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## Emotions and literary text comprehension

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### Abstract

The purpose of this paper is to develop a more comprehensive view on text comprehension, which encompasses both emotional and cognitive aspects. We take prevailing – cognitive – models of text comprehension as a starting-point. In discussing the role of emotions on the basis of the models, we arrive at an integration of emotional and cognitive aspects. A tentative framework is presented, based on the available empirical data.

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### 1. Introduction

When one starts reading ‘a good book’, it is not just with the intention to learn something; one may read to relax, to escape from everyday reality, or to enjoy the style of writing. Literary texts are among the few text genres that may arouse emotions in the reader. However, little is known about how emotional processes are involved in the understanding of literary texts. Most models of text comprehension focus on the cognitive aspects of the reading process and ignore emotional aspects. The purpose of this article is to develop a more comprehensive view on text comprehension, which encompasses both emotional and cognitive aspects. We will take prevailing – cognitive – models of text comprehension as a starting-point. In discussing the role of emotions on the basis of these models, we will arrive at an integration of emotional and cognitive aspects of text comprehension. We will propose a tentative framework for the integration of emotional and cognitive

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processes. This framework is based upon the currently available empirical data. Thus, we take a rather conservative stand with respect to the role of emotions in text comprehension. Future investigations may reveal that emotions have a far more central role in text comprehension than evidence available today suggests.

## **2. Basic assumptions**

Emotions are defined by the social-cultural situations in which they occur (Frijda, 1986; Fischer, 1991). We assume that an emotional experience in a certain situation is a result of the way a person assigns meaning to that situation. Most researchers regard this ‘appraisal process’ as a form of cognition (Ortony et al., 1988: 12; Frijda, 1986; Lazarus, 1982; Scherer, 1982; Fischer, 1991: 36). Consequently, the cognitive processing of a situation precedes and determines the emotional experience.<sup>1</sup>

The emotional experience itself may in turn influence cognitive processing. Emotions trigger cognitive structures, which are characteristic of a given emotional experience (Frijda, 1989: 330–331). In this way, emotions may sensitize people to certain types of information and instigate them to process other types of information (‘cognitive tuning’). They help people to determine what knowledge is relevant to the situation and [what knowledge] has to be activated (Tan, 1991; Tan, in press).

Thus, we assume that there is an interrelation between emotion and cognition. With respect to text comprehension, we are interested in the emotional experience aroused by the cognitive processing of the text and in the way that emotion influences subsequent cognitive processing.

## **3. A cognitive model of text comprehension**

In processing text, readers perform several basic operations. For example, they decode letters, assign meaning to words, parse the syntactic structure of a sentence, relate the different words and sentences, construct a theme for the text and may infer the objectives of the author (Just and Carpenter, 1987; Van Dijk and Kintsch, 1983; Singer, 1992; Zwaan, 1993a). Readers attempt to construct a coherent mental representation of the text. In this process they use their linguistic knowledge (knowledge of words, of grammar) and their world knowledge (knowledge of what is possible in reality, cultural knowledge, knowledge of the theme).

Also, they draw from their personal experience (Flower, 1987; Graesser and

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<sup>1</sup> There is ample support for this assumption. Numerous experiments have demonstrated that cognitive variables intervene between the objective stimulus and the emotion which arises. See Frijda (1986) for a thorough documentation of research about this subject.

Zwaan, 1993, Singer, 1992; Van Dijk and Kintsch, 1983). Text comprehension is a mixture of bottom-up and top-down processes: aspects of the text and of the reader (his or her knowledge, goals and cultural background) interact. This interactive model of reading is at present the most widely accepted model of reading comprehension.

The mental representation of the text that readers construct is not static but evolves during reading. Each piece of new information may be used to extend and update the representation of the text (Van Dijk, 1987: 162). Four levels of representation can be distinguished (Zwaan, 1993b);

- (1) The surface structure is a representation of the verbatim wording of the text: of the grammatical aspects, the style, the rhetorical means (rhyme, alliterations, metaphors) (Van Dijk and Kintsch, 1983: 343). The surface structure represents how something is expressed in a text. Mostly, the surface representation is relatively short-lived.
- (2) The textbase represents the semantic contents of the text, i.e., the meaning of the text. The textbase represents what is said in a text. The textbase is represented in the form of a propositional network (Kintsch and Van Dijk, 1978; Van Dijk and Kintsch, 1983).
- (3) The situation model is a representation of the situation denoted by the text. The situation model level includes any inferences that readers may make while reading the text. These inferences spring from the interaction of textual information and knowledge of the reader (Graesser and Zwaan, in press; Johnson-Laird, 1983; Morrow, in press; Van Dijk and Kintsch, 1983). Because the situation model comprises knowledge added by the reader, it is more subjective than the textbase.
- (4) The context or pragmatic model represents the communicative context. The pragmatic model contains information about the specific situation in which the text is processed (when, where, and how we read a text), about objectives and strategies of the author, etc. (Van Dijk, 1987; Zwaan, 1993).

The mental representation that is constructed from a text is part of the general memory structure of readers. Van Dijk and Kintsch (1983: 347–348) distinguish four types of interacting memory structures, that are relevant for text comprehension.

- (i) Sensory system. Incoming perceptual information is processed here and becomes available for the Central Processing Unit (see below).
- (ii) Working memory. Here active processing of incoming information takes place. Working memory has a limited processing capacity.
- (iii) Long term memory (LTM) with an episodic and a semantic memory. In the episodic memory, personal knowledge and information is stored that is tied to time and place. For example, episodic memory contains the name of a person's father and his or her place of birth. The semantic memory comprises prevailing information with a more stable character and independent of the context in which it is experienced. For instance, the information that elephants are mammals is stored here. The general knowledge in the semantic memory may be constructed on the basis of earlier experiences by means of

learning processes, generalization, etc. The dividing lines between the different knowledge sources are not clear.

- (iv) The surface level, the textbase, the situation model, and the pragmatic model are represented in episodic text memory.

Van Dijk and Kintsch do not address the question which place emotions take in these memory structures. As yet, it is not clear how emotions are presented in memory. There is reason to believe that the above mentioned memory structures are relevant for emotions as well (Karniol and Ben-Moshe, 1991). This suggests that general emotion knowledge is stored in semantic memory and situational emotion knowledge in episodic memory. General emotion knowledge involves information about characteristics of various emotions. Situational emotion knowledge concerns autobiographic memories and emotion scripts (knowledge structures about emotional episodes) (Conway and Bekerian, 1987).

A central processing unit is assumed to coordinate the process of reading, mental representation and knowledge activation. In this unit all cognitive operations take place and information from different memory structures is modified (Van Dijk and Kintsch, 1983).

#### **4. Emotions and text processing**

The cognitive model outlined above needs to be extended to encompass emotions. We will first discuss the role of emotion in text processing in general. Two distinct functions of emotions can be distinguished. The first function of emotions is their selective role. This may override cognitive processes by focusing the reader's attention on certain types of information at the expense of other types of information that were more relevant to the reader's original goal. There appears to be a relation between type of attention and interest (Roseman, 1991: 168; Lazarus and Smith, 1988: 287; Scherer, 1982: 96). Attention given to interesting information requires fewer resources than attention given to uninteresting information. Wade et al. (in press) have provided evidence for this assumption. These authors instructed subjects to read a biographical text (a story about Admiral Nelson). Prior to the experiment, it was established which information in the text was considered important/unimportant and interesting/uninteresting, based on ratings provided by a different group of readers. Wade et al. found that subjects spent much time and effort on reading the important but uninteresting information (factual information, like information about the historical and geographical setting of the protagonist). In contrast, attention given to the unimportant, interesting information ('seductive details', information that was emotional, vivid, dramatic, exciting and personally involving, like facts about the personal life of the protagonist) was given without effort, without conscious control. Readers seemed to have a different attitude towards these seductive details, an attitude more directed to enjoying sensations, images and feelings (Wade et al., in press). Interview data

show a similar relation between type of attention and interest (Nell, 1988: 252). Nell interviewed subjects about novels they particularly liked or did not like. Novels that the subjects did not appreciate, required more conscious attention than novels the subjects did appreciate. In short, reading involves qualitatively different types of attention. Attention can be given consciously and subjectively with much effort or unconsciously and seemingly automatically (Nell, 1988: 76), influenced by experienced emotions and dependent upon the reader's interests.

Second, emotions may back-up cognitive processes when cognitive processes fail to create a coherent mental representation of the text and the situation described by the text. The emotional impression directs the attention of readers and helps them to decide which information is relevant for the situation and must be activated. This role of emotions is especially important when there are few textual and contextual cues, for example, in the beginning of a text, and with abstract and conceptual vague descriptions (Miall, 1988; Spiro, 1982; Van Dijk and Kintsch, 1983). Van Dijk and Kintsch illustrate the back-up function of emotions with help of an extract from a story called 'Title' by John Barth: "Beginning: in the middle, past the middle, nearer three quarters done, waiting for the end. Consider how dreadful so far: passionless, abstraction, pro, dis. And it will get worse. Can we possibly continue?..." (1983: 38). As a consequence of the abstractness of the description, Van Dijk and Kintsch argue that in this case readers cannot construct a macroproposition. Possibly they have indeed an emotional impression of the passage, which may be indicated by 'difficult act' or a similar impression. The emotional impression gives readers control over the reading process as long as the theme is not all clear (see Van Dijk and Kintsch, 1983: 207–209). Although the empirical validation for the above assumption is scant, it is plausible that emotions help activate relevant information and decide the importance of a situation. In real life, emotions can fulfill a similar role. For example, when people lose an object, the emotions they experience may make it clear to them that the object was of special value to them. Thus, one comes to novel insights by way of experiencing emotions.

The influence of emotions on text processing may manifest itself in changes in reading speed. For example, readers may slow down under influence of emotions such as appreciation, admiration, and interest. In a study about ludic reading, readers significantly slowed down their reading speed in passages they afterwards reported as having liked the most. They seemed to have 'savored' these passages (Nell, 1988: 109). Schank (1979: 284) and Just and Carpenter (1987: 233) attribute the slowing down to interest. However, various factors may influence reading speed, such as syntactic complexity, imagery, serial position of a sentence in the text, and so on. Therefore, it is not clear whether changes in reading speed should be solely attributed to a variable such as interest. The statistical technique known as multiple regression analysis, allows the researcher to examine the effect of a variable on reading rate when the effects of other variables are partialled out. Zwaan et al. (1993), who performed multiple regression analyses on reading times for short stories, have recently found that readers may speed up under the

influence of suspense, when reading for pleasure. Apparently, these readers were speeding up towards the resolution of the suspense.<sup>2</sup>

The emotions experienced during reading and their influence on text processing will be reflected in the way the text is represented in memory. Also, emotions experienced before people start reading may be of influence. People are always in a certain mood. The reader's mood may influence to a certain extent the way a text is represented and organized in memory. Readers remember story events better that correspond to their mood than story events that do not (Bower et al., 1981). 'Happy' readers remember more 'happy' events, 'sad' readers remember more 'sad' events from a story. With different moods (happy, angry, sad) different associations are made, different (positive or negative) inferences and elaborations are created and interpersonal relationships are interpreted in a different way (Bower, 1981: 138–140). Consequently, the readers' mood influences the way they understand a text and, in particular, how they experience the emotional events that are described (Just and Carpenter, 1987: 231). Mood can thus be considered a minor, but nevertheless moderating, factor in reading. This is relevant when interpreting the data on emotions.

## 5. Emotions and mental representation

In the domain of text comprehension, two kinds of emotions can be distinguished: fiction emotions (F-emotions) and artefact-emotions (A-emotions). F-emotions pertain to events in a fictional world. A-emotions are emotions that relate to the artefact (Tan, 1991; Tan, in press; see also Frijda, 1988a: 371). A- and F-emotions are interrelated. When readers experience fear as a consequence of events in the fictional world (F-emotions), they may convert these to admiration for the author's skill in creating suspense (A-emotions). A-emotions diminish the diegetic effect (the experience of being in a fictional world) and thereby the experience of F-emotions (Tan, 1991; Tan, in press). Consequently, they play an important role in controlling F-emotions.

The distinction between F- and A-emotions is not yet current in the empirical literature. Therefore, it is our interpretation of the research data, when we classify an emotion as F or A. Our classification procedure, however, is useful in describing the influence of emotions on the mental representation of the text.

### 5.1. Surface representation

Emotions aroused by the surface structure of a text are A-emotions. These emotions are aroused directly by the verbatim wording: by the style, the meter,

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<sup>2</sup> Dijkstra et al. (this issue) show further applications of multiple regression analyses in the domain of emotions and text comprehension.

discourse evaluations and by syntactic or semantic deviations. Reading is an automated process based on linguistic and social conventions. In syntactic and semantic deviations, when conventions are broken, this automated process will be impeded and expectations will be disturbed. A-emotions may be the result. Especially in literary texts A-emotions may be important. Literary texts are often organized in such a way that syntactic and semantic conventions are broken: the classic procedure of alienation (Shklovsky, 1965 [1916]). Moreover, experienced readers of literature are on the lookout for deviations from everyday language (Zwaan, 1993b). They will probably appreciate rhyme in literary texts. In contrast, rhyme in expository texts will not be welcomed (Zwaan, 1993b). To summarize, text as well as reader characteristics can give rise to A-emotions.

There is evidence that literary reading leads to a relatively better surface representation, that is recognition and recall of verbatim information is better when a text is read from a literary perspective than from a newspaper perspective. This may be related to the idea that literary readers are more directed towards the style in which the text is written, which becomes evident in their performance on memory tasks (Zwaan, 1991, 1993a, in press) and in their resource allocation during comprehension (Zwaan, in press). It is plausible to assume that A-emotions such as enjoying the style, the meter, etc. will lead to a better representation of the surface structure. But this hypothesis has not been addressed as yet.

## 5.2. *Textbase*

Van Dijk and Kintsch (1983: 132) assume that under the influence of interest or surprise relevant new facts (events of situations) are attended to. These facts are not integrated in the propositional textbase, but obtain a special status (are upgraded) and are stored separately from other facts. In this way, in later processing new facts become separated conditions in the textbase and are better remembered (see also Schank, 1979: 284). Van Dijk and Kintsch have not made a clear distinction between emotionally and structurally relevant information. However, Wade et al. (in press) have shown that the mechanism described is also relevant for information that is only interesting from an emotional perspective. As mentioned above, interesting, unimportant information was remembered better than information that fulfilled an important function in the text (see also Mosen-thal, 1987 and Hidi and Baird, 1986). In addition, information that is judged as highly affective has a greater likelihood of being included in the propositional textbase than information that is not.<sup>3</sup> Experimental research shows that (macro)propositions that are classified as highly affective are remembered better; also, research on word memory supports this result (Martins, 1982: 152). However, in a study of Miall this result does not consistently replicate (Miall, 1989: 69).

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<sup>3</sup> For example: “A court of justice condemned the commanding officer to three-and-a-half years in prison”, or “They hanged twenty children”.

### 5.3. *Situation model*

F-emotions are represented at the level of the situation model. They are linked to the contents of the story, or more specifically, to the protagonists and the course of the narrative events.

Whether or not readers experience F-emotions depends on their willingness to be immersed in the events and situations in the story (expectations, fear, interest in the course of the narrative events) and of their willingness to become involved in the reactions of the characters (empathy). The thematic structure of the story contributes to the experience of F-emotions. When expectations are disturbed, surprise and interest (suspense, curiosity, uncertainty etc.) may be evoked (see Halász, 1991: 265; Kintsch, 1980: 88). Also, readers' interest in thematic concepts of the story play a role. Certain themes are more interesting than others. Themes like death, danger, power, sex, chaos and romance evoke the interest of the reader, irrespective of the context (Schank, 1979; Kintsch, 1980).

It is unclear how F-emotions operate during on-line comprehension. A study in which readers were asked to comment on their expectations (Meijsing, 1980), suggests that the more the story progressed, the more F-emotions readers experienced. Readers' personal interest in acts and emotions of characters gradually increased while reading. (However, it is uncertain whether readers would have had those expectations if the interviewer had not asked for them.) Recent findings suggest that the intensity of character emotions as they are explicitly described in short stories increases towards the end of a story (Dijkstra et al., this issue). However, we have argued earlier that emotions play a prominent role in the beginning of the story due to their back-up function. This concerns F-emotions as well: they arise from the attempt of readers to assign meaning to the story world. Presumably two different types of F-emotions are involved. Some F-emotions are related to the characters and the situation described in the story. Readers are involved in the story, imagine themselves in the place of the characters, and experience similar emotions. Other F-emotions activate schemata relevant to the events in the story world. Those F-emotions are more directed to the self; readers activate their own emotional experiences in order to give meaning to the story world. Consequently, we differentiate between F-emotions focused on the other (F(a)-emotions; 'a' for altercentric) and F-emotions focused on the self (F(e)-emotions; 'e' for egocentric). There is no strict separation between both types of F-emotions in practice. There will be a continuous interaction between F-emotions focused on the other and on the self during reading (Kneepkens, 1992; see also Hoffman, 1984). The full implications of our differentiation will be outlined in the presentation of our model of text comprehension.

We assume that F-emotions in general contribute to the construction of the situation model. Because emotions indicate what is important to the reader, they direct the perspective of the reader and, with that, the representation of the story being constructed, as well as the construction of the schema for the text as a whole (Miall, 1990: 326). Because of emotions such as interest, the cognitive effort is assumed to increase, i.e., relevant information is activated and inferences are made

(Hidi and Baird, 1986; Tan, 1991; Tan, in press). However, it is unclear on what empirical evidence these conclusions are based. F-emotions may also contribute to the construction of the pragmatic model (the communicative context). This is the case when a reader starts reading a certain text, because he/she assumes that the author has the intention to excite emotions in the reader.

The role of F(a)-emotions in the mental representation is addressed by Albritton and Gerrig (1991). Albritton and Gerrig show that ‘participatory’-responses (p-responses) or mental preferences a reader gives to the outcome of a story can interfere with the information a reader has about the real outcome of a story. For example, when readers hope for a character not to catch a plane (p-response), while they know the plane will in fact crash, they need more time to verify the sentence: ‘the character catches the plane’ (experimental condition), than in the condition where they do not know that the plane will crash (control condition). In this case the reader will not have developed the p-response. The longer verification time in the experimental condition can thus be explained by the interference of the p-response (not catching) with the outcome that the character catches the plane.

Emotions contribute also in a different way to the construction of the situation model. Readers make use of their emotion knowledge represented in the semantic memory (Miall, 1988; Dyer, 1983; Lehnert, 1981; Gernsbacher et al., 1992). For example, imagine a character who is driving his car and nearly causes an accident. When finally at home, this character takes a drink. To understand this action, readers have, among other things, to make use of their emotion knowledge to infer that the character is shocked by the event. In addition, readers use their personal memories activated by the text (Halász, 1991; Larsen and Seilman, 1988). Like personal memories, F(e)-emotions are assumed to be stored in episodic memory; after all, F(e)-emotions are based on personal memories.

## 6. Pragmatic model

Emotions situated at the pragmatic level are A-emotions. They are related to the artefact, to the author’s skillfulness in writing a text. Also, emotions prompted by anticipations about the way the author has structured the text are situated at this level. For example, an ‘open ending’ may create disappointment in a certain reader, whereas the question how the author will bring together several storylines can create interest (suspense and curiosity) in another reader. The relevance of A-emotions shows itself from the fact that often readers first remember a general attitude associated with the story (Just and Carpenter, 1987: 231).

The A-emotions are presumably related to the experience readers have with literature. Experienced readers will be more likely to consider unusual elements as intentional procedures on the part of the author. Also, they will consider the author as separate from the narrator or the character (Vipond and Hunt, 1984: 272–273). Because experienced readers are more aware of technical aspects of the story than novice readers, they are more open to experiencing A-emotions (see Meijnsing, 1980: 217; Moynihan and Mehrabian, 1981: 330; Zwaan, 1993a). How-

ever, it has been recently demonstrated that even readers with little literary experience appreciate an unreliable narrator more than a reliable one (Dixon et al., 1993).

Literary genre probably affects A-emotions as well. Text characteristics influence the attitude or the intentions with which the reader regards the text, and as a result, the emotions a reader experiences. For example, when one starts reading a detective novel, one anticipates reading about a mysterious murder. One expects the question ‘whodunit?’ to be solved at the end of the story. In this case, readers will read in a story-driven way: they are directed towards the events in the fictional world (see Vipond and Hunt, 1984). F-emotions play a major part then. Whether or not A-emotions are experienced depends on the extent to which the readers’ expectations are met and on the way in which the story was written. The reader is less concerned with tracing the author’s intentions. For the reader of a postmodern novel this may be different. Postmodern novels are characterized by epistemological doubt and about the capacity of language to relate to the world. This leads to the description of a possible world, relatively far removed from consensus reality. Therefore, in a postmodern detective novel, there is a great likelihood that the murder (if there is any) will not be solved at all. It will probably not surprise the reader, when the illusion to be in a fictional world is disturbed continually by passages which indicate that ‘it’s only fiction’. The emotional experience will be heavily dependent on this language game. So, compared to the conventional detective novel, A-emotions are more in the foreground in postmodern work.

As the story continues, the role of A-emotions probably changes. Readers of a literary story as well as readers of romance novels become less and less involved in technical aspects and contextual information as the story progresses (Meijssing, 1980: 217). This suggests that one experiences more A-emotions in the beginning of a story than in the end.

To our knowledge, no research has been carried out on the relation between A-emotions and the construction of the pragmatic model. The next section will present a hypothetical description of the literary reading process and the role of different types of emotions therein.

## **7. A hypothetical description of the reading process**

We may imagine the hypothetical reading process as follows. The mood and expectations with which readers open a book, and which may constitute their motivation to start reading, determines partly the text processing and the mental representation constructed.

At the beginning of the story, various scenarios are possible. When the first sentences of the text are locally and globally coherent, readers will experience few F(e)-emotions. Cognitive processing will suffice to construct a coherent interpretation. Possibly, F(a)-emotions are evoked, but they will not be very strong because readers have not had much chance yet to become involved in the characters or interested in the course of the events. Alternatively, when there are few textual

and contextual cues, F(e)-emotions will be evoked. They help readers decide which schemata are relevant for the situation and which knowledge structures should be activated. Also, A-emotions may contribute to the activation of the relevant schemata. Focus on technical aspects of the story facilitates the interpretation of the intentions of the author. Focus on technical aspects may evoke A-emotions. The extent to which A-emotions are activated is also a function of the readers' literary experience. The more experienced a reader is, the more A-emotions will be evoked. F(a)-emotions will not be experienced in this case. Readers do not know yet what the text is about; they have not constructed a strong situation model.

The relatively low reading speed at the beginning of the story need not be attributed only to a more 'bottom-up'-processing as is usually done, but may also arise from emotions and the activation of self relevant information. However, this claim needs to be empirically tested.

The mental representation that is constructed varies with the characteristics of text, reader, and situation. Differences in processing will be reflected in memory differences. We expect that information that has evoked F(e)-emotions will be remembered better than information that has not evoked F(e)-emotions. In the first case, a link is established to the Self and more self-relevant knowledge is activated. We also expect that the more A-emotions are experienced, the stronger the surface representation and the pragmatic model will be. As a consequence, the surface form of the text will be better remembered when there are A-emotions, because readers may not only remember their A-emotion, but also the object of this emotion.

As readers continue, F-emotions contribute to the construction of the situation model. Readers activate relevant information and make inferences on the basis of experienced emotions. The reader's personal interest in actions and emotions of the characters gradually increases during reading and, with that, the extent to which F(a)-emotions are experienced. Readers may even become so strongly involved with the characters that their F(a)-emotions (hope for a happy ending for the character, for example) interfere with the outcome of the story (p-responses).

The extent to which readers experience F(e)-emotions shows a different, more bizarre pattern. Every time readers encounter abstract and conceptually vague descriptions, F(e)emotions become stronger. Then, gradually, the storyline unfolds and F(e)-emotions decrease, possibly until a new episode is encountered. Then the process starts anew.

The role of A-emotions varies as readers progress through the text. Every time readers encounter stylistic passages they enjoy, they will experience A-emotions. As the story progresses, attention for technical aspects decreases, and, with that, the extent to which A-emotions are experienced decreases. This decline may be a consequence of the fact that the pragmatic model is already for the most part constructed. However, this is at odds with the assumption that when readers experience positive F-emotions, they will develop an appreciation for the way in which the story was written. This may indicate that as the story progresses, A-emotions do increase. How is this to be explained? Possibly, a potential increase

in A-emotions is suppressed by the increase in F-emotions. However, A-emotions need more time to fully develop. In fact, a more plausible explanation is that strong A-emotions may not be an on-line phenomenon (i.e., occur during reading), but may rather be an off-line phenomenon. An A-emotion can be a wholistic emotion about the overall effect of the reading experience on the reader. For example, a reader who has been engrossed in the story world and who has not experienced any A-emotions during reading, may later on appreciate the way in which the author has managed to engross the reader.

Reading speed may vary under the influence of experienced emotions. Some emotions may slow down reading speed, whereas other emotions may increase reading speed. For example, when a story is very exciting and readers are curious about events that are about to happen (F-emotions) or curious about the way a writer continues the story (A-emotions), readers will increase the reading-speed, driven by their emotions, as Zwaan et al. (1993) have shown. Also, readers may skim relatively uninteresting passages, to slow down on interesting passages, in which case positive emotions are experienced again.

Finally, A-emotions will be of great importance for the mental representation that is constructed after the reading process is over. They function as a reminder for readers. Readers typically first remember a global attitude towards a story. Dependent on the extent to which a story relates to a reader's personal memories (F(e)-emotions), the story will be remembered better by this reader. This suggests that A-emotions may have long-term memory effects, whereas other emotions may only have relatively short-term effects.

This hypothetical description of the reading process implicitly assumes a relatively harmonic progression of the story. However, every time the reader encounters a new episode in the story (the introduction of a new character, a new setting, etc.) the process may start over again. Therefore, the emotion process as described above may be to some extent cyclical.

## **8. Conclusion**

We have provided an overview of the different types of emotion that may be involved when people read a literary text. In part, this overview was based on existing data. However, it is clear that much more data are needed before we will have a working process model of literary comprehension. The tentative framework we have presented is capable of generating numerous empirically testable predictions. We believe that much valuable information about the role of emotions in literary comprehension can be obtained by pursuing an empirical investigation of these predictions.

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