effectively to the cultural realm. The most important of these is the interrelationship of unique organisms within the ecosystem. The uniqueness of each individual and species that contribute to the diversity of the ecosystem simultaneously creates the process that maintains the system. The holistic balance and reciprocity of ecosystems in no small way depends on the diversity and interrelationships of the organisms that create the system. The same holds true for cultures, says Zapf. The importance of organic diversity and maintaining organic interrelationships for the health of the system has been widely transposed to various cultural activities.

Eco network thinking spread into geography, landscape ecology, anthropology, psychology, philosophy, language, and literature. Thus, the ecological framework has been found relevant in many cultural disciplines. In this book, Zapf will apply it to literature. By viewing a literary work as an ecological performance, a function within culture viewed as an ecosystem, Zapf reinstates (and redefines) the value of the aesthetic. If ecology views reality as a living process of continual self-transformation, then culture as a super-organic reiteration of this process should undergo similar self-transformations.

In chapter 4, Zapf describes specifically how literature through its aesthetic activity keeps a culture open-ended, alive, and healthy. He does so by giving an account of other scholarly approaches which use a functional approach to literature. All make contributions, but all fail to take full advantage of the ecological paradigm. The most fruitful of these functional approaches is Wolfgang Iser’s literary anthropology. Iser sets up a triadic schema of the real, the fictive, and the imaginary to describe the literary (aesthetic) process. The ‘real’ is mediated by systematic discourses dominating a particular historical moment. The imaginary is a diffuse world of fantasy, wishful thinking, etc., through which humans react and oppose the limitations of historical ‘reality.’ The imaginative exists pre-linguistically and pre-conceptually in humans. For these primitive forces to achieve subjective and communicative (social) presence, the act of fictionalizing must happen. Fictional form gives them expression in symbolic literary language operating in tension with the dominant reality discourses. The creation of worlds by the imagination is brought into play by literature; and this fictive process simultaneously reveals the evolving, malleable nature of the self. Fictions construct ever new self-world relationships because they have been ‘de-pragmatized’; fictional discourses operate free of the instrumental connections found in all ‘real’ world discourses. It is the aesthetic or fictive that brings into existence alternative worlds. The amorphous imaginary finds structural form in the fictive as its cultural medium. Individual imagery becomes cultural imagery as it is concretized in fictional form and becomes public communication. Whereas Iser and Winfried Fluck in Das kulturelle Imagination (1997) emphasize that liberating the imaginary from collective and impoverishing norms contributes to the self-authorizing of the individual, Zapf keeps his focus on cultural criticism and regeneration. He broadens Iser’s literary anthropology with its human existential concerns into an ecological triadic model.

Literature will be interpreted triadically as a cultural critical metadiscourse; an imaginative subversive discourse; and a reintegrative interdiscourse. Literary novels, for example, often represent the conventional world by exposing its power structures as reductions of multeity, as a death-in-life wasteland. Novels also stage what in the cultural reality system is marginalized, neglected, or repressed. In this imagined counter world, the novel or literary work presents what is unrepresented but necessary for complex human existence. Against the circumscribed and accepted ‘reality,’ the semiosis of literature brings a living polyphony to expression and gives forceful presence to the repressed and silenced vis-à-vis the cultural reality system. The excluded becomes the spring.
of its own creativity, says Zapf, in that it brings to the surface of cultural consciousness and communication what lay hidden in amorphous shadows of the unconscious, nature, and other cultures. This imaginative energy evolves not only from continual boundary flouting but from a return to earlier primary needs, from a continual recovery of what human beings have never lost, an ongoing renewal of the modern with the archaic, re-engaging the cultural with living nature. In this way, the innovative is joined together with the regenerative. By reintegrating the repressed and unmentioned into the cultural reality system, literature renews and keeps alive the cultural center. This reintegration is not a superficial harmonization but quite often a turbulent, conflictive process. Literature as reintegrative inter-discourse moves us beyond cultural critique and subversive alternative worlds into new potentialities. Great literature always expands our horizons.

Turning to the U.S. with its ambivalent Janus-like tension between industrial progress and the pastoral tradition, Zapf puts his theory into action by revealing the ecological functioning of six novels. Their cultural critiques, subversive alternative discourses, and reintegrations will differ according to their historical moment and self-world understanding. We won’t go into Zapf’s handling in detail but will provide a sampling. Hawthorne’s *The Scarlet Letter*, according to Zapf, is a critical metadiscourse on the system of Puritan fundamentalism which the novel reconstructs as formative in early American history and ideology. But the scarlet letter that Hester Prynne has to wear in punishment for transgressing patriarchal laws becomes an imaginative counterforce to Puritan orthodoxy that brought it into being. The letter A (adulteress) in the course of the novel loses all stable meaning and instead becomes a polysemic sign whose power transforms the cultural system by which it was originally defined. Hester and her sign represent a power in the novel that radically subverts and transforms the cultural categories projected upon her. But this imaginative counter-discourse gains its full creative potential only by interacting with the cultural reality-system. This reintegrative inter-discourse functions within the whole novel as it traces the passion for which Hester is stigmatized, to the minister of Boston himself, and finally, to the spiritual center of the Puritan community. The novel reveals the excluded and stigmatized as a repressed part of the Puritan culture itself.

Of course, depending on the historical moment, one or the other of these ecological functions will predominate. For example, in the realist or modernist mode, the function of literature as a cultural-critical metadiscourse prevails. In the romantic or postmodernist mode, the function of an imaginative counter-discourse becomes prominent. Still, while each novel is a unique mixture and combination of functions, the basic triadic pattern remains recognizable throughout. Even in Mark Twain’s realistic *Huckleberry Finn* where reintegration is denied, the cultural critique of Christianity and slavery in the South, with its opposed world of Jim and Huck’s simple friendship overcoming social prejudices, makes the need for a re-integration conspicuous. Twain’s critique of his own culture is underlined when Huck doesn’t return to civilization but “lights out for the territory.” Overall, the ecological interpretations of the six novels are focused on important inter-related core issues present in both the novels and their historical moments. The book makes a notable contribution to literary understanding and criticism, to building a continuity principle between culture and nature, and to instilling a wider perspective to human existence without needing some dualistic transcendence.

While the reviewer found this book most gratifying in its breaking away from the subjectivizing trend in recent literary criticism, there were moments of minor disagreements, feelings of opportunities missed or not emphasized. For example, why go back to the compensatory model of Jung when offering a continuity principle between culture and nature? When the imaginary, feeding off the repressed and silenced, retreats down to the unconscious and the pre-conceptual, this reviewer was overcome with deja vu. In essence, what Joseph Campbell did for the individual, Zapf is doing for culture and using a very similar ahistorical pattern. Not that this move is bad. After all, Campbell, fifty years after *Hero with a Thousand Faces* (1949), was still flourishing on TV with Bill Moyers in *The Power of Myth*. Meantime, the New Critics and Northrop Frye had turned into fertilizer. But the new theory of evolution breaks down the dichotomy between humans and the rest of nature. From before Marx to Sartre, only humans created themselves via history — nature was the province of necessity, of the en soi. The ecological breakthrough in biology rests on and investigates ‘emergence.’ It turns out that emergence, i.e. evolution, owes more than or as much to cooperation and mutual interaction as it does to natural selection. In other words, cultural dialogism and biological emergence have become differences of degree and not of kind. In our relation to nature, we are no longer de trop or superfluous. We participate culturally in a dialogue that has preceded us for billions of years. We belong to our planet.

I also believe that all of culture participates in the triadic dialogue described by Zapf, not just literature. I must confess, as an English professor, I felt a rush and became all tingly to hear that the continued life and health of any culture depends on literature. But reflection and one look around the cultural estate convinced me otherwise. For example, the recent computer advent has brought more change to our cultural behavior and thinking than a century of literature. It even made complexity science possible which is focused on “emergence” and that on the edge of chaos there appears...
David Baron’s riveting work of narrative nonfiction concerns the violent death of a jogger that occurred in January of 1991. The remains of Scott Lancaster were found in the woods near Boulder, Colorado, leaving the local authorities to deal with what was not a crime but a primal confrontation of man and nature. Lancaster’s killer was a mountain lion. As Baron tells it, “The grisly scene that Steve Shelafo and his group from Alpine Rescue Team encountered was not the result of a homicide; it was something more bizarre. They had located the remains of the first adult known to be killed and consumed by a mountain lion in more than a century” (7).

Baron examines the ramifications of the attack, widening his perspective to take in 200 years of Colorado history pertaining to the co-habitation of human and animal species, and he enriches his study with extensive research on cougars. The author explores the conflict as it is exacerbated by rapid urbanization and an expanding ecotone. He presents opposing viewpoints on how to strike an ecological balance that benefits all species.

The scenic college town of Boulder is a metaphor of a place as Baron describes it. “Comparisons to Eden were common in Boulder, and apt. With its lofty heights, fair skies, fruit trees, and flowing waters, the Colorado city bore a more than casual resemblance to theological representations of the prelapsarian world” (18). The comparisons to Eden also reflected in the title serve to emphasize the horror of the killing. Specifically, Boulder, the scene of the cougar crime, serves as an appropriate microcosm of the outer conflict.

The author’s storytelling acumen invests the book with the ambiance of fiction. Case in point, the reader is introduced to a detective-protagonist, Michael Sanders, a skilled naturalist who has been anticipating a tragedy like Lancaster’s death for years. Like any good murder mystery, with Sanders’ point of view, the reader discovers the mystery and motivations of a killer species previously considered too cautious to attack humans.

The reader may be surprised to learn of recent carnivore resurgence into urban areas. Black bears, coyotes, gray wolves as well as mountain lions have been increasingly sighted in all regions of the United States. Baron argues that urban sprawl and indistinct boundaries between the post-modern foggy lines of suburbia and preserved wilderness have activated a turf war between man and beast. “Today’s American frontier is an increasingly fractal edge that, like a craggy coastline, enhances the area of contact between two habitats, in one case land and water, in the other the urban and the wild” (11).

There is foreboding in this horror tale. Before the 1991 attack, Sanders had discovered cougars inhabiting old Colorado mines and observed that a human-made mine is a perfect home for a mountain lion to thrive. Baron says of the odd accommodation, “It was a historical and ecological irony; the early miners, who killed countless cougars and destroyed wildlife habitat while raping the foothills for gold, had left a legacy that helped the lions upon their homecoming a century later” (97). Another encroachment worried Sanders, who noticed the resurgence of cougars in Boulder in the late 1980s. The naturalist began to track the number of lion sightings and predicted that the foraging deer that Boulder residents found so charming would attract their dangerous predators, the cougars.

The author includes a review of a century worth of legislation, and his analysis underscores humans’ capricious treatment of wild animals; humans have become nature’s fair-weathered friends. The author skillfully mixes this sequential information and the message it carries within the dramatic narrative.

Ironically, Boulder did not experience an outcry against wild animals in the wake of Lancaster’s death. Baron found the muted reaction a bit unsettling. “On a scale of purity of death, being eaten by a cougar may, indeed, rank higher than dying in a car crash, an end that claimed far too many Clear Creek High School students, but to label Scott Lancaster’s death “natural” is an oversimplification. His demise was as natural as Boulder’s wolfless foothills, its gold-mine lairs, its irrigated lawns and its urban deer” (226).

While leaving the audience to draw their own conclu-
In *Maya Children*, Karen Kramer examines children who help their households involved in subsistence farming in the remote lowland forests of the Yucatan peninsula. Establishing a link between children’s labor contributions and family reproductive decisions, Kramer finds that although children represent a negative cumulative cost to their natal households, they make substantial economic contributions during childhood which allow their parents to continue bearing younger children. Kramer estimates that girls pay back 94% of what they consume while boys pay back 80% of what they consume during childhood through their labor. Her use of quantitative data to measure how much children’s labor is worth stands as a real contribution to the literature on the importance of child labor relative to total household labor.

Kramer systematically profiles the role of Maya children as helpers on many levels. Chapter one places this research project on children as helpers in rural Mexico within the larger context of the behavior ecology and economic literatures. The author uses economic and demographic approaches to assess the effect that children’s help has on parental labor demands and subsequent fertility. The author also explains why the Maya represent an ideal population of study and a useful point of reference for natural fertility populations; they do not participate in the cash economy, their children generally participate in household labor, and their families are large with multiple dependents living in the home. In chapter two, Kramer examines the relationships between children’s helping work and their time constraints, education, and family composition. She uses a scatterplot to show the different types of subsistence helping tasks children complete in terms of skill and energy expended.

Kramer then provides detailed information about the cultural context of children’s helping work. Chapter three situates this Maya village within a larger regional history and national economy, and then examines this village in terms of household composition and the subsistence economy. Chapter four considers Maya children within their families by applying Chayanov’s (1986 [1925]) economic-demographic model to census data and reproductive history data gathered by the author to explain the processes that shape the Maya family life cycle.

Kramer outlines her methodology in chapter five. Nineteen households from a total of 55 village households were included for study based on the satisfaction of two criteria, specifically, number of children (0 to 8 were included) and age of children (only young, only old, and young and old categories were included). Households were interviewed in 1992, 1993 and again in 2001. The author used both scan-sample observations and focal-follow observations to measure how much time is spent on helping tasks and how efficient one is at these tasks.

Chapters six through nine present the substantive analytical findings of Maya children’s economic contributions and explain how these contributions shape fertility levels and birth spacing within families. Chapter six explains how children’s help subsidizes the cost of parents’ sustained reproduction, profiling how much time and in what types of tasks children work. Chapter seven considers children’s helping work across the life course in terms of when they reach economic independence and when their production outpaces their consumption for the household. Kramer (136) asserts, “Children not only begin to pay for themselves in their teens but are producing surpluses that can be transferred to help parents meet the cost of younger children several years before they leave their natal home.” Chapter eight presents children’s help from the parents’ perspective, considering wealth flows and life cycle explanations. The author charts cumulative net production from birth for an average Maya child (Figure 8.1, 142) and then shows how parental share of total family production actually decreases over the period from four to 20 years after the onset of marriage (Figure 8.6, 149). Chapter nine considers the decision of how long children should stay and help in their parental households. The author explains that the introduction of two labor saving devices — a gas-powered mill and a water pump — affected the labor expected of boys and girls unevenly and affected families differently based on the family life cycle.

In the final chapter, Kramer reemphasizes her primary
finding that children do help and while the net production during childhood may be less than consumption, their help is indeed sizable, and in effect, leads to a decrease in parental labor contributions over the family life course, which in turn encourage persistently high levels of fertility. Kramer introduces the ‘unfolding’ world of the Maya in the Postscript. Parents and their children have new options for spending time due to technological advances and infrastructural changes, which will in turn impact economic and reproductive trajectories of Maya families.

*Maya Children* is a very well written and carefully researched book. Through meticulous observations and analysis, Kramer offers a window into the lives of children’s helping work in an early 1990s subsistence farming village. Kramer expands on Chayanov’s (1986 [1925]) research (e.g. Lee and Kramer 2002) linking children’s household production capacity to parents’ sustained high fertility. I noticed just two shortcomings, 1) overselling the childhood aspect and 2) the dated nature of the early 1990s fieldwork on which the book largely seems to draw. The author promises to explain the childhoods of the Maya, but their voices are missing from the arguments on time allocation as well as on the decision to leave the parental home. Also, while the author’s Postscript updates the Maya village setting, it also reminds the reader that the economy depicted during the fieldwork most likely no longer exists. Nevertheless, this thoughtful study of the Maya offers important insights and creates a baseline for future research on the interplay across fertility and time allocation, as the Maya economy continues to undergo changes.

**References**
