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## Fictions and Feelings: On the Place of Literature in the Study of Emotion

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### Abstract

Explanatory accounts of emotion require, among other things, theoretically tractable representations of emotional experience. Common methods for producing such representations have well-known drawbacks, such as observer interference or lack of ecological validity. Literature offers a valuable supplement. It provides detailed instructions for simulating emotions; when successful, it induces empathic emotions. It too involves distortions, through emotion-intensifying idealization and ideological biases. But these also relate to emotion study. There are three levels at which literature bears on emotion research: (1) the individual work; (2) generic and related patterns; and (3) properties found widely across individual works and genres. Even at the third, most general level, literature suggests potentially important hypotheses about our pleasure in emotional simulation and our need to share emotional experiences.

### Keywords

emotion, literature, simulation, universals

In his recent, acclaimed book, *Proust Was a Neuroscientist*, Jonah Lehrer argues that “any description of the brain requires both . . . art and science” (2008, p. x). He ends by urging the development of a “fourth culture” that “will freely transplant knowledge between the sciences and the humanities” (p. 196). Lehrer discusses memory, vision, language, and other topics—including emotion—that have been well explored by the neurosciences. Unfortunately, he does not quite show that “any description of the brain requires both . . . art and science” (p. x). He discusses eight artists with insight and sensitivity. He explores neuroscientific research on a range of topics in a lucid and rigorous way. But it is never clear that the artists are contributing to the science. It is not even clear that Proust and others “had predicted” subsequent “experiments” or “anticipated the discoveries of neuroscience” (p. vii). After all, they were not designing experiments or formulating general theories. If the point is just that artists implicitly got the facts right about seeing, etc., then we are all neuroscientists. We all get the facts right, for we are all living examples of how perceptual, memory, and emotion systems work.

On the other hand, as Lehrer shows, novelists, painters, musicians sometimes depicted or appealed to aspects of human perception, thought, feeling, or memory in ways that were more complex and accurate than the standard views of their

contemporaries, including scientists. In this way, they anticipated something about our more recent views, something important for science. They did not anticipate the science itself. But they did see something that science had not yet seen, at least not fully. In connection with this, Lehrer seems closer to the mark when he writes that “neuroscience is useful for describing the brain, and art is useful for describing our actual experience” (p. 192). Perhaps the greatest value of Lehrer’s book is in clarifying the, so to speak, human meaning of neuroscience. The cases from the arts serve to translate the sometimes alien, objectifying accounts of neuroscience into the realm of “what it feels like” to have certain memories or emotions (to allude to Nagel’s (1979) essay on first-person experience).

But is the scientific value of literature—the case I will consider—solely a matter of allowing an experiential point of contact, a way of making hard science more accessible after the fact? If, indeed, it is the case that artists did comprehend something about the human mind before scientists, then the answer is “no.” Again, it would be wrong to say that the artists formulated the science first. But it seems no less wrong to say that these artists were “neuroscientists” only in the sense that ordinary people are. They did not merely live their perception, memory, and so on. They *encoded* and *represented* it. Moreover,

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once they had done this, their representations were available to everyone. The value of these representations for scientific accounts need not remain hidden until after the scientific accounts are formulated. They can just as readily inspire or orient scientific research, even the design of experiments and the formulation of theories. Lehrer suggests as much, as when he writes that Kausik Si “began his scientific search [on memory] by trying to answer the question posed by [Proust’s famous scene of] the Madeleine” (2008, p. 91).

This indicates that the encoding and representation of experience articulated in literary works could, perhaps even should, have a place in the “context of discovery” for at least certain sorts of neuroscientific and psychological research and theorization. This seems particularly clear in the case of emotion. Emotion is, after all, the primary stuff of literature. But that is not all. If the encoding and representation of experience in literature can be accurate to the point where they can contribute to discovery, it seems that they must have some validity as data as well. Psychologists, neuroscientists, and literary theorists are rightly skeptical of any claims that literary portrayals are straightforwardly mimetically accurate. But that only means that we cannot always take the empirical significance of a story as self-evident—a point that applies equally to experimental research. In this way, stories should have some place in our broad set of data as well—data that we understand as complex and open to different interpretations, but data nonetheless. In short, the arts should also have some place in the “context of justification” for some psychological and neuroscientific theorization, particularly regarding emotion.

We might consider the issue from the other side. As I have argued elsewhere (Hogan, 2003), storytelling has been pervasive in our lives, and in the lives of people in other places and times. Suppose we have a theory of emotion that explains why we freeze or run in fear when we see a predator, why we feel disgust at the sight of feces, why we feel angry when pushed. But it has nothing to say about why cultures all over the world produce verbal art; why the depictions of emotions in those works are so emotionally powerful that we spend a great deal of our lives reading, watching, or listening to literary stories; and why those stories repeatedly manifest the same characteristics. We have a very poor cognitive science if it leaves aside this vast area of human life. The obvious place to seek explanations for the emotional engagement of literature—which, again, is pervasive in our actual lives—is, of course, in the literature itself.

In the following pages, I will consider in greater detail the idea that literature can, indeed should, play a role in the generation of hypotheses and research orientations and that it even has probative value within research programs. However, before exploring these issues, we need to clarify the relations among emotional experience, encoding, and the representation of emotional experience. After addressing this, I will consider how literature solves some problems with gathering data on emotion or more generally generating a set of representations that may contribute to more adequate descriptions and explanations of emotion. I will then outline the levels of generality at which literature bears on emotion, concluding with a look at some points suggested by work at each level.

## Representation

The beginning of a science of human emotion is in our individual experience of emotion—not merely its phenomenological tone, but also our sense of action readiness, our recognition of eliciting conditions, the ways we anticipate particular outcomes and imaginatively elaborate on the causes of a situation, and so on. If we discovered various sorts of activation of nuclei of the amygdala, but had no experiences of the preceding sort, we would not understand those activations as emotions. Indeed, we would not even have an idea of emotions (as opposed to, say, reflexes) without the experiences just listed. We might say that we can *interpret* the amygdala activations only by reference to the experiences, even as we partially *explain* the experiences by reference to the activations.

On the other hand, the experience of emotions does not in itself constitute an idea of emotions. Experience must be mediated or objectified through an idea or concept. It must be *represented*. Whether we are engaging in casual conversation or doing neuroscience, we never think through an experience directly. Rather, we consider some representation of the experience. Indeed, experience itself is never “pure” and “direct.” It is mediated by our sensory and cognitive architectures, the innate structures, the acquired processes and contents that shape what occurs in the world into what we think occurs. The fundamental operation here is encoding—the selection, segmentation, and structuration of input at various levels of processing.

Such encoding occurs most obviously through the activation of sensory neurons with particular sensitivities, associated lateral inhibition, the transmission of some information (activation) to emotion systems (e.g., through the “low road” pathway from the thalamus to the amygdala; LeDoux, 1996), subsequent semantic categorization, etc. But even this understates the mediated nature of emotional experience. As phenomenologists emphasized, each momentary experience is compounded with a briefly remembered past and an anticipated future. There appear to be different time scales in the coordination of our actions and thoughts, perhaps related to different time scales of the basal ganglia and cerebellum.<sup>1</sup> Beyond these, there are larger-scale anticipations and memories that enter into our processing of current situations, our possible responses to those situations, etc. We may refer to this integration of memory and imagination (including both phenomenological “horizons” of future and past) as “elaboration.”

Needless to say, this too is not the end of the story, for the product of ongoing encoding and ongoing elaboration is some response. That response is itself encoded and elaborated. (We do not even experience our own actions without mediation.) It, in turn, alters the overall situation, producing further encoding and elaboration, and so forth.

Thus, the experiential basis for the study of emotion is a rather messy complex of processes. It involves ongoing encoding of changing inputs with ongoing elaboration, plus ongoing responses that themselves change both the inputs (the worldly situation) and the elaboration, even certain aspects of encoding (through shifts in attention, selection, etc.). In this way, emotional experience itself is already representational. On the other hand,

we should distinguish between representations that are formulated as objects of reflective scrutiny and the tacit representations that operate as part of unself-conscious processing. The word “representation” is commonly used for both sorts of mental content in “representational” (or “symbolic”) accounts of mind (as opposed to Connectionist or “sub-symbolic” accounts). For this reason, I will retain the general usage of this word. I will reserve the word “depiction” or the phrase “depictive representation” for representations that are or may be the object of scrutiny or reflection. In order to distinguish the tacit representations, I will use the phrase “processing representations.”

In a theory of emotion, we want to treat (among other things) the “experience” of emotion, with its encoding and elaboration of processing representations.<sup>2</sup> However, the only data we have regarding that experience are necessarily depictive representations.<sup>3</sup> How, then, do we gain access to or generate the most accurate set of such depictions?

### Representation, Ecological Validity, and Simulation

As we have already noted, literature has some “interpretive” role in an encompassing account of emotion, a role in communicating the experiential aspect of emotion. Indeed, this is precisely what makes Lehrer’s project successful. The literary works he explores present us with detailed interpretive contexts for comprehending the mechanical explanations articulated by the scientists. But this does not mean that literature should have any special role in either discovery or evaluation.

To consider this issue, we need to begin with some simple and largely familiar points. Again, emotional experience is the fundamental phenomenon being explained by theories of emotion, whether they use a mental architecture including working memory, episodic memory, and so on; a neurobiological architecture of functional neuroanatomy; or some other alternative (e.g., a Connectionist model). Put simply, we do not typically consider amygdala activation or the release of dopamine as the final thing to be explained in an emotion theory. Rather, we consider the activation of the amygdala or the release of dopamine as means of understanding human experiences of fear, addiction, etc. However, as just discussed, we do not have access to this experience directly. Thus the data we are explaining are not the experience as such, but some representation of the experience. Moreover, this is not a processing representation, but a depictive representation.

The set of depictive representations most obviously available as data are retrospective—memories of emotional experiences, either distant or recent. These are undoubtedly important. But they are far from infallible. First, our memories are reconstructions in light of current conditions (Schacter, 1996, p. 8). Moreover, our ongoing judgments of emotional experience (e.g., our causal attributions; see Clore & Ortony, 2000, p. 27) are themselves inferential, thus fallible. In short, the memories we store are imperfect representations of the emotional experience, and the memories we recall are imperfect reconstructions of the (already imperfect) initial memories.

This is not to say that memories of emotional experiences are without probative value in the theorization of emotion. Survey-based studies of emotion, interviews, and similar methods rely in part on the recollection of memories, and they produce extremely useful results. The point is just that data based on such memories are not unproblematic.

One obvious response to this situation is to try to eliminate the time between the experience and the representation, perhaps even substituting some other depictive technique that bypasses the person’s own articulation of the experience. For example, in one standard case, researchers will induce a certain emotion in test subjects by, say, showing them pictures. The assent to a label (e.g., “disgust”) along with the eliciting conditions (e.g., a photograph of feces) in effect serves to provide depictive representations (e.g., roughly, “disgust at seeing feces”).

Research of this sort corrects for problems with memory distortion. However, what it gains in directness, it tends to lose in precision, nuance, complexity, and ecological validity. For (apparently) uncomplicated motivational responses, such as disgust, this may not matter a great deal. Our emotional experience of a photograph of feces in a laboratory may not differ greatly from our emotional experience on encountering feces in the street. Moreover, both may be adequately captured by a simple label plus context (such as “disgust on seeing feces”). However, when it comes to more complex social emotions, such as guilt or romantic love, the limitations of the laboratory begin to appear more significant. This is not to say that well-designed experiments cannot tell us important things about complex social emotions. They certainly can. But they are clearly limited by the artificial context—the artificial eliciting conditions for the emotions, the artificial context of social feedback, the artificial restraints and opportunities for expressive and actional response, and so on. They are also inhibited by the reduction of the emotional experience to a single, necessarily imprecise label.

In very simple terms, we may distinguish the options thus far in the following way. We have spontaneous emotions in natural settings and we have prompted emotions in unnatural settings. The prompted emotions seem to translate relatively well into minimal depictive representations—usually, an emotion label plus the immediate context of elicitation. In complex cases, that minimal depiction is almost certainly inadequate. Even when the depiction is adequate, the emotional experience itself may not be a good case of the emotion as it occurs spontaneously. The test conditions artificially constrain all the components of emotion—eliciting conditions, expression, actional outcome, and so on. The spontaneous emotions, on the other hand, have the complexity of natural conditions for elicitation, expression, etc. However, they seem to translate rather uncertainly into depictive representations that may serve as data for theories of emotion.

Again, all these forms of research contribute something to our understanding of emotion. Insofar as they converge on the same conclusions, we can feel fairly confident about our resulting theories. But that is no reason to eliminate other forms of emotional experience and its depictive representation, particularly if these seem to solve some of the problems with currently preferred methods (surveys, interviews, laboratory tests, etc.).

Literature is one such alternative. Literature is not precisely spontaneous nor prompted in the above sense. Thus it is not the momentary result of a confluence of contingent particulars that have real consequences in our daily lives. But it is also not an entirely artificial and limited provocation undertaken in entirely contrived circumstances. Indeed, one could make a case that literature is in a certain sense quite natural and spontaneous. It appears that all societies have verbal art, that it is a part of the lives of people everywhere (see Hogan, 2003). We probably have some (indirect) experience of intense cases of many emotions (e.g., romantic love) more often in stories than in life. Of course, our emotional response to stories is not the same as our actual engagement with events that have real consequences for our own practical existence. But such response is nonetheless a part of our world, and a part of our emotional lives. Beyond that, literature involves the complexity of real life. Moreover, it does so in a way that is already to a great extent available in a depictive representation.

More exactly, verbal art (e.g., fictional narrative) typically involves an elaborate set of “instructions” (Scarry, 1999, p. 244) for simulating an emotional experience. When successful, a literary work produces a complex emotional experience in the reader. This experience is inseparable from the depictive content of the narrative, usually the representation of emotional experiences in the story. Of course, our response to literary depictions necessarily involves encoding and elaboration. These will vary somewhat across individuals and even for one individual from reading to reading. This problem is partially mitigated, however, by the fact that some works are successful at producing emotional responses across many readers in different times and places—indeed, in different centuries and different continents. Across a large number of instances (probably millions in the case of many paradigmatic works), idiosyncrasies of encoding and elaboration should balance out, leaving the depictive content of the work along with the encoding and elaboration propensities shared by all readers. In this way, an emotionally successful work may present us with the closest thing we have to an accurate depictive representation of emotional experience. As such, it is an eminently suitable source, not only for the interpretive clarification of explanatory claims (as Lehrer indicates), but for hypotheses about emotion and the partial evaluation of such hypotheses.

It may seem that there are still two types of problematic artificiality in literature. The first concerns the fact that the story need not have derived from an actual emotional experience of the author. Even if it does derive from such an experience, it is often altered beyond anything that commonly occurs in reconstructive memory. The relation of a literary work to an author’s prior experiences, prominently including his or her emotional experiences, is a potentially important topic of research. However, the crucial point here is that the depictive validity of a literary work does not derive from its source in some prior experience. It derives from its *production* of such an experience.

The point is related to the second apparent artificiality of literary representations of emotion—their removal from the actual circumstances of life, thus the need for (or even possibility of) actional outcomes. This is true and does indicate that literary

works may vary somewhat from our actual experience of emotion in contexts where action is necessary. But, of course, literature does not even seem to provoke the sorts of egocentric emotions that are typically at issue in real-life contexts demanding action. Rather, they provoke *empathic* emotions.<sup>4</sup> They are directly parallel to the emotions we have when hearing about someone who experienced some joy or sorrow at a distance from us, someone that we can neither help nor harm. In this way, it is true that the probative value of literature is largely limited to empathic emotions. But it seems clear that, first of all, empathic emotions are closely related to egocentric emotions. For example, we typically feel compassion for someone if we would be likely to feel sorrow upon undergoing his or her experiences. Thus, while there are some differences between empathic and egocentric emotions, simulative depictions that provoke the former should give us a reasonably good sense of the latter as well. Second, empathic emotions are themselves a crucial part of our emotional repertoire anyway and no less significant for a theory of emotion.

In short, depictive representation of emotional experience is crucial for our generation, evaluation, and interpretation of explanatory theories of emotion. But it is difficult to produce depictive representations that are complex, repeatable, and free from the distortions that afflict other sources of data (artificiality, problems of memory reconstruction, etc.). The instructions for simulation given in literary works seem to be a primary case of such depictions, at least when these works are successful in producing empathic emotions across readers at different times and places. In this way, it seems that literary study should have an important role in the scientific study of emotion.

But one might object to this conclusion on the following grounds. The source of the study of vision is visual experience, just as the source of the study of emotion is emotional experience. However, no one would conclude from this that “vision scientists would have to rely upon literary descriptions of visual experiences in order to gain access to the beginning of a science of vision” (as a colleague put it). Several points are important here. First, my claim is not that psychologists and neuroscientists need literature for the “beginning” of a science of emotion. I am not even saying that they *need* literature at all. I am merely saying that—like everything from statistical surveys to fMRI scans—literature could be a valuable part of research on emotion. (Note that research on emotion does not *need* fMRI scans and certainly did begin without them. That does not make these scans any less valuable.) Second, the issue is not descriptions of visual experiences or descriptions of emotional experiences. The issue is, rather, descriptions or other depictions that are repeatedly successful in producing particular visual or emotional experiences. If a theory of visual processing has no way of accounting for how we see figures in drawings, then it is an inadequate theory; if it has no way of accounting for how we envision objects or persons from descriptions, and why literary descriptions tend to be particularly vivid in this regard (as discussed at length by Scarry, 1999), then it is an inadequate theory. The same point holds for our emotional responses. But, in the case of emotion, the potential problem is far more severe. Accounting for our ability to process drawings is likely to come

out of a general theory of vision almost automatically. It is not at all clear that this is the case with emotion. In real life, our emotional responses are bound up with complex experiential situations that are very difficult to capture depictively. Literature at least approximates that depictive complexity. The case of vision does not seem parallel in this crucial respect.

### Some Limits on the Depictive Accuracy of Literature

Of course, to say that literature should figure prominently in emotion research is not to answer the question of just how it should figure in that research. Nothing in the preceding argument indicates that literature must be taken at face value for research in emotion. Put differently, to say that a depictive representation provokes simulation that is emotionally effective is not to say that it represents real situations accurately in all details—even in all details that are effective for the emotion simulation.

First, a perhaps obvious point, but one worth making explicit: the overt, literal claims made about emotion in literary works have no special theoretical status. Such statements operate as part of the overall simulative effect of the work. They are *not*, in general, comparable to scientific hypotheses about emotion. Indeed, my suspicion is that works of literature become less valuable for the study of emotion precisely to the degree that their composition was guided by prior theories of emotion. Such guidance may be indicated by the explicit articulation of generalizations about emotion.

Second, even the events, character traits, causal relations, and other plot features of a literary story cannot be assumed to depict emotional conditions accurately. Of course, the success of a work does suggest that, on the whole, its depiction of events, etc., must be close enough to personal experience that the resulting simulation will provoke parallel empathic emotions (e.g., compassion for the suffering of the protagonist). But a crucial point here is that a successful work is a work that enhances the reader's emotional response. It is not necessarily the case that increased accuracy in the representation of an emotional experience produces enhancement of a reader's emotional response. Indeed, it may be the case that increased representational accuracy will, in certain respects, diminish empathic response. For example, it may be the case that romantic love is never unambivalent, that it is always somewhat wavering, that even the most devoted lovers remain aware of other possible sexual partners. However, it may also be the case that readers will experience less empathic intensity in response to Romeo if Romeo occasionally notices the alluring features of a passing Philomena. Thus, the playwright is well advised to make Romeo's devotion to Juliet complete and entirely constant. Thus, we might expect literature to deviate from depictive accuracy through *idealization*.

Taking up one component of a standard theory of emotion, we might isolate two sorts of idealization here. Following LeDoux (1996) and others, we may distinguish two streams of emotional response. One, largely subcortical, involves the activation of emotion systems by external or internal stimuli

(e.g., the sudden appearance of something bear-like). The other, cortical and largely prefrontal, involves modulation of that activation due to the availability of more information (e.g., that it is not a bear, but a doll), the recruitment of memories or other information in inferences (e.g., a memory that this type of bear only attacks moving targets, so I should inhibit my inclination to run), and so on. We may refer to these as the "arousal" and "modulation" components of emotional experience.<sup>5</sup> In referring to the constancy of Romeo, we have probably isolated a form of idealization in modulation. If Romeo seems interested in Philomena, we judge him and his emotional experience negatively, down-regulating our simulation of his attachment to Juliet, and thus limiting our empathic response to his hopes and sorrows. A case of arousal idealization may be found in depictions of sexual attractiveness in cases of romantic love. As the ancient Sanskrit theorists stressed, some emotional experiences are at least partially incompatible with others. For example, disgust tends to disrupt the experience of erotic love (see Chari, 1990, p. 66). It is presumably no accident that, cross-culturally, depictions of the hero's beloved do not stress mucus or flatulence.

Thus, we might expect literary depictions of emotion to be inaccurate in areas where either arousal or modulation idealization might enter. Of course, this does not mean that we merely dismiss such aspects of literary works. They bear on emotional response and are therefore relevant to a theory of emotion as well. However, we must approach the literary depictions with caution in areas where such idealization is likely.

Idealization is not the only distortive element here. A great deal of our emotional lives is bound up with group identifications, and our empathic responses are shaped by racial, ethnic, religious, national, gender, and other affiliations. For example, research shows that racial differences may inspire fear and/or anger, signaled by amygdala activation (see Ito, Urland, Willadsen-Jensen, & Correll, 2006, p. 196). This suggests that, depending on the author and target audience of a work, there may be systematic distortions in keeping with the experience of group affiliations (the arousal level) or ideologies about such affiliations (the evaluation level). Thus we would expect works in patriarchal societies to treat male infidelity more indulgently than female infidelity. Moreover, we would expect this even if it is inconsistent with the actual emotional responses of real people to infidelity in real life. For instance, it seems perfectly innocuous that Romeo was in love with Rosaline before meeting Juliet. This does not seem to count against him. However, it is not clear that the same point would hold if Juliet had a previous romantic attachment.

### Three Levels of Literary Relevance to the Study of Emotion

If we remain aware of the biases in literary depictions of emotion, the preceding arguments indicate that literature should prove a valuable resource for emotion study. Of course, it already has proven to be such a resource, in works by Oatley (1992, 1999), Nussbaum (2001), and others. The obvious way of drawing on literature for emotion theorization is to treat

individual works. However, there are two other levels of generality at which one might draw on literature to treat emotion.

The first level is the existence of literature itself, the systematic simulation of emotional experience. The bare fact of literature is so obvious and ubiquitous that it seems unremarkable. But it is highly remarkable. We actually spend time and effort reading about unknown—indeed, non-existent—individuals who go through experiences that have no direct bearing on our lives. Sometimes we do this when it makes us sad. Yet we still enjoy the process and even come back for more. In this way, the mere fact of literature seems a valuable source of insight into emotion.

Second, there is an important level in between the generality of literature as a whole and the particularity of individual works. Specifically, there are widespread cross-cultural patterns in literary genre (see Hogan, 2003). These too provide a valuable source for understanding emotion. In the rest of this article, I will consider these three topics, focusing on narrative.

### The Generality of Verbal Art: On Stories

The first point to make about storytelling goes back at least to Aristotle, who maintained that we enjoy “mimesis” (1951, pp. 14, 15). There is undoubtedly some truth in that. However, it is not clear that this is quite the right formulation of what we enjoy in verbal art. We do seem to enjoy the imitation of particular people, accents, and the like. But, with respect to verbal art, it is probably more accurate to say that we enjoy *simulation* (cf. Oatley, 1999). Of course, we do not enjoy every sort of simulation, just as we do not enjoy every sort of story. As a rough approximation, we might say that we enjoy stories (thus simulations) that present us with significant emotional experiences. This is unsurprising when the emotions are intrinsically pleasurable. We do not need a further explanation for human interest in comic works. But in fact human stories contain a great deal of aversive emotion as well—such as pity and fear, in Aristotle’s account of tragedy. This is more puzzling. This points to a research question that goes well beyond literature. Why is it that we engage in simulation of emotionally aversive situations?

The suggestion of literary experience is, again, that we experience some sort of pleasure in simulation as such. In terms of functional explanation, that makes sense. There is a clear survival function in imagining possible painful outcomes of our actions. For example, Glug might imagine going to gather berries in a place where there are lots of bears, and thus being mauled. As a result, he avoids those actions. In contrast, suppose Mutt avoids the displeasing imagination initially. As a result, he goes to gather berries, with tragic (and genetically consequential) results. In this way, experiencing pleasure in aversive imaginations and associated emotional elaborations is eminently adaptive.

At the same time, our experience of literature also suggests that there is a partial conflict between the aversive emotions in the simulation and the pleasure derived from them, and that we differ individually in our precise response to that conflict. Some people continue to feel pleasure even with high degrees of fear or disgust, while others have less tolerance for these

feelings. We also begin to see a social and ideological function in the gender division that links male tolerance for aversive emotions to combative or other heroic situations (e.g., in war stories) and female tolerance for aversive emotions to bonding relations (e.g., stories of parental self-sacrifice).

Of course, here as elsewhere, the difficult part is isolating the mechanisms that underlie emotional responses. Even functional accounts must ultimately be based not only on behavioral manifestations, but on an algorithmic treatment of biological processes. Still, the literature helps to point us toward at least some preliminary functional hypotheses. Moreover, in the context of current emotion theories, it may point us toward research on substrates as well. For example, the pleasure in simulation may hint at some sort of reward system involvement.

A second suggestion from the ubiquity of literature was also anticipated in critical traditions. This is usually referred to as “expressiveness.” The European Romantic stress on literature as the expression of emotion is too well known to require comment. But the idea turns up elsewhere as well. For example, the great 10th- to 11th-century Japanese novelist, Lady Murasaki, wrote that literary narrative “happens because the storyteller’s own experience . . . —not only what he has passed through himself, but even events which he has only witnessed or been told of—has moved him to an emotion so passionate that he can no longer keep it shut up in his heart” (1960, p. 501). As in the case of Aristotle, the critical formulations are close, but not precisely right. It is not quite the expression of emotion that is at issue. After all, the poet does not go out alone in the woods and sing poems to nature. That is expressive. But it would not satisfy the craving isolated by Murasaki. Artists compose their stories for other people. They compose to be read or heard. This suggests that we have a deep need to share emotionally consequential experiences. The point applies not just to artists, but to readers as well. We want other people to read the books we like, see the movies we enjoyed. We want to discuss those books, communicating our enjoyment and hearing of our friends’ enjoyment as well.

This is related to, yet distinct from, what Bernard Rimé has discussed in his path-breaking *Le Partage social des émotions* (2005; see also Rimé, 2009). Rimé treats real emotional experiences that people directly and explicitly discuss with one another. Literature points us toward an attempt at actually re-creating the eliciting conditions of the emotion in such a way as to reproduce the emotional effect. We may refer to the former as “communicative” sharing and the latter as “experiential” or “simulative” sharing. Of course, communicative sharing of emotional experiences always involves some attempt at depicting the eliciting conditions of the experience. Depending on the literary skill of the speaker, this may come close to the simulative sharing that occurs in verbal art. The distinction is not absolute. But there is a clear difference in tendency.<sup>6</sup>

While Rimé notes that happy experiences are widely shared, his account of the reasons for and effects of sharing—particularly his stress on social support—applies most obviously to emotions that are sorrowful, even traumatic. Moreover, it applies to experiences that the speaker probably wants to communicate but probably does not want to share experientially with the

addressee—at least not if he or she at all cares for the addressee and thus would not like to see him or her traumatized. In both ways, Rimé's explanations do not seem to cover the case of literature—either literature that authors wish to share with readers or literature that readers wish to share with one another. Indeed, Rimé's account raises the question of just why successful literary works appear to have beneficial emotional effects for readers, given that the effects of communicative sharing are generally experienced by the speaker rather than the listener. Finally, Rimé's account works well for personal interactions, but not for relatively impersonal interactions, such as we find with an author and his or her readers. None of this indicates that Rimé's explanations are incorrect. They are, rather, compelling for the types of case he considers. However, it does suggest that they are incomplete. There is something else going on—something else suggested by literature.

There are two obvious evolutionary functions that we might hypothesize for experiential/simulative sharing of emotion. The first is that our emotion systems may require something like calibration. We have innate sensitivities to certain sorts of situations and we have experiences that form further emotional propensities. But these innate, then developmentally inflected sensitivities are not fixed at an absolute point for all people. For example, Cacioppo and Patrick emphasize that different degrees of social isolation are required to produce a sense of loneliness in different individuals (2008, p. 15). Moreover, emotional sensitivities may vary temporarily even for a particular individual depending on the engagement of different emotional, perceptual, inferential, or other processes at a given time. An inclination to continually check our emotional responses against those of other people might help to balance idiosyncrasies of our past or current experience, even perhaps of our own innate predispositions, perhaps by affecting elaborative or even encoding processes.

Of course, we do not typically feel compelled to share movies or books with just anyone. Our pursuit of experiential sharing is particularly directed toward friends and family members (a point in keeping with research on emotion sharing generally, as discussed by Rimé). This suggests that our interest in the experiential sharing of emotions is particularly enhanced by attachment bonds.

This points toward a second possible function of emotion sharing. Sharing of important emotional experiences not only serves to test and calibrate our own emotional responses. It also serves to establish the degree to which another person has parallel or complementary responses to our emotions. One person's emotions tend to have emotional consequences for anyone with whom he or she is interacting. These consequences may be parallel—when Jones is sad, Smith becomes sad. But they may also be complementary—when Jones suffers grief, Smith overflows with *Schadenfreude*. It is well established that we feel more comfortable and friendly with someone who mirrors our expressions, actions, etc. (see Iacoboni, 2008, pp. 113–114). Sharing emotional experiences is one way of establishing a situation in which one can tacitly evaluate the degree and consequence of such mirroring beyond trivialities, such as repeating verbal idioms. In this way, the sharing of such experiences

is a way of getting a feel for the depth of an attachment relation that already exists or the possibilities for developing an attachment relation where one does not already exist.<sup>7</sup>

Communicative sharing of personal experiences has the advantage of directly addressing the particular relation of the sharer (or “narrator”) and addressee in response to real events. But communicative sharing is necessarily limited in scope. Moreover, discrepancies in emotional attitudes may be occluded by the fact that empathy in such situations is often obligatory. Put simply, one's partner may express compassion for one's situation, but have quite different (non-mirroring) responses to the events themselves. Sharing literary experiences, in contrast, may expose compatible or incompatible emotional responses more directly, and it will do so in a much broader range of possible cases. (Literary scenarios are not confined to one's actual experiences.) Finally, the development of an attachment relation may itself be bound up with the development of a repertoire of emotional memories based, most importantly, on shared experiences.

The ideological operation of literature in such areas as gender also suggests a social function here. In sharing literary experiences, people do not necessarily appeal indifferently to everyone with whom they have bonding relations. Nor do they confine themselves to such relations. Rather, they often have a particular interest in what they take to be relevant identity groups. There are plenty of men who will not go to a movie that is labeled a “chick flick.” If they happen to go to such a movie, then, by gender norms, they should find it boring or otherwise aversive. The sharing of emotional experiences in these cases is also, in a sense, “corrective.” But it is corrective not toward a reasonable or adaptive response (e.g., toward an appropriate degree of worry, given the situation). Rather, it is corrective toward ideologically-defined gender norms.

Here too the precise mechanisms at work are crucial. How does the experiential sharing of emotion develop? It seems clear that mirroring and theory of mind operations are involved, but in precisely what way? Does attachment enhance the enjoyment of simulation? If so, how? This is clearly not a simple function of the presence of an attachment figure. For example, it is not the same thing to go to a play with a friend who watches the play and to go with a friend who closes his or her eyes and listens to an iPod during the performance.

Questions such as these could be multiplied almost indefinitely. Clearly, literature cannot resolve these problems. However, it suggests potentially important areas of research and provides some potentially significant, if preliminary, evidence for hypotheses in those areas of research.

## Universal Genres: The Love Story

Related issues arise at the level of genre. In *The Mind and Its Stories* (Hogan, 2003), I have drawn on a wide range of traditions in literature and orature to argue for the existence of three universal narrative prototypes: romantic, heroic, and sacrificial. Consider the romantic narrative. Many of the most widely



admired or “paradigmatic” stories in the major literary traditions of East Asia, South Asia, the Middle East, Europe, and elsewhere converge toward a familiar pattern. Two people fall in love. They encounter an obstacle to their union, commonly in the form of some superior social authority. That authority is most often parental. However, it may also be religious or political. The opposition frequently results from the lovers belonging to identity groups that do not intermarry—different classes, castes, societies, and so on. There is often a rival (belonging to a group that is seen as appropriate for intermarriage) who is preferred by the blocking social authority. This leads to the physical separation of the lovers. Commonly, one is confined and the other is exiled. During this separation, there may be death (in tragic versions) or imagery of death. There is also often some form of indirect communication that serves to sustain both the hope and the suffering of the lovers. The exiled lover may achieve social or spiritual success, which facilitates union with the beloved. The reunion often includes a reconciliation with family, though the rival often dies or is exiled.

This structure suggests many things. First, it is consistent with some common observations about the nature of love. The lovers’ relation to one another strongly suggests a combination of sexual desire and attachment.<sup>8</sup> The intense longing of the lovers and pain in separation further suggests the involvement of the endogenous reward system.<sup>9</sup> But these points have not gone unremarked in the literature on romantic love. So what does understanding the genre add to our possible understanding of romantic love?

First, and most obviously, it suggests that commonplaces about the cultural relativity of romantic love are, at best, exaggerations. Undoubtedly, there are some differences in the precise working out of romantic relations—in different cultures and historical periods, but also in various individual conditions. But if these differences were profound and uniform, if, say, Chinese and European cultures differed fundamentally in the development of emotions, then we would not have paradigmatic romantic works (such as *Romance of the Western Chamber* and *Romeo and Juliet*) in each tradition. This is what I was referring to earlier when I spoke of the leveling out of idiosyncrasies through the establishment of paradigms. Suppose one Chinese person at one time wrote a romantic story that only a handful of people read. That would tell us something (perhaps that, despite cultural differences, Chinese were not entirely impervious to romantic love). But it would not tell us very much. The appearance of the story and the response of its few readers would be aberrations within a broad cultural pattern. The interest of those individual readers need not even be due to the romantic elements of the story. Indeed, these different readers may not even be responding to the same elements. Perhaps the heroine fondly reminds one reader of his/her sister, while another reader appreciates the cadence of the songs. However, when romantic narratives are read with great empathic engagement by a wide range of readers over many centuries, this suggests that the responses are not merely idiosyncratic, but share some common features.

More importantly, the cross-cultural occurrence of this genre has implications for the interaction among certain emotive and

cognitive systems. The often harsh behavior of parents in such stories suggests that rage may have particularly close interrelations with the desire for attachment reciprocity. The relation here is particularly interesting because it appears to be triggered by the combination of sexuality and attachment, even though the initial parent–child relation is not sexual. Moreover, this harsh behavior indicates that the activation of the anger system will inhibit attachment feelings, at least temporarily. Both emotions here are also modulated by social hierarchies. One challenge for emotion theory is to give an algorithmic account of how the parental sense of entitlement tends to promote, or perhaps simply disinhibit, anger in a context of attachment.

Similarly, the frequently harsh treatment of the rival suggests complex processes of inhibition (roughly, opponent processes) and enhancement across systems that interact in attachment and perhaps in sexual relations. Though the rival is often rather bland, he or she seems to inspire particular repulsion, which readers evidently accept (e.g., they do not reject the stories due to the fate of the rival). My conjecture here is that, first, attachment inhibits disgust regarding the attachment object (as sometimes noted in research; see Lieberman & Hatfield, 2006, p. 291). Second, when the attachment object is also a sexual object, it enhances disgust toward other possible sexual objects (thus toward the rival). This hypothesis is undoubtedly oversimple. However, it may point to some of the emotion dynamics operating here—and even in the case of parent–child conflict.

Through exile and confinement, the romantic prototype also makes spatial organization a crucial part of the lovers’ emotional experience. As such, it points toward ways of elaborating on the relation between our emotional organization of space and our attachment system (on the basic connection between person attachment and place attachment, see Panksepp, 1998, p. 265). Romantic stories indicate that we have an emotional organization of space that is neither the objective hippocampal organization nor the egocentric parietal organization (on these systems, see Clark, Boutros, & Mendez, 2005, p. 43). It is, rather, a centering of space in the attachment object. Here, that is the romantic beloved, but the point obviously extends to a child’s relation to a caregiver.

We could continue teasing out particular psychological implications of the genre. However, there are social aspects of emotion study that are indicated by the ubiquity of this genre as well. First, the genre suggests that societies commonly, perhaps invariably, form themselves into endogamous groups. However, individual attachment relations are not determined by these social divisions. Accidents of personal development and social interaction will invariably lead to situations in which feelings cross group boundaries—not only the feeling of sexual desire, but attachment and the dependency of reward system satisfaction. Empirical research indicates inter-group antagonism may be suppressed through self-conscious effort at one point only to arise more intensely when that self-conscious effort is relaxed (see Kunda, 1999, pp. 345–346). The recurrence of intergroup attachments suggests that perhaps the reverse happens as well. Out-group members may be subjected to a form of effortful

exclusion from sexual consideration, sometimes called “erotic discounting.” But, when that effort is not made, desires and attachments may arise more forcefully.

Finally, the recurrence of the romantic plot suggests something about empathy. As I have stressed, empathy is at the basis of our emotional responses to literature. Some writers maintain that it is not just empathy; there is also suspense, etc. It is true that there are some emotions that arise in literary experience that are non-empathic. For example, our surprise at a new development in a literary work is our own surprise; it is not empathic surprise for a character. However, with only rare exceptions, these are not the emotions that sustain our reading of a literary work. If we do not have some empathic response to the characters and their concerns, it is very unlikely that we will be at all engaged by a story. Consider suspense. Suppose that, watching a movie, I feel suspense about whether or not the heroine will escape the serial killer. My suspense there is based almost entirely on my empathic connection with the heroine. It is not (again, with rare exceptions) a disinterested contemplation—nor is it an egocentric emotion, since I am not being pursued by the serial killer, nor are any of my friends or relatives.

What is striking about the development of empathic response in romantic plots is that it almost invariably cultivates empathy for the lovers. Put differently, the “comic” conclusion involves the union of the lovers, not the triumph of the rival and the parents. Given the force of social ideology, we would have expected romantic plots to strongly favor social hierarchy and respect for in-group boundaries. But that is not what we find—although both the hierarchy and the group boundaries are stressed in such stories. This suggests that many of us have a strong emotional preference for attachment over group norms when the two conflict. This preference is shared by a significant number of people cross-culturally and holds empathically as well as egocentrically. Indeed, the recurrence of revenge stories in unrelated narrative traditions suggests that the preference may even be for “individuating” emotional relations over group divisions and social hierarchies (though the revenge stories are much more ambivalent than the love stories). One of the hallmarks of both attachment and hate that inspires revenge is that they are both individuating. Most emotions operate by reference to general properties. Certain types of properties are sexually arousing or frightening. But attachment is not a matter of general properties. It is, rather, a matter of distinctive particularity. We are attached to a particular person. This is the reason that attachment leads us to focus on such distinctive properties as the beloved’s voice. Similar points hold for vengeful hatred. Indeed, this similarity may suggest a relation between hatred and attachment, a relation further indicated by the connection of both with betrayal.

### **A Paradigmatic Work: *Romeo and Juliet***

Finally, we might turn to an individual story. Since we have just considered the romantic genre, an obvious choice is the paradigmatic work of romantic tragedy in the English-speaking world, *Romeo and Juliet*. We cannot possibly consider this entire play. However, we may look at the opening scene at least

in some detail along with part of the fifth scene in which Romeo and Juliet fall in love.

Before going on to this, however, I should note that there are two ways in which one might approach emotion and a single text. One way involves determining individual readers’ responses to the text. This is very valuable. However, one could argue that its results are only as good as the interpretive skills of the individual test subjects. Probably millions of people have responded to *Romeo and Juliet* with emotion. (Test subjects are necessarily far fewer in number and far less diverse.) This presumably derives at least in part from the precise way in which Shakespeare presents this romantic tragedy—the way he develops the characters, the events, and so on. In connection with this, the second way of approaching emotion in a single work is to focus on the single text itself.

When testing subjects, two problems arise. One comes in the representation of the emotion states of test subjects. The second concerns the isolation of the causes of those emotions. We are often somewhat inarticulate about our emotional states (when they go beyond simple cases of fear, anger, disgust, and a few others). Moreover, our objective tests are currently rather crude in such identifications. I suspect, for example, that most readers feel something like hopeful enthusiasm and an empathic version of romantic longing when the lovers meet and tentatively express their mutual affection. But just how is one to isolate this emotion, even as a mere label, either in self-reports (without biasing the study by introducing this complex idea) or in objective tests (e.g., fMRI scans)? Moreover, if one comes up with a way of doing this, how is one to isolate the moments in the text to which the response refers? Eye tracking is one option, but that does not tell us what the test subject was imagining at the point when he or she felt the reported feeling. Even if we manage to fix the cause on some part of the text, we cannot be sure of precisely what the reader is getting out of the text. There are many subtleties, many complex connections in the text. These presumably have effects on readers. But few readers are able to articulate anything like what these are. Our sensitivity in this case is not unlike our sensitivity to grammar. We understand sentences through grammar, but we find it almost impossible to formulate grammatical principles.

For these reasons, I will focus on the text itself, trying to reveal some of the subtleties of its “suggestions” or “dhvani” (as the Sanskrit theorists put it; see Hogan, 2003, pp. 45–75). As just mentioned, my presumption is that these subtleties do affect readers’ responses. Of course, not all the subtleties affect all readers’ responses. Indeed, different readers will be affected by different resonances. However, again, these differences presumably balance out over large numbers. If they did not, the widespread emotional engagement produced by some works would be anomalous. It would amount to a coincidence across sometimes millions of people. The non-coincidental basis for repeated emotional response is presumably to be found through careful interpretation of the work.

*Romeo and Juliet* begins with the antagonistic opposition between two identity groups—the Montagues and the Capulets. Specifically, some Capulets enter, discussing how they will

respond to any Montagues they encounter. Most importantly for our purposes, Sampson explains he will “push Montague’s men from the wall and thrust his maids to the wall” (I.i.19–20). At one level, the statement is a crude expression of violence—he will kill the Montague men and have sex with the women, presumably by force. In the larger context of the play, however, it suggests something about romantic love. Group antagonism need not inhibit sexual arousal. But it does inhibit empathy and, presumably, attachment. In other words, it produces erotic discounting, not through effects on sexual desire, but through effects on attachment. Moreover, this may suggest that empathy and attachment are interrelated, as we might expect for other reasons. These connections are further hinted at later in the play when Romeo and Juliet fall in love. They fall in love before discovering each other’s group affiliation, thus before erotic discounting could affect attachment. As Juliet puts it, “My only love, sprung from my only hate!/Too early seen unknown, and known too late!” (I.v.136–137). The statement is particularly apt if we understand hate in terms of both anger and disgust, and in some cases as a form of individuating emotion in dynamic interaction with attachment.

Later in this first scene, Romeo is introduced. He is engaged in intense self-pity over his inability to unite with Rosaline. At first, he seems to suffer something like grief. This is roughly what we would expect from someone experiencing separation in an attachment relation. Indeed, this may indicate that we should not confine our concept of grief to cases of death, but rather see it as the result of unalterable attachment separation. But we soon come to wonder about the precise nature of Romeo’s feelings. The sighs and tears seem too extreme for the nature of his separation; his talk seems too frivolous. We may begin to suspect that Romeo is acting the role of a lover, but not actually experiencing romantic love. He is, rather, experiencing sexual desire. The point becomes particularly evident when Romeo complains that Rosaline will not “ope her lap to saint-seducing gold” (I.i.217). Attachment longings would probably not be satisfied by the purchase of sexual favors. But his sexual desire has become fixed on a particular person. This brings up the issue of how emotion systems may become individuating, even if they are usually activated by properties that recur across individuals. (Hate too has individuating and non-individuating forms.)

Not long after Romeo imitates romantic love with respect to Rosaline, he meets Juliet and feels genuine attachment (along with sexual desire) for her. This raises the issue of the degree to which a given emotion may involve a preparatory phase. One may even conjecture that there may be an age-specific or “critical period” phase of play and learning. Indeed, the individual focus of the sexual feeling may be understood as part of this play and learning. Of course, this is probably a case in which the depiction of the emotion is altered for literary effect. Romeo apparently practices once, in late adolescence, then immediately thereafter experiences a fuller romantic response. That seems idealized. But the idealization may merely be condensing and simplifying a very similar real process.

How do we know that Romeo is in love with Juliet, that his feelings here are different from his feelings for Rosaline? In

part, it is suggested by his extreme spiritualization of Juliet. In the case of Rosaline, he felt that she was too saintly, thus not appropriately open to the offer of “saint-seducing gold” (I.i.217). The suggestion is that he wished to bring Rosaline down to his (unsaintly) level. In seeing Juliet, however, he has an almost beatific vision. He sees someone whose touch will elevate those she touches, rendering them “blessèd” (I.v.53). This evaluation is presumably part of Romeo’s confusion of his own emotional response to Juliet with Juliet’s intrinsic properties. He feels an overwhelming joy and longing at the sight of Juliet. The causes of this response are undoubtedly a combination of his own readiness for an attachment relation, emotional memories primed by circumstances, perceptual sensitivities—whatever goes into making us identify a particular person as a unique attachment object. There is also undoubtedly some partial relaxation of effortful erotic discounting. (He had formerly engaged in such discounting for all women other than Rosaline, as is clear in preceding dialogues.) Despite this complexity, Romeo, in classic fashion, misattributes his feelings to a single cause—Juliet’s intrinsic qualities. Again, the suggestion of the work is that his play at love with Rosaline has somehow prepared him for this. But what is striking here is that he feels more than intensified sexual desire. The sexual feeling is clearly present. However, beyond this, he feels something that leads him to attribute not merely sexual beauty, but *spiritual* elevation to Juliet.

This raises a series of intriguing issues about the nature not only of romantic love, but of religious feeling. Is at least a variety of spiritual feeling bound up with attachment? Is attachment itself regularly bound up with a particularly spiritual elevation of the beloved, thus a sort of spiritual feeling in his/her regard? How is this related to moral evaluation? How, in turn, does this relate to the ways in which the romantic prototype tends to override social norms by reference to attachment preferences? These and other possible research questions and preliminary hypotheses could be further developed and elaborated in the course of analyzing the entire tragedy, before being tested and refined in sociological, psychological, neurological, and other contexts.

## Conclusion

Literature presents an in some ways unique set of depictive representations of emotional experience. These representations are in effect instructions for the simulation of emotionally consequential experiences that, when successful, produce empathic emotional experiences in readers. As such, they not only have an important interpretive place in relation to explanatory theories of emotion. They also, and more importantly, provide objects for theoretical consideration, thus sources of information or data about emotion. Like other sources of data about emotion, they should therefore contribute to the generation of hypotheses or research orientations regarding emotion, and to the evaluation of accounts of emotion.

This role of literature is enhanced by the fact that it avoids the simplification and artificiality that affect laboratory research.

Literature also avoids distortive reconstruction from memory and researcher interference, thus problems that affect research embedded in natural settings. Of course, it is not perfect. It involves different types of idealization (based on arousal and modulation), in-group bias, and ideological revision. On the other hand, idealization, in-group bias, and ideological revision are also part of our emotional lives, thus relevant to a research program in emotion.

There are three obvious levels at which literature bears on the study of emotion—the level of the particular work, the level of generic or related patterns across works (particularly patterns that are cross-cultural), and the level of the most general conditions and properties of literature. We may find instances of possible research orientations and possible evidence for particular hypotheses at each level.

At the third, most general level, relevant data include the pleasure we experience in simulating even emotionally aversive situations, as well as our propensity to seek the experiential sharing of emotions. Both suggest possible evolutionary and social/ideological explanatory functions, with some hint of mechanical explanations also.

At the next level, the cross-cultural romantic genre points toward an emotional organization of space bound up with attachment. It also indicates both inhibitory and disinhibitory relations between the disgust system and the attachment system. It points toward a complex interaction between anger and attachment systems either initiated or exacerbated by the introduction of sexuality and further affected by discrepancies in social hierarchy. It suggests the importance of in-group/out-group divisions to the establishment of erotic discounting, but also ways in which such discounting may be unstable. Finally, it indicates that at least many people in different times and places have a preference for attachment relations over social norms in cases where the two conflict. This point is particularly striking as it appears to apply not only to egocentric but also to empathic emotions. Moreover, it may extend—in a more limited and ambivalent way—even to negative individuating emotions, such as certain cases of hate.

At the level of the particular work, we considered part of *Romeo and Juliet*. The early events of this play suggest that identity categorization entails erotic discounting for attachment, but not for sexual desire; that such categorization inhibits empathy, which may be interconnected with attachment; that play and critical-period learning may have an important role in the development of emotion systems and emotion propensities, including romantic love; and, finally, that there may be a close interrelation among religious, ethical, and romantic feelings.

## Notes

- See, for example, DeLong, 2000, p. 866, on the timing operation of the basal ganglia in relation to movement and thought. On anticipatory time scales in relation to art, see Hogan, 2007.
- Of course, we also want to treat its social context and psychological and physiological substrates. My focus in this essay, however, is on the experiential component, which bears most directly on literature.
- Let me stress again that I am speaking here of the *experience* of an emotion, “what it is like” to have the emotion. Various physical tests—such as fMRI scans—clearly serve as data in emotion study. But, to put it crudely, if asked “what is it like to be in love?” showing an fMRI scan would not be a very helpful response.
- They also provoke aesthetic emotions, such as delight in the beauty of language. I leave these aside, however, as I assume the value of arts for research in aesthetics is uncontroversial.
- I realize that this is overly simple. The point is merely to isolate the two tendencies broadly in order to develop our understanding of idealization.
- Rimé stresses that, in what I have called “communicative” emotion sharing, the addressee experiences emotion. I take it that this is fundamentally the result of empathy along with causal attribution (the latter being important for producing an appropriate empathic response). Its roots are in such experiences as the child falling and tearfully reporting the fall to an attachment figure. In contrast, the childhood roots of “experiential” emotion sharing are probably in certain forms of joint attention of the child and caregiver.
- Rimé does not ignore the function of positive emotion sharing. Specifically, he points to a correlation between “relationship well-being” and “enthusiastic” response to a partner’s positive emotion sharing. He concludes that “sharing positive emotions. . . enhances. . . social bonds” (2009, p. 65). But the idea is left somewhat undeveloped and the correlation is not fully explained. One possibility is that a partner’s enthusiastic, thus strongly mirroring response to positive sharing shows his or her lack of envy or other empathy-blocking emotions. This, in turn, may serve to re-enforce the sharer’s sense of trust—a version of the pattern just outlined.
- On the integration of attachment and sexual desire in romantic love—along with caregiving as a system distinct from attachment—see Shaver & Mikulincer, 2006.
- On the role of the ventral tegmental area and the nucleus accumbens, as well as the operation of dopamine and oxytocin—all involved in the endogenous reward system—see Fisher, 2006, pp. 90–91.

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