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Adjusting the Frame: Comments on Cognitivism and Literature

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Abstract This article focuses on the role of cognitivism in literary studies and, conversely, the role of literature in cognitivist approaches. Taking as its point of departure the preceding issue of *Poetics Today* (vol. 23, no. 1), a special issue on cognitive approaches to literature, this commentary addresses a number of issues related to, but also exceeding, the field of cognitive literary studies. These issues include the interrelation of the terms *cognitive* and *literary* and of human history versus evolution; the rhetoric and dynamics of paradigm change; the history of cognitivist inquiry, including different models of the study of the human mind; practical and fundamental questions about interdisciplinarity; and differences of approach in the sciences and the humanities.

1. Cognitivist Overtures: Branching Out and Reaching Out

Cognitive literary criticism as represented in the past special issue on "Literature and the Cognitive Revolution" (*Poetics Today* 23, no. 1) is, according to Alan Richardson and Francis Steen's introductory remarks, a new "field" emerging from the encounter of "literature and the cognitive revolution." As old meets new, the new—cognitivism—transforms the old—

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literature—into new, with the implicit promise or claim that literature will no longer be the same after its passage through cognitivist procedures.

The special issue presents a diverse array of texts under the homogenizing label *cognitivism*. Mark Turner (9–20) reaches back beyond the classical tradition of rhetoric to the history of mankind while briefly recapitulating and illustrating his model of "blended spaces." Ellen Spolsky (43–62) offers a bold synthesis of poststructuralist theory, a cognitive neurological model, and Darwinian biology, while Paul Hernadi (21–42) provides a wide-ranging and systematic account of the survival value of literature. The second section of the issue comprises detailed analyses of elements or passages in individual texts, countering the frequently voiced criticism that cognitivism in literature focuses on the general without offering new insights into specific literary works. As recently as five to ten years ago, a collection of cognitivist articles would have been much narrower in scope: less heterogeneous, less varied.

In more than one way, conflicting—or at least dialectically opposed—impulses can be discerned in the introduction to the special issue: to expand and consolidate; to diversify and unify; to highlight what has been achieved so far and to emphasize that it is nothing compared with what the future promises. In a sense we are asked to admire the current state of the field without, however, judging it by that state. Rhetorically, the introduction to the issue heralds cognitivism in terms of both arrival and departure: arrival in terms of "institutional recognition," of establishment as an interdiscipline, and of the progress documented; departure in the sense of a promise of future greatness that, however, paradoxically entails a disparagement of those documented gains that have won for cognitivism the coveted institutional seal of approval: "The cognitive revolution, after all, has only just begun" (6) conveys a stance of "just you wait—you ain't seen nothing yet!" (Not surprisingly, this two-sided assessment is echoed by prominent cognitive neuroscientists in describing their field: Ira Black points out that "neuroscience has made astounding progress in a few short years" and concludes that "there is unparalleled excitement in neuroscience, and unparalleled opportunity" [Gazzaniga et al. 1998: 41].)

It is refreshing in times of literature-bashing to see that literature attracts such a high level of attention. Our understanding of one of the most multifaceted manifestations of human culture can and will gain in quality and insight if approached from yet another angle. Literature as a specific discourse of the human species is of a highly complex constitution, and certainly cognitive literary criticism can be considered and welcomed as an attempt to broaden our understanding of literature considerably if not indeed to deepen it qualitatively. Yet the broad resituating that is announced

also invites a number of questions, and raising some of them is the purpose of this commentary.

During the last decade or so, cognitivism has extended its reach to an increasing number of areas in literary studies. At the same time, a more comprehensive notion of human cognition and of cognitivism itself, one that acknowledges more adequately the interplay among intellectual cognition, affect, perception, and pleasure, has prevailed. And not least, cognitivism in literature has begun to address one of its more conspicuous blind areas, its initial lack of attention to the historical dimension. Two complementary trajectories are evidenced by the contributions to the special issue: the first section, "Overview: Toward an Integrated Cognitive Poetics," documents an alliance with evolutionary biology and psychology that takes us into phylogenetic history, while the articles in the second section, "Cognitive Historicism: Situating the Literary Mind," make forays into literary history.

Just as they do in other realms of life—art, fashion, architecture—new paradigms in scholarship chase each other and fight for space. New and emerging paradigms tend toward radical criticism of—if not harsh polemic against—existing ones. Sometimes these new paradigms amount to little more than a relabeling or cosmetic changes, so that new knowledge is no more than incremental. Elsewhere they can open our eyes to features, even dimensions of their subject that previously had been unobserved, and possibly unobservable, under the parameters of the preceding paradigms. Cognitivism in literature has asserted its staying power. Accordingly, there is less need for aggressive rhetoric and more space for the kind of bridge building and inclusionary gestures found in the special issue, such as pointing out borrowings, mutual influences, and benefits. Commendably—and in a stance that offers reconciliation as it extends the promise of complementarity—the special issue editors emphasize that the approach presented in the essays "aims more to supplement than to supplant" (2) and point out that cognitivist hypotheses "can be invoked in conjunction with textual and historical methodologies to yield novel perspectives" (6).

Reaching out to—and trying to incorporate—other fields and subdisciplines of literary scholarship can be seen as inviting fruitful collaboration or committing an act of usurpation. The cognitivist turn or revolution parallels the linguistic turn/revolution in reversing traditional priorities and established hierarchies. In the more aggressive moves of the linguistic turn, language was posited as the universal category, every sign system was declared a language, and nothing was admitted to be outside or beyond the linguistic realm. Where linguistics had previously been viewed as one among several possible approaches to literature, the role of literature was

revised to make it one among several fields of study for linguistics. In cognitivist literary study, a similar revolution reverses the hierarchy and catapults the workings of the human mind, previously one among other possible foci of literary study, to the top level to which all other parameters of literature are subordinated. Within the cognitivist turn—and specifically, the cognitivist study of literature—various strategies can be discerned, such as situating cognitivism either as coextensive with or as encompassing literary scholarship in general and claiming for cognitivism the whole area of the study of the human mind without regard for the history of the field.

2. Locating Cognitivism

It seems as if even serious representatives of cognitivism adopt a far-reaching yet somewhat cautious approach to human culture. The reason for this may lie in the fact that the cognitivist approach is necessarily tied to epistemologically fundamental assumptions (or possibly axioms) that conceive of the human being as constantly changing and being in constant exchange with an outside world, including himself or herself as part of that world, hence, a complex interchange between participant and observer. In addition, cognitivism, like poststructuralism, denies "essentialist, normative, and timeless" (3) attributes and instead (here unlike most poststructuralist approaches) adopts a perspective that is historical as well as evolutionist. The perceiving subject as representative of the species is the result of a long phylogenetic process, namely, evolution; and ever since humans began deliberately producing artifacts and documents, they have had what can be more properly termed history. Thus far, evolution and history have been separate entities: evolution was considered a nonintentional process, while history encompassed the record of human agency and subjectivity. The special issue editors correctly view the inclusion of the evolutionary past of humankind as "radically extending the notion of history" (ibid.), and in the issue itself, there is no overlap between the two sections—evidence that they deal with essentially different concepts of history. Biotechnological advances are changing the disjunctiveness of evolution and history for the first time in human as well as evolutionary history. What we are currently witnessing is the merging process of evolution and history within the context of gene technology.

Cognitivism in literature aims to relate previously separate terms not only where evolution and history are concerned, as is evinced by the very term *cognitive literary criticism*: it floats two qualifiers without settling the question of where the cognitive and the literary are situated vis-à-vis each other; neither does it specify which aspects or dimensions of literature will

become visible through the cognitive lens. Now, the cognitive (or better, cognitivist) part in this new field of literary criticism seems to be the more stable, long-term, "universal" element of the two, whereas "literary" seems to play the more volatile and unstable role of "cultural particulars." The relationship between the two agents is clearly a hierarchic one in that the literary dimension is embedded in, or even sublated into, the cognitive one. After the successive and overlapping reigns of such approaches as New Criticism, psychoanalytical criticism, structuralism, sociology of literature, social history of literature, deconstruction, and New Historicism, now cognitivism claims to remap the territory of the study of literature and its history. Unlike the previous paradigms, where sociology, social history, or psychoanalysis were proclaimed "orienting disciplines," cognitivism does not constitute a discipline but rather works along the lines of a somewhat fuzzy "orienting field" that sets up signposts for (among others) literary criticism and literary history. Notwithstanding that "fuzziness," however, biology seems to have been cast in the role of an "orienting discipline."

In their introduction, Alan Richardson and Francis Steen establish a "common-ground model," pointing out repeatedly the shared interests pursued by literary studies and the cognitive sciences. This friendly insistence does not accommodate an awareness that while the "common interests" may coincide to a considerable extent, they are by no means identical. Beyond that, stipulating—with Turner—that "the literary mind *is* the everyday mind," the authors assert that "the term *literary* applies not only to oral forms and traditions but to the basic cognitive processes that characterize much of quotidian cognitive life" (4). Here, the bold generalization of the term *cognitive* renders the category of the literary—and indeed the phenomenon of literature—largely superfluous. Taking the authors at their word would render, for instance, Hernadi's model of the (specific) uses of literature (as a specific discourse) both unnecessary and inapplicable by making its subject disappear. It seems that here different branches of cognitivist literary study are at odds with each other.

Cognitivism, as the study of the human mind in the broadest sense, is declared to encompass all language use, which in turn includes all literary artifacts. The study of literature, in this model, is merely a subdiscipline of the study of the human mind, and the attribute *cognitive* metamorphoses from its grammatical and conceptual status as qualifier into the most comprehensive term in the conjunction of cognition, language, and literature. Ultimately in this view, cognitivism becomes both the method and the object. Cognitive activities and patterns are, consequently, to be regarded not only as supremely comprehensive but by extension as supremely relevant, subordinating or replacing other possible interests in—or aspects of—all

objects of study regarded through the cognitivist lens. There is a danger here of both procedural blindness and circularity: if our access to literature is defined by cognitivism, then what can be discerned about literature is its cognitive dimension, since that is what the approach is geared to. In Tony Jackson's (2000: 339–40) phrase, this is "using literature to explain cognition rather than using cognition to explain literature" (see also Gross 1997). Turner's invoking of the rhetorical tradition, as reiterated in his essay, shares this attitude: it is cognitivism, we are meant to see, that has brought the study of rhetoric into its own and realized its true potential. From the point of view of literary scholarship, it is certainly worth mentioning that rhetoric by no means automatically yields insight into the specifics of literary discourse, although literature frequently made and still makes use of rhetorical devices. We know from literary history that literature went through a phase of emancipation precisely from the rhetorical tradition in order to develop its genuine discourse. As Karlheinz Stierle (1997: 226) puts it in a critique of Paul de Man's rhetorical approach to literature: "Rhetoric regards the world of speech from the point of view of its repeatability. . . . Poetry opens the space of the event to speech, i.e., the space for that which has never before been said or perceived."[1] (For a more complex articulation and critique of the interplay between rhetoric and cognitivism, see Eggs 2001.) Clearly, the conceptual relationship between the two attributes *cognitive* and *literary* will require continued negotiation—and the kinds of balancing acts accomplished will determine to a large degree what kinds of audience cognitive literary scholarship will find.

Cognitivism in literature is on its way from outsider category to status-enhancing buzzword: an "-ism" that joins other "-isms" and is variously presented as their counterpart, continuation, and complement. In an interesting dialectic, while the extension of cognitivism into more literary subdisciplines is no doubt useful in advancing its status vis-à-vis—even its integration into—mainstream literary studies, this very mainstreaming and bid for increasing acceptance beyond the ranks of committed cognitivists also "dilutes" it, as it were, and obscures its profile, making it less distinctive and definable. If all study of literature is cognitivist at bottom (as cognitivists are at pains to demonstrate), then cognitivist literary study is de facto identical with the study of literature, and the ultimate success of literary cognitivism would thus be not its establishment but its total obliteration as a separately nameable approach. As a result of the very attempts made by its proponents to increase the scope and reach of the term, *cognitivism* may become a catchall devoid of any but the most general meaning. One could certainly

1. All quotes from non-English sources are translated by Sabine Gross and Hans Adler.

argue that there would be little to unite the contributions in the issue were it not for the umbrella term *cognitive*, which asserts—rather than describes—a common interest. The diversity of individual approaches represented in the special issue, notwithstanding the editors' attempt at homogenization, bespeaks the difficulty of maintaining a distinctive and identifiable profile for cognitive literary studies. By the same token, the diversity of approaches will appeal to a variety of readers.

The three analyses assembled in the second section, in particular, demonstrate the variable forms and degrees in which cognitivist approaches have been integrated into literary study and its historical dimension. Steen presents the broadest scope and argument. He provides historical background as needed and not only offers a sophisticated argument about the structure of Aphra Behn's *Love-Letters between a Nobleman and his Sister* but also uses her text as a test case for the problem of how writers and works mediate between rulers and their subjects—a question that became a focal point of debates on poetics and aesthetics in Europe in the second half of the eighteenth century. In addition, Steen presents Behn's text as a case of blending, but the reader quickly realizes that the level of historical and textual analysis, on the one hand, and that of cognitive-conceptual modeling, on the other, are less than seamlessly integrated. Lengthy historical and textual passages are interspersed with shorter passages that establish a largely distinct and separate cognitive level of analysis. The article presents the superimposition of a cognitive model onto an extensive and basic analysis that easily could stand alone; by itself it is neither in need of nor indeed influenced by cognitivism, which comes in as a second voice. Steen's text reads like a somewhat dysfunctional conversation in which each of the two partners offers useful insights without referring much to what the other has to say.

In contrast, Lisa Zunshine approaches her topic from a definite cognitive angle. Unfortunately, her argument is based on a discussion of the verb *made* in A. L. Barbauld's *Hymns in Prose for Children* (1781) that displays a striking degree of anachronicity. As Zunshine points out, the phrase "man is made to praise God who made him" is indeed a metaphor—one, we might add, that was coined long before the eighteenth century. Xenophon reports (around A.D. 360–370) that Socrates compared the existing world to the "work of a . . . craftsman" (Lorenz 1989: 948). In the seventeenth century, physico-theology developed as a theological branch inferring a cause or maker from the experience of teleology and order in the sensible world. William Derham's *Physico-theology; or, A Demonstration of the Being and Attributes of God from His Works of Creation* of 1713 was most influential in the popularization of those ideas all over Europe (and eventually was ridiculed by

Voltaire in his famous remark that humans have noses in order to hold their spectacles in place). Thus, the creation of the human being was not conceived of as artificial within the eighteenth-century system of knowledge and beliefs. A. L. Barbaud's children are "able" to pray because, in contrast to animals, they are able to use language; the fact that God "made" them is something they have in common with the rest of creation. That is, from a physico-theological point of view, everything in this creation has a purpose and follows a teleology. Zunshine's text, while not without merit, exemplifies the danger of reductionism.

Richardson's is easily the most stylistically polished and intellectually mature essay in the second section of the issue. At the same time, his analysis is the least "cognitive" in that it fits most comfortably within the framework of "traditional" sociohistorical literary analysis: he draws our attention to a specific—and hitherto neglected—contemporary debate and correlates it persuasively with Jane Austen's *Persuasion*. Richardson's analysis is like a focused beam of light: while it does not aim to revolutionize our reading of Austen's novel, it expands our knowledge and will affect our future reading of this text. But that analysis does not rely actually in any way on the cognitivist literary paradigm beyond the fact that what Richardson rescues from historical neglect are contemporary concepts and models of the brain—a somewhat oblique connection.

The special issue editors have extensive company when they pit cognitivism against poststructuralism and its excesses, portraying the latter as in need of counterbalance through an empirically grounded approach to theory (see also Jackson 2000). But one might argue that not only their view but to some extent also Spolsky's harmonizing joint model accord poststructuralism—with its admittedly high visibility and demonstrated potential for arousing opposition—too much weight. Setting up versions of poststructuralism as the enemy—or, for that, as ally—ignores the prevalence of other types of literary study that, in terms of publication output, vastly outnumber deconstructive and poststructuralist analyses and theoretical essays. The overall success of cognitivism will not depend on its success in countering poststructuralist notions of instability but on convincing the majority of practitioners of literary studies, who are working within a wide spectrum of approaches to interpretation and analysis, that they have something to gain from a cognitive approach in either of two ways: adopting it or paying heed to what its practitioners have to offer. In particular, as Jackson (2000) has argued, cognitivism will have to make itself relevant for the analysis of specific texts to appeal to "mainstream" literary studies. While the contributions in the second section of the issue certainly are steps in that direction, they also highlight a continuing divide.

3. Historicizing Cognitivism

To approach poetics, poetry, and literature in general "at the level of the species," as the special issue editors' introduction would have us do, is certainly a bold move; but aside from the considerable epistemological challenge posed by this suggestion, it is most assuredly not a new way of approaching human culture. It is a sad but true observation that, in an age that makes strong claims to globalization and affords virtually unlimited access to all contemporary and past knowledge, notions of past and present as well as intellectual reach increasingly seem to be confined to the speaker's past and present, that is, to the limited temporal horizon of the individual subject.

While Turner is a commendable exception in that he regularly appeals to the rhetorical tradition in his work, literary cognitivism is frequently presented as the newcomer who revitalizes literary scholarship with infectious energy and new insights: a stance that more than occasionally goes hand in hand with cheerful obliviousness of previous research in the respective areas of study. Emphasizing novelty and the approach from a different angle seems, to some degree, to obviate any need to familiarize oneself with much of what has gone before in literary scholarship and history. What we get is, to some extent, old wine in new bottles; inevitably, a number of wheels get reinvented as existing knowledge is recast into cognitive terms. More than occasionally, and perhaps inevitably, a degree of sophistication is lost in the process.

In somewhat analogous fashion, cognitivism is presented as groundbreaking in having first established the study of the human mind as a field of—scientific or humanistic—inquiry. What had been practiced in an array of approaches by different disciplines for not just centuries, but millennia, is largely discounted, and it appears as if there had been little or no study of the human mind before cognitivism pioneered it. That is, at least, what the term *cognitive revolution* implies, although by now awareness of previous achievements in the study of human cognition has at least advanced to the degree that one finds mention of a "first" cognitive revolution that preceded the "second" one—even if the first revolution tends to be disproportionately represented by George Berkeley, Thomas Hobbes, and John Locke (see, for instance, the Cognitive Cultural Studies Web site at cogweb.ucla.edu). In at least one case, on a Web site titled "The Pre-History of Cognitive Science," the precursors unearthed by "ongoing research into early models of cognition" have been relegated to the equivalent of the stone age (see Stahmer 2001).

George Lakoff and Mark Johnson's work on metaphor may serve as a case in point. When their *Metaphors We Live By* appeared in 1980, it

was hailed as groundbreaking, and its influence since has been indisputably enormous. Yet in arguing for the centrality of metaphor in language and thought, Lakoff and Johnson have a number of precursors, among them Jean-Jacques Rousseau, Johann Georg Hamann, Johann Gottfried Herder, and Jean Paul (see Weinrich 1980 for an overview of this tradition of thought). Jean Paul (1996 [1813]: 184) asserted in 1813: "Originally . . . metaphors were forcefully derived synonyms of body and mind. Just as in writing pictography preceded letters, similarly in speaking the metaphor, in so far as it signified relations and not objects, was the earlier word, which had to grow pale in order to turn into the term proper. . . . Thus every language, as far as mental relations are concerned, is a dictionary of faded metaphors." Critics have pointed out also that, conceptually as well as in their examples, a number of philologists, linguists, and philosophers of language (among them Hermann Paul, Alfred Lothar Wegener, Fritz Mauthner, and Otto Jespersen) anticipated Lakoff and Johnson's findings (see Baldauf 1997: 285–97 for a summary). One of these critics goes so far as to assert—à propos some remarkable correspondences between the work of philologist Hermann Paul (1968 [1880]) and Lakoff and Johnson's theory—that the latter may be considered an "elaboration of Paul's theory of metaphor" (Burkhardt 1987: 52). Two other critics, citing a long list of philosophers that remain uncited in separate works by Lakoff and Johnson, see the value of their work "in a creative synthesis of some *old* ideas that have been suggested in various guises and places that they have *borrowed* to go along with their own *new* insights and evidence" (Johnson and Henley 1988: 250). Clearly, there is much more of a tradition in latently cognitivist metaphor studies than these authors' books reveal or acknowledge.

Similarly, Lakoff and Johnson are being considerably less revolutionary than they seem to think in their *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* (1999). The account of Western philosophy that they provide in order to challenge it is willfully one-sided and appears ignorant of an entire earlier tradition within Western philosophy that is foundational for their very concept of the embodied mind. This countercurrent to rationalist Cartesian philosophy, represented by such thinkers as Gottfried Wilhelm Leibniz, Alexander Gottlieb Baumgarten, Rousseau, Goethe, Hamann, Moses Mendelssohn, Thomas Abbt, and Herder, embraces a variety of perspectives: a focus on experience and sensory engagement; a critique of one-sided rationalism that has invited the term *holistic* (Koch 1989; Zimmerli 1990; Adler 1990a, 1990b); an insistence on embodiment as a precondition for cognition that one might today, with Maurice Merleau-Ponty, term phenomenological; a preference for the aesthetic (or *aisthetic*, that is, pertaining to sensate cognition; see Adler 2002) over the

noetic. While Turner briefly resurrects Aristotle in an effort to turn him into a protocognitivist, practitioners of cognitive studies *avant la lettre* have happily plied their craft not only in rhetoric but also in philosophy, anthropology, theology, psychology, medicine, history, and of course in literature. The eighteenth century, in particular, seems to be a fitting subject for research into the history of cognitivism as it relates to many of its present facets.

The second half of the eighteenth century in Europe witnessed the rise of several new fields of scholarship: not yet narrowed down to academic disciplines, they encompassed large areas of what later would coalesce into the modern fields of psychology and philosophical anthropology as well as philosophy of history in its nonteleological version. What was then the emerging discipline of psychology dispensed with the rationalist—deductive—type of psychology and embarked instead from the assumption that the human psyche had to be explored inductively and empirically, on the one hand, and that "hidden," "dark," or obscure reasons for one's thoughts and actions had to be taken into account, on the other. The new paradigm, considered at the time part of the epistemological exploration of the human mind, was—amazingly enough from today's point of view—the discipline that gave birth to an epistemology of the senses, thus contributing to a completely new idea of the human being.

This development, which mainly took place in what was then the Holy Roman Empire of the German nation, was in part triggered by the reception of Locke but is also conceived of as a supplement to the dominating rationalist philosophy of Christian Wolff (1679–1754). However, in perfecting this paradigm, Wolff's disciple Alexander Gottlieb Baumgarten (1714–1762) (1961 [1750]: 1) inadvertently contributed to its demise from 1735 on by advancing a broad and comprehensive concept of aesthetics as a "science of sensate cognition," which played a pivotal role in this development. (It was this very concept of aesthetics that later would be called, somewhat dismissively, "pre-Kantian.") Not coincidentally, Karl Philipp Moritz (1756–1793), the author of one of the first autobiographies of an "average" subject that appeared around this time (Moritz 1972 [1785–1790]), was also a highly appreciated aesthetician and psychologist. Moritz's journal, *Gnothi Sauton oder Magazin zur Erfahrungsseelenkunde* [Know thyself or Magazine for empirical psychology], was the first journal of modern psychology. He developed a comprehensive model of aesthetics and the arts in terms of how they functioned as part of the human struggle to maintain a specific position within the universe at large, which he understood as a gigantic metabolism (Moritz 1989 [1788]). He was one of the first to see the fine arts and literature as necessary for the survival of the species. Before him, Gotthold Ephraim

Lessing (1729–1780) had already developed a strong argument for the irreducible function of literature, an argument that went by far beyond the Horatian "*aut prodesse volunt aut delectare poetae*" [poets want to either teach or delight (the reader)] (Horace 1993: 562). Lessing's (1995 [1769]: 361) argument about the purpose of art and literature goes like this:

> In nature everything is connected with everything . . . But in its infinite diversity, nature is a spectacle for an infinite mind only. In order to let finite minds participate in that pleasure, they had to be endowed with the power/faculty to set bounds to nature that don't exist in nature. [This power/faculty] is the power to isolate and to focus attention at will.

According to Lessing (ibid.), art and literature are the only cultural practices that provide this orienting function, which he regards as necessary for the survival of the human species: "We practice that power in every instance of our lives; without it there would be no life at all for us . . . we would be dreaming without knowing what we are dreaming." In short: for the human being, there would be neither consciousness nor self-consciousness, no orientation or self-determination, without literature.

The anthropological orientation discernible in Lessing is shared emphatically by Johann Gottfried Herder (1744–1803). It is not by coincidence that Herder developed a highly sophisticated and epistemologically grounded anthropology that served as a foundation for his philosophy of history, theology, pedagogy, and—first and foremost—his literary criticism and aesthetics. His writings rarely indicate the connection to the cognitivist dimension of his research as clearly and distinctly as in "Vom Erkennen und Empfinden der menschlichen Seele" [On cognition and sensation of the human soul] (in three different versions, 1776–1778). Herder is often termed a "poetic philosopher" by reference to the fact that he chose a discourse that straddles poetry and philosophy. He did so because he started from the assumption—certainly unusual for his time—that human cognition is based on complex activities shared among body, brain, nerves, feelings, and sensory perceptions, the expression of which had to be a complexly constituted discourse itself. Like Giambattista Vico (1972 [1725]: 170, 188ff.; 1999 [1744]: 144, 157ff.; see also Danesi 1994; Danesi and Nuesser 1994; Haskell 1993), with his "poetical metaphysics" and "poetical logic," and like Rousseau and Johann Georg Hamann (1730–1788), Herder assumed that the poetic mode of expression preceded the abstract mode of philosophical discourse. Hamann (1999 [1762]: 197) coined the oft-cited phrase, "Poetry is the mother tongue of the human species." Herder (1985 [1766–1767]: 183) adopted this "evolutionary" perspective, stating that human language in its adolescent phase must have been "full of images and rich in metaphors."

After more than half a century of what was in essence anthropological reflection, anthropology as a modern discipline finally came into being in the last quarter of the eighteenth century. It was based on a highly differentiated set of assumptions about the human brain, human psychology, and the position of the human being on this planet as well as in the universe. The "Copernican Turn" of Kantian transcendentalism in the 1770s and 1780s blurred the achievements of these theorists (and others) because they did not fit the all-encompassing a priori perspective of Kant's criticism. From the point of view of the history of science, Kant emerged as the winner, ruling the field for the next two centuries. It is thus quite understandable that the newly (re)born cognitivism would show signs of blindness to its obscured past. But to win does not necessarily mean to have the better arguments. Thus, it is definitely worth our while to investigate the history of cognitivism in order to relativize our contemporary versions and to contextualize them diachronically.

Finally, when calling upon a tradition that for the most part still has to be discovered by the modern version of cognitivism, one would be well advised to start with a careful look at the systematic value of concepts that are labeled with the same term. *Knowledge* in Aristotle's time, to take just one striking example, was by no means what we mean today by the term. Thus, other than as an attempt to claim the distinguished philosopher's aura, it does not make much sense to state, as Turner does in his essay, that Aristotle would "be a cognitivist" if he were living today, since the contemporary Aristotle would precisely not be the historical one. Thomas Kuhn's (1962) research on the history of science should have made clear that this history is not one of accumulation of knowledge belonging to the same type, but a history of ruptures between different paradigms that might use the identical signifiers with incompatible meanings.

4. Cognitivism and Evolution

It is not only the past that provides ample knowledge in the field of cognitive studies; the present (or the more recent past) provides support as well. From a cognitive point of view it makes sense to integrate the evolutionary dimension of human cognition. What we miss in this special issue's articles, however, is reference to a large body of work in the field of evolutionary epistemology. Declarations of newness, revolution, innovation, and so forth are flawed if existing pertinent research is ignored. Evolutionary epistemology is a field that definitely contributes to today's cognitive scholarship and should therefore be considered. It was the ethologist Konrad Lorenz (1941/1942) who—as a philosopher in Königsberg, holding the chair that

Kant had held two centuries before—reconsidered Kantian transcendentalism from the point of view of modern biology, and he summed up his reflections in the formula that the Kantian a priori is an a posteriori from a phylogenetic perspective. Lorenz's critique of Kantian transcendentalism through the lens of evolutionary biology concludes that there is no a priori that cannot be described in terms of evolutionary development; that is, the conditions of the possibility of cognition are based on phylogenetic experiences. As Karl Popper put it: "All we need to do is to clarify that Kant was wrong when he stated that everything that is a priori ought to be true. Hypotheses are a priori, they can be wrong" (Popper and Lorenz 1985: 31).

Lorenz's thesis had far-reaching consequences for the further development of epistemology and eventually led to the elaboration of evolutionary epistemology (Lütterfelds 1987; Riedl 1985; Vollmer 1975, 1985/1986, 1995). In later versions this biologically based theory of knowledge acquired a truly comprehensive reach: from energy quanta to "West European Idealism" (Riedl 1985: 116), from theoretical physics to cultural history (ibid.: 96), and from subatomic particles to human cultures (ibid.: 68), where, in Hubert Markl's (1995: 206) words, "cultural history is nothing else but the natural history of the human species." In fact, Riedl boldly upsets the accepted hierarchy of nature and culture by actually considering human cultures, in turn, as elements of nature.

This application of evolutionary axioms to cultural phenomena is a risky undertaking, and due caution is advisable before embracing the system of evolutionary epistemology or any other evolutionary-based theory that claims to cover human culture as a part of all-encompassing nature. Evolution may be seen as the development of naturally determined potentials, including the human brain, culture, and science. This entails a sort of determinist worldview, with the human being wedged in somewhere between necessity and a chimeric freedom that is nothing but an unacknowledged dimension of necessity. But evolution may be understood also as a process of emancipation from nature, thus liberating the human being from natural determination and changing the human role in this process from a more or less passive object of nature to its active subject—an assumption that makes sense in a period of the development of gene technology, as the zoologist Gerhard Neuweiler pointed out as early as 1985.

This brings us to a somewhat cryptic sentence in Richardson and Steen's introduction to the special issue, namely, that "reconceptualizing the cultural significance of the natural in contemporary terms" (3) is at stake when dealing with evolutionary literary criticism. If their sentence means that humans are actually on their way out of their determination by nature, then a vast new field could be opened up within the humanities. This perspective

would indeed be revolutionary. The task to deal with is huge, as Hernadi's comprehensive model demonstrates, and consists above all in the mediation between the individual occurrence of works of art and the universality of the theoretical assumptions, which currently run alongside rather than engaging each other. A despecification of literature, on the one hand, and an overly general anthropological foundation, on the other, are the Scylla and Charybdis between which cognitive literary criticism has to navigate.

5. Literary "Science"?

A major contribution of cognitivism and its promise to advance literary studies—so its proponents assure us—lie in its close alignment with science and the empirical authority thus imparted to the notoriously "inexact" scholarship of literature. Here, the way in which scientific concepts and standards are called upon merits closer analysis. Given the role of biology as an "orienting discipline" and the emphasis on cognitivism as a science, it is striking how little "hard-core" brain research from fields such as neurology, neuropsychology, neurobiology, and cognitive neuroscience is represented in this issue's contributions. This seems at odds with the avowed "scientificity" of the cognitivist approach and points to a discrepancy between scientific claims and actual practice. The scientific reputation of a cognitivist approach to human culture would be enhanced if this exclusion or effective marginalization of the natural sciences were explicitly addressed and justified. But then, such an acknowledgment would bring cognitivism perilously close to being yet another humanistic perspective on human culture, one lacking the scientific support that the term *cognitive* promises by connotation.

In regard to the "scientificity" of literary studies themselves, a selective and arbitrary sampling of languages suggests a division in their terminology between *criticism* (English, Polish) and *science* (German, Czech), with some (such as French and Italian) permitting both. So at least some languages endow literary scholarship with the latter term—without, however, declaring the literary sciences subject to the tenets and procedures of the hard sciences. Rather, the parallel designation should be understood as a respectful "distinct but equal."

It seems to us that there are valid reasons for the weak presence of "hard-core" cognitive science research in the contributions to cognitivist literary scholarship in this special issue (and elsewhere). For instance, while cognitive semanticists in particular have offered new and intriguing avenues to the study of literary texts, most of their concepts are metaphorical: "spaces" blended and otherwise, cognitive "domains," mental "operations," and the

"projection" from "source domains" onto "target domains" are figurative ways of representing hypotheses, intuitions, and models of how the human mind works. Turner (1996: 22–25) briefly represents some relevant brain research and neuroscientific theories about image schemas, but has to admit: "It is not clear how to connect the evidence for image schemas in the study of the mind to the evidence for image schemas in the study of the brain" (ibid.: 24). And while the editor of a newly published reader covering advances in cognitive neurosciences states that the core aim of this new discipline is "to understand how the brain enables mind," the findings presented in the articles on language are not even close to being applicable to complex texts, literary or otherwise (Gazzaniga 2000: xii). One of the authors reports that many language processes have been discovered to be "quite sensitive to individual difference" (Kutas 2000: 442). While this may be unexpected news for cognitive scientists, it comes as less of a surprise to scholars of literature.

As yet, it is not at all clear how neurological findings can actually be translated into terms relevant to cultural artifacts and achievements and specifically to literary analysis. Not surprisingly, Spolsky's account of neuronal activity at the beginning of her article in the recent special issue is anthropomorphic (and engagingly so): re-presenting neuroscientific findings is a challenge on the epistemological, the conceptual, and the linguistic level. It should also be pointed out that the modular model of the mind on which Spolsky bases—or rather, which she presents in illuminating correspondence to—literary readings is merely that, a model, and one to which there are counterproposals of cross- and intermodal transferability (Walk and Pick 1981: 11). The modularity of the mind is by no means uncontested. Research in developmental psychology, in particular, has provided evidence for a profound and pervasive a-modularity, in which sensory impressions received through one channel simultaneously extend to others (Stern 1985: 51–53, 67; Maurer 1997; Rochat 1997: 101). In other words, we would do well to heed Spolsky's statement "that structures are describable simultaneously in more than one way and that they are permanently open to revision" (55) and to apply it in the broadest possible sense, not only to culture and society but also to cognitive science itself. And providing empirical verification for evolutionary-biological hypotheses about the evolution of art and literature would be a tall order indeed.

Another issue, one that has only surfaced quite recently, complicates the cognitivist model of the human mind at a more fundamental level. As the introduction as well as the first four contributions to the special issue show, cognitivism currently makes strongly universalist assumptions about the human cognitive system, focusing on "universal mental structures," "cognitive universals," and "universal rules of cognitive processing." Yet recent findings in experimental psychology suggest that culture affects

cognitive processes at an unexpectedly basic level. A series of experiments conducted by Richard Nisbett and others (2001: 291) uncovered evidence that challenges the assumption of cognitive universality and that calls "into question long-held assumptions about basic cognitive processes and even about the appropriateness of the process-content distinction." Nisbett discovered nothing less than that "the habits of thought—the strategies people adopted in processing information and making sense of the world around them"—were considerably less universal than had been generally assumed (Goode 2000). Not surprisingly, these findings on cultural-cognitive relativism made quite a splash: after all, "the theory underlying the research challenges much of what has been considered gospel in cognitive psychology for the last 40 years" (ibid.). Nisbett's model of "sociocognitive systems" in place of cognitive universals will not remain undisputed (see Shea 2001), but it forces us to rethink the relationship and relative weight and scope of cognitive universals and cultural particulars.

One recurrent problem is that of the meaning—and possible practice—of interdisciplinarity, in particular between the so-called hard sciences and the humanistic disciplines. It is compounded by two common forms of disregard for the standards of the respective other discipline, forms that are reciprocal but asymmetrical: On the one hand, literary scholars succumb to the seductiveness of scientific terms and import them into literary analysis with little consideration for their actual scientific use, treating them in effect with poetic license and happily engaging in creative analogies (examples that come readily to mind are chaos theory and fractal structure). In the reverse direction, one encounters a specific type of prejudicial discrimination against literary terms: the tendency to regard terms of literary scholarship as reducible to their everyday understandings and to assume unquestioningly that scientific terms, in contrast, are inevitably precise, nonfigurative, rigorously descriptive, and backed up by empirical knowledge.

Given this kind of precommunicative divergence, how can the two fields communicate and engage their respective terminologies in a dialogue? By way of example: Is there such a thing as "neuro-esthetics," as Semir Zeki (1999: 2) recently proclaimed? "Communication" here should not be reduced to the mere process of translating terms and concepts of literary criticism into terms of natural science—with the result that the sources shrink to zero in a laundering procedure that follows the reductionist maxim "X is nothing else but . . ."—as Zeki (ibid.: 1) does when he claims that "the aims of art constitute an extension of the functions of the brain." Jackson (2000: 332), addressing the issue of interdisciplinarity, sums up his examples of problematic cross-disciplinary terminological transfer by asking: "To what extent will arguments in a given discipline be expected to include a full knowledge of the key terms imported from other disciplines?" He points

out (ibid.: 340) that the problem starts at the pragmatic level: "Adequate scientific knowledge is simply outside the expertise of all but a minority of literary scholars. The literary in literary study is simply outside the expertise of all but a minority of cognitive scientists and evolutionary psychologists. Few scholars will have the time and inclination to learn the other field sufficiently to challenge what is most scientific about the one or most literary about the other."

In other words, the jury is still out as to whether a reliable level of communication between a neurologist on the one hand and a literary scholar on the other can be found. By *communication* we mean here not the use of terms in ways that reduce sophisticated and contested literary terminology to its lowest common denominator or distorts scientific terms to the point of unrecognizability. Beyond the level of terminology, do the fundamental assumptions and values of the two fields permit the exchange of knowledge and opinions between equals, as opposed to an enterprising "kidnapping" of knowledge from one field to another? The sciences seem to be in a stronger position to engage in the latter strategy. Combining the force of usurpation and flattening, this strategy essentially eliminates the knowledge and discourse fields that it claims to take up—in the worst case, despecifying source knowledge from the humanities to an extent that makes it vanish in the black hole of natural science.

But perhaps we should go one step further in assessing the value of scientific logic and empirical reliability, the alignment with progress in psychology, neurology and biology, by inquiring about the compatibility of the underlying epistemological systems and values that shape humanistic and scientific inquiry. The following two quotes are clear in their allegiance:

> If literary scholars aim at a scientific solution for their respective problems, they have to meet the usual standards of science; that is, they have to solve explicitly spelled-out problems via explicit problem-solving strategies or methods. This holds equally true for all problems subsumed under the title "interpretation." (Schmidt 2000: 621)

> Forms of feeling . . . come to light in literature—types of aesthetic experience that have still to be fully acknowledged in their variety. Among them are wit and aesthetic judgment, bliss and swift conceptual grasp, sadistic moods, "preternatural" distraction, sensory confusion, and the felt comprehension of myth as a type of totalizing consciousness. These forms are neither cognitionlike nor feelinglike alone but arise through the tension of the faculties. (Corngold 1998: 1)

Chances are that scholars of literature will find their attitudes toward literature and its study expressed more adequately by one of these quotes than by the other, that they will be drawn to one of them over the other—and

that the appeal the first quote holds for readers correlates directly with their degree of attraction to what has been termed the cognitive paradigm in literature. Do you approve of the scientific standard the first one sets and value its promise that, if you proceed in this fashion, solutions can be established confidently and with finality? Or do you prefer the varied landscape the second one sketches with an attitude that seems much less intent on providing an exhaustive list and a resolution of tensions or problems? In short, should the study of literature aspire to a commonly held notion of scientific rigor, or must it be allowed to accommodate the precision of the metaphorical, the tensions of ambi- or polyguity, and the irreducibility of aesthetic appropriateness?

One of the "roles" cognitivist contributions to literary study have readily assumed is that of corroborators. As such, they bring in supporting evidence—or at least provide scientific models—for assumptions and hypotheses advanced by other subdisciplines of literary study, from reader response criticism to work on the status and relevance of literature in culture. But as Jackson (2000) has pointed out, it is not clear for whom this corroboration is actually significant, since it merely comes at the phenomenon from a different angle and bolsters existing knowledge without necessarily adding new insights. This holds true for both the empirical and the evolutionary strand of cognitivist literary studies. An evolutionary psychology approach may offer convincing hypotheses about the survival value of literature, as Hernadi does in the special issue. But are they new? Philosophers and practitioners of literature have addressed this topic before (as we have briefly illustrated above), and the very universality of Hernadi's observations and their aspiration to the most general validity at the level of the species occasionally come close to a restating of commonplaces in new terms. We may agree, even approve, but still ask, with Jackson (2000: 328): "How will it matter for interpretation?"

We are confronted with two different frameworks for assessing cognitive contributions. On the one hand—this most likely would be the perspective of practitioners and supporters—cognitivism would be measured by its own standards: does it really prove what it claims to prove? The answer would then hinge on the quality of the empirical evidence, model, or "problem-solving strategy" supplied. But we should take Schmidt's "if" seriously. Should we opt for the kind of scientific approach advocated? Can and should literature be approached as a problem to be solved?

Cognitivist analyses—and this is where the spontaneous allegiance to one or the other of the quotes above comes in—quite often seem unexciting and didactic to noncognitivists. (Of course, the same can be said of any approach to literature as viewed by those not favorably disposed to

it and/or sharing its assumptions.) If we reframe the question, it becomes one of interest: Why should we care? Why, if the cognitive study of literature reveals exciting things about the human mind and its activities, can those studies be less than exhilarating? Perhaps it is because a lot of literary analysis, notwithstanding implicit claims or bold assertions of indisputability, is not ashamed of its speculative, argumentative character. Perhaps it is precisely that inclination to argue rather than to "solve"—two different kinds of "proving"—that retains and imparts the excitement of individual discovery, a discovery that is then offered to others to incorporate in their own readings as they see fit and to the extent that it pleases them, not with the reverse claim to incorporate (and potentially usurp) their reading experiences. In other words, the question is not how convincing the evidence marshaled by cognitivism is; it is a more fundamental question about the compatibility of two different value systems, one of which places a premium on experimental-scientific evidence while the other does not consider it particularly relevant. In a somewhat circular dynamic, practitioners of cognitivism value precisely the kind of evidence that they themselves do—or claim to—produce or resort to. But their satisfaction with the persuasiveness of their findings or arguments will not be matched by anyone who does not in the first place share their assumption that this type of evidence or reasoning is valuable and interesting. What is needed, then, is not more persuasive or incontrovertible evidence but a willingness on the part of cognitivists—and, correspondingly, noncognitivists—to acknowledge the relativity of the questions and values that shape their own paradigm and to engage in dialogue with those of the other.

Note that the category of truth does not enter into the equation: the issue is one of adequacy of approach, and that in turn depends on one's view of the subject in question. Literary analysis is much less predicated upon correctness or provability of findings or the incontrovertibility of evidence. Instead, its "success" relies on such parameters as originality, appropriateness, inventiveness, or "insight value": it may be measured by our degree of satisfaction with what is revealed or illuminated about a text. Most of all, literary interpretation generally does not aspire to the once-and-for-allness implied by the term *solution*. On the contrary, it is often unabashedly nonfinal, inviting supplementation or revision, in other words: conscious of its own historicity. The same thing is true of scientific research—but for different reasons (after all, science places a premium on verification and falsification) and in different ways from those holding for a discipline geared to potentially inexhaustible texts that engage readers without regard to pragmatic considerations. The difference can be seen in libraries. Scientific publications age rapidly and generally after a few years are consigned to storage

spaces or less-accessible areas of the library. Retrieval is rare: after all, only the newest corpus of cutting-edge research is of interest, and previous research is completely displaced by the next stage of discovery. (It is this built-in obsolescence factor that strongly favors on-line publication.) In contrast, literary scholarship forms a "living" archive, much of which is still relevant and in use; previously produced knowledge is not as easily supplanted or rendered superfluous.

Cognitive analysis focuses on general patterns and models of comprehension. Literary texts are designed to open up spaces for interpretation: different readers in different contexts weigh elements and fill gaps in different ways that complement the common ground of comprehension that is determined both by the text and by shared assumptions and contextual knowledge. In a sense, the positioning of noncognitivist and cognitivist literary studies reenacts the discussions about predictability/determination versus subjectivity/individuality in reader-response theory in the 1970s and 1980s: how much freedom do readers have in filling in gaps and creating the actual text or interpretation; to what extent do written text and interpretive communities (substitute here: the cognitive apparatus common to all readers) determine individual readings? Models of language comprehension and mental operations have barely begun to bridge the chasm between what may go on in the brain and an actual reader's response to a literary text: the reasons for reading it, the sources of the interest and pleasure it provokes, the relevance of personal, situational, contextual elements.

As Hernadi himself points out, the survival value of literary activities for early humankind has little bearing on their role for contemporary readers in today's literate (and postliterate?) societies. A case in point is this commentary, written soon after the terrorist attacks on New York and Washington, as people were trying to come to grips with tragedy. One way of doing this, it appears from conversations as well as from the flurry of messages, e-mail postings, and phone calls, is to turn to literature. As one colleague put it in a list posting on September 14, in which she shared the text of W. H. Auden's "The Shield of Achilles" and mentioned that students and other colleagues had found it "particularly relevant at this time": "It may be that it is the poets who can best articulate the confused emotions that we feel as we confront this week's horrific events." Along the same lines, Adam Gopnik (2001: 69) reported that soon after the attacks, Auden's poem "1 September 1939" was being circulated in New York through a variety of media. (This text also was included with others from a variety of literatures and cultures in a public reading of poetic texts that took place at the University of Wisconsin on 25 October as a response to 11 September.) It seems as if there is a sense that the extraordinary events can best be approximated by language that

does not attempt to approach and capture them—or our reactions and emotions—directly but, rather, manages to align itself in oblique or analogical fashion with the extraordinariness. Literary texts, especially poems, seem appropriate because of the openness with which they invite and accommodate what we bring to them of our own selves, the readiness with which they lend themselves to varying interpretations, their representational sophistication. They provide an emotional echo and offer a complexity that exceeds referential clarity at a time when such clarity feels either insufficient or difficult to bear. Conversely, as one colleague who frequently teaches Homer's epics and other classical texts pointed out in conversation, the events will also force us to change the way we read and teach certain literary texts: impossible not to reevaluate standards of heroism and boldness or depictions of martial aggression; impossible not to read the characterization of Odysseus as a "razer of cities" differently after the attacks.

Elucidating the elegance and complexity of mental operations bypasses the visceral impact literary texts can have. This need not be a criticism—any given approach inevitably reveals only certain aspects of its subject. Perhaps it is an awareness of that limitation that is needed, along with the promises of new insights. Situating literature within the framework of human cognitive activity resets the stage, but while literature certainly belongs in this broad frame, the comprehensive perspective the latter affords is nonetheless not sufficient to capture literature comprehensively. Here the question is what an approach aspires to: point out new facets, add to the existing body of knowledge and interpretations—or render them superfluous in the illumination of the new paradigm?

Cognitivism aims to explain, to generalize, to lay out mechanisms, to disambiguate and come to conclusive insights. In the process, it tends to dissolve the aesthetic into cognitive clarity to an extent that may miss the mark. That is, it does less than justice to the complexity and aesthetic-affective potential of literature, to the sophisticated relationship between the "what" and the "how" of literary presentation, and to the range of readings we are capable of. In order to profit from the fruitful aspects of the new cognitivist approach to literature and to steer clear of old pitfalls, it makes sense to avoid an epistemological constellation that already proved counterproductive more than two hundred years ago. We should beware of reduplicating that constellation. With the help of Leibniz's (1988 [1684]) critique of Descartes and Baumgarten's aesthetics, philosophers, literary critics, and authors discovered that cognition is by no means reducible to the result of an operation of intellect and reason. The Baumgarten formula of "sensate cognition" was their keyword and their cornerstone for a view of humans as complex beings who availed themselves of a variety of avenues of insight

into themselves and the surrounding world, even if it was a world shaped only by human cognitive possibilities. The a-rational (not necessarily the irrational!) was a crucial part of their concept of humanity. That which is clear and distinct was only part of the truth for them. The "confused," the "dark," the "unclear," the "inexact," in short: the *je ne sais quoi*, was a constitutive element of their epistemology (Adler 1998), and for them it was the fine arts as well as literature that best represented that comprehensive type of cognition.

Too much clarity leads to blindness and boredom, not insight and interest: witness Herder's (1985 [1766–1767]: 235) characterization of the expository prose of some of his rationalist contemporaries as "yawningly clear" (*zum Gähnen deutlich*). The aesthetic and the cognitive are related and mutually (not unidirectionally) dependent; they are not coextensive, and neither is reducible to the other.

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