CONTROVERSY

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Going Empirical.
Why We Need Cognitive Literary Studies

More than anything else, literature is a psychological phenomenon. Only as such it has meaning. Literature may be a text, be declaimed or performed; in any case, it always comprises processes in the reader or spectator and in the author, who both initiate mental processes – processes of creativity and imagination, of interest and motivation, of communication, of understanding and interpreting, and of mental effect. Literature is empty without psychological processes. Literary studies have for the most part concentrated only on a small part of these mental processes, primarily by focusing on interpretations by mostly professional readers and by using psychoanalytical concepts that are more or less convincingly brought to the field. Literary studies have also tried hard to exclude other processes from their area of expertise. As a result, modern empirical perspectives on the psychology of literature have been almost completely edged out of the field.

Against this background, it makes complete sense that we are skeptical when confronted with new approaches that focus on the cognitive processes of literature. Critics are even more skeptical when biopsychological perspectives, which take into account recent developments in psychology, are favored (Pinel 2006), mainly because of their seemingly broad claims. Critical views on any cognitive or cognitive neuroscience approach such as those formulated by Koepsell and Spoerhase (2008) are therefore inevitable. Koepsell and Spoerhase have carefully weighed both the usefulness and the disadvantages of such a knowledge transfer from the cognitive sciences to literary studies. For good reasons, they have avoided staging a paradigm debate; instead, they have pointed out the systematic problem that comes with such a knowledge transfer from one discipline to another. In their conclusion, they adopt a neutral position: One the one hand, the cognitive neurosciences provide a number of valuable parameters for empirical research in reader response; on the other hand, their insights are not useful for philological research because 1) the cognitive sciences have so far not produced results that are relevant for literary studies; 2) results in the cognitive sciences do not (yet) touch upon normative questions of interpretation. Koepsell's and Spoerhase's conclusion is therefore not a rejection of literary studies based on the human sciences per se, but rather reveals reasonable reservations towards sweeping conclusions.

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In this essay, I would like to take a closer look at the present state of knowledge in cognitive research that Koepsell and Spoerhase refer to. My intention is first to assess in more detail the actual explicative dimensions of these fields. Then the categorical situatedness and applicability of insights from the cognitive sciences have to be systematically evaluated against Koepsell's and Spoerhase's skeptic verdict. Eventually, the implications for the aims and methods of literary studies need to be considered. I wish to show why it is productive for us in literary studies *not* to wait for developments in the cognitive sciences, but to get actively involved in these disciplines – and thereby change our own field.

1.

Koepsell and Spoerhase object that mirror neurons are a still fairly unknown mechanism whose characteristics need to be further determined; thus, it opens up more questions than answers. This is no longer correct. For one, it has become clear in recent years that this neuron class is multiply differentiated in itself because it is cross-modular and seems to interconnect motor as well as optical and/or acoustic perceptions (Kohler et al. 2002); this neuron class also relates the perception of an object in a closed space with possible actions with this object and thereby classifies these actions (Iacoboni 2008; Keysers/Fadiga 2008). Due to the mechanism of the Mirror Neuron System (MNS), it is likely that we synchronize and thereby categorize our outward perception of the world with mentally stored programs of action (Stamenov/Gallese 2002). This synergy of bottom-up and top-down processes considers the world as existent (›zuhanden‹) from its very beginning (Glenberg et al. 2007), which now becomes distinguishable for us. Surprisingly, these neuron groups seem to be at least partially the reason why there is a difference in cognitive perception when observing an action between putting a cup in a box and placing it at the mouth for drinking (Ferrari 2003). One of the significant achievements of the MNS is that we perceive actions in these particular contexts and are able to differentiate. It makes a neuronal difference in the MNS whether we, for example, perceive a teacup in front of a neutral background or on a freshly set table. This difference may be one of the reasons why we are able to distinguish and interpret our perception of other persons' actions. The internal motor imitation is context-sensitive and seems to fulfill a social function (Umiltà 2001); the perceiver experiences the neuronal difference as a sensatory difference. The question is thus not whether the perception is the cause of firing this neuron class or, vice versa, firing this neuron class the cause of the perception. Rather, both are at work to produce what Aristotle has called »the joy of imitation« (Meltzoff/Prinz 2002; Hurley/Charter 2005). Present-day cognitive neurosciences relate this joy of imitation with the gain of protosocial behavior towards others. This is also called »embodied cognition« (Glenberg/Robertson 2000) and refers to the synergy of bottom-up per-

ception and top-down recognition which we continuously synchronize with the motor functions of our bodies. In light of these results, the Cartesian idea that monadic subjects are disembodied minds without windows to each other except as mediated by culture does no longer hold.

Another characteristic of this mechanism has been determined in recent years. The MNS seems to play a decisive role when evaluating the goals and intentions of others, which, of course, can only be perceived inferentially and not directly. The MNS is probably responsible for the ability of higher primates to not only perceive the action of others but also to mentally connect these perceived actions – even if they are only sketchy – with assumptions of possible goals and intentions. Humans, in contrast to other primates, moreover seem to be able to interpret even intransitive actions as intentional. That means they are able to comprehend actions that do not feature a visible object for its manipulation. Even pantomimic imitations trigger the firing of MNS in humans but not in macaque monkeys. Therefore, the slightly different human MNS is the reason for the ability to make inferences about the goals and intentions of others and is responsible for comprehending a directional gesture or pantomime. A crucial achievement of the human MNS is that it enables the transition from imitation to intersubjectivity. This achievement works well with results which show through functional Magnetic Resonance Imaging (fMRI) that we even display empathy for the behavior of other humans when their reactions to affective stimuli are different from our own (Lamm et al. 2009).

In addition, the neuronal difference from other primates explains why higher primates – except for humans – do not know role plays, are not capable of drawing logic conclusions from and beyond the present situation, and are probably also unable to mentally simulate the cognitive states of their fellows (Fischer 2008). In contrast to humans, their ability to feel empathy depends on the present situation. That's why we are able to cry for Anna Karenina. The MNS is presumably responsible for the relation of the first order cognition with the second order cognition. A human being may interpret a stick as a horse while other primates would not. We feel empathy for Anna Karenina although she only exists in our reading process; other primates lack this mechanism. Thus, the second order cognition is probably the precondition for language and symbol formation (Libermann 1992; Barsalou 1999 and 2008). The MNS therefore serves as an ideal starting point for asking a fundamental question such as why the human species is able to produce language and literature (Tomasello 2008).

The explicative achievement of the discovered MNS is thus much bigger than Koepsell and Spoerhase presume. The mechanism is most likely responsible to explain at an early stage why the human being is able to differentiate actions she only reads, comprehend them as meaningful, and synchronize them with emotional assessments of her own body. The synchronization then serves to direct one's own behavior, also in a group (Bråten 1998 and 2009; Decety/Grèzes 2006). For the first time, a neurologically founded explanation seems to be available that clarifies

how intentions and emotions (Scherer/Brosch 2009), gestures and signs of others – which may also be only read – are comprehended via mental simulation. The MNS thus enables an alterocentric view of the world (Stern 2000), a part of which is – not merely coincidentally – literature. This neuron class offers at least a partial explanation not only for why the human being produces language but also – and this is even more significant – why language in the human community most of all serves to create mutual attention and shared intention. Discussing the MNS mechanism then opens up existential questions about humans' sociability and thus about the rules of coexistence as well as morals; it also explains why philosophy in contrast to literary studies shows interest in these results. The MNS can be considered a partial explanation for human beings' cooperative nature, which has also been underestimated in psychology for a long time (Tomasello 2008).

This is quite a lot but may denote only a gradual difference to Koepsell's and Spoerhase's position because they draw attention to several limitations of the account. Although it is now possible with more than coincidental probability based on fMRI data to identify the noun that a person is thinking of, neurons are not emotions or realizations. More than one intermediate step is missing to actually come up with a consistent explanation for why the firing of neurons is linked with our perception of the meaning of others' actions. To know the mechanism of the MNS and to describe its functionality does not tell us much about why these things happen. This objection, however, touches upon a fundamental problem of cognitive neurosciences: The neuronal mechanism is not identical with emotions and inner perceptions of others inside us, and yet, without the mechanism, we would have no comprehension of literature, for example. Patients suffering from the classic variant of autism are unable to gain any meaning from reading literature, watching films, or observing the action of others (Currie 1996). This is an indication that the mechanism of the MNS explains a fundamental ability of primates but is as yet far from conclusive. Koepsell and Spoerhase undoubtedly make a good point here.

We should also be skeptical when equating found correlations with causalities. Although the significantly high amount of *Leerdammer* cheese in Dutch fridges correlates with a noticeable height of many Dutch persons, it's not the cause for it. The large number of now available experimental findings with regard to the MNS and their high consistency with other results in primatology and ethology, experimental psychology, and developmental psychology, however indicates a high probability that the MNS in primates shows an evolutionary development and provides at least a partial explanation for empathy, language, social coordination, and comprehension. To call these findings correlations is overcautious and does not work for experimental disciplines anyway. There, the findings with regard to the MNS are always hypotheses which can be confirmed or falsified, supplemented by complementary findings (e. g. Schubotz/Kalinich/Cramon 2007), especially when competing accounts are available (e. g. Hutto 2008). There is no me-

thodical need for a higher epistemological claim to make use of these findings. Absolute truths are not at stake here, but heuristic theses.

2.

The explicative scope of the MNS for literary studies is therefore larger than Koepsell and Spoerhase assume, although some of their fundamental reservations have not been fully refuted as yet. However, Koepsell and Spoerhase are more skeptical than necessary when it comes to the explicative achievements of the cognitive literary studies approach. First of all, results in the cognitive sciences are more qualified for explaining generic features of literature than individual ones. We are, to speak with Kendall Walton (1990), for example, able to explain why sticks can become horses or children are able to play role-games (Fodor 1995); why not everything becomes a theme in literature, but preferably those themes that deal with the common identification of intentions such as love stories; why narrative perspectives like the one in Goethe's *Werther* are an exception and authorial perspectives the rule; why rhythm and literature go together in all cultures; and many more aspects. And here I would like to take up Koepsell's and Spoerhase's image of the wrong categorical situatedness: Even the atomic structure of marble has usually something to do with the conception of statues, for example, when considering how much surface a statue needs to rest on in order to remain standing. Since art and literature have much more to do with psychology than with the structure of an atom, we can conclude that insights from the cognitive sciences are much closer to what literature is than atomic structures are to marble sculptures. In this respect, Koepsell and Spoerhase are not wrong when they object to a misleading categorical situatedness of findings from the cognitive sciences that are taken over into literary studies. Nevertheless, they put too much stake in the status of these findings because they take for granted a predetermined set of issues in literary studies which is focused on close readings of single texts. Insights and concepts from the cognitive sciences do in fact provide the categorically appropriate answers to general issues in literary studies. An issue that needs clarification is, for example, what prototypical features can be ascribed to literature, and cognitive literary studies offers answers. Here it makes complete sense to transfer knowledge from the cognitive sciences.

Koepsell's and Spoerhase's argument against cognitive literary studies based on the assumption that the cognitive sciences do not contribute to key issues concerning normative aspects of interpretation is, however, of much more significance. I find it hard to respond since it is just too obvious that results from the cognitive sciences are of different relevance for the different approaches in literary studies. They offer only very general clues for problems in the theory of interpretation. Cognitive literary studies hardly provide decisive criteria for assessing whether or not an interpretation should be targeted at the knowledge and experience of historical

readers, whether the author plays a major role in determining meaning, or how the structure of an individual text correlates with its perception.

Yet, even in this respect, Koepsell and Spoerhase are stricter in their judgment than necessary with regard to the rules of professional interpretation. Research in the cognitive sciences supports pragmatic and intentional models of interpretation more than other models and is therefore by no means irrelevant for normative issues of interpretation. Against the background of cognitive sciences, theories of cooperative interpretation are more substantiated. They emphasize a pragmatic common ground between author and reader as well as they assume that readers attempt to understand the hypothetical intentions of an author and, vice versa, that authors construct their texts in order to motivate their authorial readers (Rabinowitz 1998) to come to the right conclusions. The alterocentric approach that is linked to the MNS supports models of interpretation that focus on the conversational implicatures and precepts between author, text, and reader (Keller 1995). To put it bluntly, cognitive literary studies are ›against Cartesian interpretation‹. Processes of interpretation are more cooperative than the solipsistic assumptions of many current theories suggest. Cognitive approaches in literary studies may still be very big razors that have little relation to the art of interpretation when it comes to normative issues of interpretation, but they *are* methodological razors for more than a few current theories. They offer substantiated judgments on how symbolic communication works and thus cut off misguided approaches. The Cartesian notion of understanding a text by itself and only by oneself is no longer plausible if preverbal and verbal intersubjectivity precedes any reading and writing. And that is what the findings in cognitive neuroscience suggest. One may call this a naturalistic fallacy because conclusions about the nature of communication are transferred to the ›ought to‹ of interpretation. However, Searle, Putnam, and others have pointed out for some time now that this assumption is itself a fallacy and that transitions from statements of facts to norms are possible (Searle 1969; Putnam 1981; Walter 2006). The way we do cognitive research is not just taking a pure look at nature but a moral decision from the start. It is a moral decision why scientists like Andrew Meltzoff care about the first facial imitation abilities of newborns, why Giacomo Rizzolatti tries to understand what it means when primates grasp an object, or why Daniel Stern and Stein Bråten do so much research on the therapeutic implications of understanding others' acts and utterances. The facts of cognitive neuroscience are related with norms before they are found.

All of that does not explain many key issues in the theory of interpretation. But to argue that these findings do not contribute anything reduces cognitive literary studies to mere collections of statements on reader-focused reception processes. To make a long story short, there can be no doubt that cognitive literary studies inevitably reflect on norms of interpretation, at the moment, however, on such a general level that it appears as if oversized clothes are wrapped around the very foundational issues of our discipline.

3.

Koepsell and Spoerhase provide well-founded arguments against a knowledge transfer from the cognitive sciences to literary studies. Their position, however, is cogent only if we understand literary studies as a field whose core interest is the professional, well-argued interpretation of single texts. Within this frame of reference, their arguments are substantial and their verdict is plausible that literary studies do not need to take axiomatic positions for or against a knowledge transfer from the cognitive sciences to literary studies. Their arguments bear less weight, though, if we change the frame of reference and extend the scope of our discipline from philology only to a broader sense of literary studies analogous to general linguistics. There is no obligation to continue the historical restriction of literary studies as a discipline to the clashing of a great book with a great mind. That is where cognitive literary studies come into play. Here, literature is much more than just the great book and the great interpretation. The domain of the discipline that cognitive literary studies is concerned with then includes the role-playing games of children and the theater of large places; the metaphors of everyday texts and of ›Goldschnittlyrik‹ (poetry with gilt edges); popular narrative forms and pulp fiction; reading in class and contemplative solitary reading; the intense emotions for Winnetou's death as much as those for Anna Karenina; the creativity of serial authors and the grand gestures of high culture authors. There is no need to define the discipline of literary studies that way – but there is also no need to leave the field in the ivory tower of its tradition. If we understand the subject as concerned with the anthropological ability of the human species to have literature, then insights from the cognitive sciences will gain considerable weight – and that development will have significant effects.

On the one hand, the scope of cognitive literary studies is much larger than that of philology. Literature is a continuum that ranges from the counting rhyme to ›Wanderers Nachtlied‹, from the role-playing games of children to Shakespeare, from fan fiction to Tolstoi. On the other hand, cognitive literary studies use experimental methods of the empirical human sciences as well as statistical and corpus-based methods. Exactly because issues in cognitive literary studies so closely overlap with research in cognitive and evolutionary anthropology, developmental and infant psychology as well as comparative ethology, research on teaching and learning, the neurosciences and even primatology, the methodical standards are based in these human sciences. Cognitive literary studies will thus find its cooperation partners rather in these areas than in the historical-hermeneutic fields and will consequently be extended further and further into the field of human science. And that will most likely have consequences for the social function of this newly positioned discipline, which will have little relation to the bourgeois traditions it substantially owes its rise to.

To make it clear: Koepsell and Spoerhase are right that the discussion on the knowledge transfer from the cognitive sciences does not imply a paradigm shift. The development of language sciences to linguistics, however, exemplary shows that the decision to allow other issues and other methods to come into play may have a fundamental impact on the self-conception of a discipline. I am not proposing a paradigm shift here, but I do think that at least the practical issue is at stake of how the field of literary studies deals with the fast-growing insights of the related human sciences. We could either wait or expand the field of literary studies to include issues from the human sciences ourselves. It is this very decision that needs to be made, also and exactly because it does *not* signify a paradigm shift. This decision has not been made yet and the process of disciplinary decision-making is, despite the massive sanctions that cognitive approaches are facing within literary studies, still open. It remains to be seen whether adopting the current ›wait-and-see‹ attitude in the face of intrusions of the human sciences or going to the lab is the better option to deal with the situation. I think the opportunity to release literary studies from its bourgeois conventions and to open it up for fascinating and innovative issues, about which we do not even know whether they can be answered scientifically, is worth every effort. Whichever road the field will take: Cognitive literary studies are not a white elephant, just a grey one. But the grey ones are the useful ones.

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