Mental Representation of Literary Characters as a Distinct Aspect of Response to Literature

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This article investigates mental representations of literary characters and their relations with other aspects of response to literature and age, gender, and expertise. A Saga chapter and the beginning of a contemporary novel were presented to 16 participants from each of three age groups (13 years, 17 years, adults) equally divided by gender and expertise level. After having evaluated the texts with rating scales, participants were interviewed on the main character of each text. The similarity between participants' answers was computed and used for a cluster analysis. Four clusters (representation types) were identified for one character and five for the other. Character representation was affected by age but not by expertise and gender, and was unrelated to other aspects of response to literary text. Explicit ratings of the texts, instead, were affected by expertise. Theoretical and educational implications are discussed.

Keywords: literary characters, reading, mental models, response to literature

Introduction

How do readers represent literary characters in their minds? When a teacher gives his/her students a novel or a short story to read, what do they do with its characters? Do they all understand and remember the characters in the same way? Or do different students build up different ways of representing the same character? If so, is there any relation between differences in character representations and in other aspects of readers' response to a text? And could teachers use the differences in character representation as a resource for literary discussion in classrooms, or to encourage and assist literary reading in heterogeneous student groups?

The study of response to literature developed in the last decades as an interdisciplinary field of research (e.g. Beach & Hynds, 1991; Iser, 1978; Marshall, 2000; Miall, 2002). A variety of methods have been used, the most common being qualitative analysis of participants' protocols and quantitative rating of texts on various dimensions. Also other methods have occasionally been used, such as "personal remindings" (Larsen & László, 1990; Seilman & Larsen, 1989). This stream of studies includes issues such as text comprehension, appreciation of meaning as intended by the author, negotiation with the text through which individual readers make sense of its meaning, narrative structures, readers' emotional response, readers' interest, and the features of the text that make it interesting.

Although a wealth of empirical findings has already been reported on the effect of various properties of the text, the reader, the context, and their interactions on readers' responses (e.g. Kreutz & McNealy, 1996; László, 1999), the mental representation of literary characters is still a partly neglected topic. So far, it has been considered mainly in indirect ways, like in studies of readers' ability to infer characters' emotional states (Gernsbacher et al., 1998; Gygax et al., 2003) and states of knowledge (Gerrig, Brennan, & Ohaeri, 2001), or in studies of readers' empathy with characters (Bourg, 1996; Corwin, 2000). A more direct approach was taken by Rapp, Gerrig, and Prentice (2001), who studied readers' abstraction and use of the characters' personality traits. However, we still lack a systematic approach to representation of the characters themselves. It is a common observation that, for instance, if two persons read Dostoevsky's *Idiot*, each reader could get acquainted, through the pages, with a different Prince Myshkin. Therefore, it seems useful to clarify the nature of mental representations of literary characters, and devise a method that enables researchers to study differences among representations of a character by different readers.

Research on understanding narrative text (Albrecht & O'Brien, 1993; de Vega, 1995; Zwaan & Radvansky, 1998) suggests that comprehension is achieved by constructing and updating, while reading, a mental model of the meaning of the text. According to Johnson-Laird (1983) a mental model includes several tokens and relations among them, and the information represented in those tokens and relations can range from very concrete and nearly perceptual to highly abstract. Thus, we shall use the theory of mental models as a broad framework, and make the working assumptions that readers construct mental models of literary characters and those mental models can include information at different levels of abstraction, because a reader can have a mental representation of a character's physical look, overt actions and interactions with other characters, intentions, mental states, and personality traits.

However, different readers by no means need to construct identical mental models of the same text. Mental models are parsimonious representations, based on selected information, and can include not only explicitly presented information, but also the outcome of inferences. Different readers could select different information from the text, or make different inferences, and mental models of a character may reflect the readers' different inferences or information selection.

Readers' understanding of a literary text, and thus also their mental models of characters, can also be affected by their cultural background. Previous research on cross-cultural factors of response to literature (Brewer & Ohtsuka, 1988; Halász, 1991; Larsen & László, 1990; Morra & Lazzarini, 2002) showed, on the whole, some systematic cross-cultural differences even though commonalties between "Western" cultures seem to prevail over differences. For instance, Morra and Lazzarini (2002) reported that Italian and Icelandic readers gave similar responses to an Italian folktale that can be classified as an ordinary thriller, but, on the other

hand, they gave quite different responses to a traditional Icelandic folktale. Some of those differences were accounted for by participants' experience with similar stories, which, for instance, seemed to lead Icelandic readers to grasp better the relationship between the tale ending and its antecedents. Other differences, however, were not accounted for by experience with similar stories. Belonging to a culture involves more than being familiar with certain story types. Thus, another issue of theoretical interest is whether cultural factors affect character representation. Cultural insiders may understand better a character's motives and values; they could have a moral worldview that implies that some character rightly deserves a certain outcome; they may share certain standards of what is a satisfactory outcome in given situations. Representations of values and social contexts could be the grounds for some of the observed cross-cultural effects. Specific research on Icelandic culture—which has a particularly rich literary tradition—showed that, although young Icelanders are to a large extent assimilated to the contemporary global culture, the roots of Icelandic literature and reading habits are not completely lost, and still exert an influence on young Icelanders' knowledge and preferences (Guðbjörnsdóttir & Morra, 1997, 1998, 2004).

Experimental methods, sometimes used in previous research, can be appropriate to test highly specific questions on character representation, such as whether a given emotion is present or not in the reader's current mental representation (Gygax et al., 2003), or how attention-demanding it is to make an inference about a character's goals (Shears et al., 2007). However, it seems difficult to capture by means of an experimental design *the overall pattern* of a reader's representation of a character. To this effect, we devised a structured interview, with open questions that are general enough to be applied to any character. The order of the questions, described in detail in the Methods section, proceeds from the character's external appearance, to overt actions, and, finally, internal states or personality traits. The participants' answers can be submitted to content analysis and subsequent cluster analysis, in order to identify a limited number of representation types of a character.

Following Miall's (2004) discussion of research methods in the field of response to literature, our interview-based method (similarly to some other ones discussed in that chapter) can be characterized as "designed to be as open to readers' descriptions of their reading experiences as possible" also because "no preconceived categories are employed" but, rather, "categories of analysis emerge from the readers' statements" (p. 183).

Previous research on cultural aspects of response to literature has used various methods. For instance, Morra and Lazzarini (2002) used a set of rating scales, largely derived from other studies. Larsen and László (1990; László & Larsen, 1991) used the method of "personal remindings" (also called "self-probed retrospection" by Seilman and Larsen [1989]), which requires participants to mark the page every time a reminding comes to their minds while reading a text, and subsequently to report on the content and the emotional tone of such remindings. In this study we have used both of these methods, rating scales and personal remindings, in addition to the newly devised interview on characters. Thus, we can explore the effect of developmental and cultural variables on different aspects of readers' response to literary texts, as well as the possible relationships among those aspects.

The aims of this paper are fourfold: (1) to propose a combination of methods, among which is a new method based on structured interviews, in order to study the nature and content of mental representations of literary characters; (2) to examine whether those representations can be described as mental models, as they are understood in Johnson-Laird's theory; (3) to explore how developmental and cultural variables (namely, age, expertise, and gender) affect those representations; and (4) to explore how those representations are related

to other aspects of response to literature (i.e. those measured by rating scales or by the method of personal remindings).

Methods

Participants and Sample Selection

The participants were 296 native Icelanders, including 109 eighth-graders (13 years old, 53 female and 56 male), 86 students in the second year of high school (17 years old, 53 female and 33 male), and 94 undergraduates (mean age 22.5, 50 female and 44 male).

From this pool of participants, 48 were selected for the main part of the study according to the following procedure. In a selection session, four sub-scales of a knowledge questionnaire (Guðbjörnsdóttir & Morra, 1998) were administered to whole classes of eighth-graders and high-school pupils and to small groups of undergraduates from different disciplines, covering almost all academic fields. The sub-scales were on knowledge of medieval Icelandic sagas, Northern mythology, contemporary Icelandic literature, and general information (which was used as a control variable). Each sub-scale includes 10 to 15 four-choice questions that tap knowledge of specific facts in that domain. A number of questions on reading habits (from Guðbjörnsdóttir & Morra, 1997) were also presented. These ask participants to rate on five-point scales the frequency of their own reading of different material. For the purpose of this research, two measures were derived from these questions, i.e. self-rated reading frequency of Icelandic literature and of other material.

The participants who scored in the upper one-third of their age group *both* in the scale on knowledge of medieval Sagas *and* in that on knowledge of contemporary Icelandic literature were considered for inclusion in the higher-expertise group. Those who scored in the lower half of each scale were considered for the lower-expertise group. Eight persons (4 female and 4 male) of each age group were selected for the higher-expertise group and an equal number for the lower-expertise group. This yields a total of 48 participants in the final sample, which can be considered a sufficient size for reliable comparison between groups (i.e. both between different age groups and different expertise levels). We also took care that higher- and lower-expertise groups were balanced for socio-economic status; this was obtained by matching as closely as possible the participants selected for either group according to a simplified 3-level version (Guðbjörnsdóttir & Morra, 1997, 1998) of a widely-used 6-level scale for assessment of SES in Iceland (Björnsson, 1980; Björnsson, Edelstein & Kreppner, 1977).

As reported in Table 1, not only was the higher-expertise group much more knowledgeable than the lower-expertise group in the two selection variables, but they also reported higher frequency of reading of Icelandic literature, while the two groups did not differ significantly in the variables that are not specifically related to Icelandic literature.

By means of this procedure, the sample selected for the main part of the study was equally divided by age (13, 17, adults), gender, and level of expertise—in all, 48 participants. The age range of the selected adults was 21–30 years (mean = 24).[1]

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[1] Two participants reported having read the excerpt from *Heimsljós*, two other participants the excerpt from *Eiríkssaga*, and another one reported having read both. Because these participants' responses were not remarkably different from those of the rest of the participants and did not alter the pattern of results, analyses of the data from the whole sample are reported below, in order to use the full set of data and keep the numeric balance between the various groups.

Table 1

Comparison of the Higher-Expertise and Lower-Expertise Groups on the Six Measures Obtained in the Selection Session

Variable	Higher		Lower		t	p
	Mean	(SD)	Mean	(SD)		
Knowledge of medieval sagas	.82	(.13)	.35	(.20)	9.64	< .001
Knowledge of contemporary Icelandic literature	.69	(.16)	.33	(.12)	8.69	< .001
Knowledge of Northern mythology	.82	(.14)	.74	(.17)	1.73	n.s.
General information	.67	(.21)	.66	(.14)	0.24	n.s.
Self-rated reading of Icelandic literature	6.08	(2.67)	4.42	(2.86)	2.09	< .05
Self-rated reading of other materials	8.21	(2.90)	6.67	(3.00)	1.81	n.s.

Note. Proportion of correct responses is reported for the four knowledge variables, and the total score for the two ratings of reading frequency

Literary Materials

Two literary texts were used in this research. The purpose was *not* to compare the texts with each other, and therefore we did not try to equate them in length, content, or other features. Instead, we used two texts that can be considered excellent exemplars of different literary genres, which are not among the most widely known in their genre, and whose length could afford presenting them in a single session. We selected the texts according to the following criteria: one excerpt from a medieval Saga and one from a contemporary novel, not widely known to the general public of readers, each of them self-comprised, each of them focused on a main character, whose physical appearance, however, is not explicitly described. Furthermore, both of these texts proved to be sufficiently understandable and interesting for readers of different ages in a small pilot study.

The contemporary text was the beginning (1,653 words) of the novel *Heimsljós* [Light of the World] by Halldór K. Laxness (1902–1998; Nobel Prize in 1955). That text introduces Ólafur Kárason, an orphan and mistreated child, who wanders on the beach while daydreaming of becoming a writer—against the will of his adoptive family, who consider his interest in writing shameful and sinful. The text is very much focused on the stream of consciousness of the child, in which elements of the surrounding nature and everyday memories intermingle with his great dream. In this passage Laxness describes in detail the old and too large clothes from his adoptive brothers that Ólafur is wearing, but does not say a single word on the physical look of the child himself.

Literary critics widely acknowledge that Ólafur Kárason is modelled after the biography of Magnus Hjaltason, a poet of little literary importance who had a difficult life (Boyer, 1989).

The medieval text was the fourth chapter (901 words) of *Eiríks Saga Rauða* [The Saga of Erik the Red], an orally reported tale that was transcribed in the thirteenth century. That chapter is a self-contained episode that takes place in Greenland during a period of harsh famine and epidemics. It tells of the consultation of the prophetess þorbjörg by the leaders of a rural community and reports in a descriptive way about persons, objects, and actions, in that bony and objective style that is typical of the Sagas. The text of the Saga does not describe the physical aspect of þorbjörg, nor does it report þorbjörg's

age; however, several hints suggest that she might not be too young. The text is very detailed, instead, in describing the clothing and paraphernalia that she used in her pagan ceremony.

The actual historical existence of þorbjörg is questionable. In general medieval Sagas are reliable in their account of historical events, but some details or episodes could be literary embellishments. There are two Sagas (Eiríks Saga Rauða and Grænlendinga Saga) that refer to the same historical events, but only the first mentions þorbjörg and reports her prophecies on natural events and on the future of another female character, Guðríður. In Grænlendinga Saga there is no prophecy concerning the end of famine and epidemic, whereas the prophecy on Guðríður's future is pronounced by the corpse of her first husband. On these grounds, although the depiction of þorbjörg is probably accurate of a typical medieval Norse sybil, no opinion on her actual existence can be taken a priori as right or wrong.

Each text was printed on few A4 sheets, with no indication of its source.

Procedure and Psychological Measures

The participants selected for this study were met individually. Each participant was presented first with the excerpt from *Heimsljós*, which was deemed to be easier, and, subsequently, with that from *Eiríks Saga Rauða*. Because we did not intend to make comparisons between the two texts, a fixed order was appropriate.

After reading the text from the contemporary novel and marking the points that evoked personal remindings (Larsen & László, 1990), the participant was handed a response sheet that included 11 7-point rating scales on their liking and interest for the text, its clarity, its literary quality, how vivid the imagery was it aroused, their experience with similar texts, and so on (for more details, see the Results section). The response sheet also included 19 rating scales for particular emotions that one could experience while reading the text. These items were similar to those used in previous research (Bourg, 1996; Brewer, 1996; Goetz, Sadoski, Fatemi, & Bush, 1994; Goetz et al., 1992; Iran-Nejad, 1987; Morra & Lazzarini, 2002).

Then, the experimenter numbered the marks for personal remindings made on the text and for each mark, in turn, presented a new response sheet that required a short description of the reminding itself, a five-choice question on the source of that memory (e.g. it was something that happened to me personally, something I saw in the media, etc.), another question on the content (e.g. it was an event, a person, a place, etc.), three rating scales on the personal importance of that reminding, how vividly it came as an image, and how often one thinks of it, and, finally, 11 rating scales on specific emotional qualities of that reminding. For the purpose of data analysis, we also classified the descriptions of remindings into five categories according to their cultural relevance; i.e. Icelandic culture, Icelandic lifestyle, Icelandic environment, foreign culture, and other.

When response sheets had been filled in for all personal remindings evoked by the first text, the whole procedure (i.e. reading, evaluating the text, and evaluating the personal remindings) was repeated for the Saga chapter.

At that point, the experimenter started a structured interview on the main characters. We deliberately postponed this interview to the end of the session because we wanted to remove from this task any short-term memory component and only consider long-term memory representations of characters that participants constructed from their reading.

To put participants at their ease, they were asked to start from the character that they preferred in these readings (34, or 71% of the sample, started from Ólafur Kárason). The interview started with a very general question on what the participant thought of that character. Then the other questions followed: Can you remember or picture in your mind any other aspect of NN's (e.g. Ólafur Kárason's) look? Do you think that NN actually existed? How can we know? Do you remember anything that NN did? Why did NN do that, what were his intentions? Could you say something more on what kind of person NN was, e.g. on his/her character or personality? What kind of feelings does NN evoke in you? This order of the questions was intended to proceed from external appearance toward more internal states or traits of the target character. Of course, the participant was prompted to expand or clarify whenever necessary.

After completing the interview on their preferred character, participants were questioned about the main character from the other text. All the interviews were tape-recorded for subsequent coding. The whole session lasted about one hour.

Results on Heimsljós and Ólafur Kárason

Overall Rating of the Text

An exploratory factor analysis (with principal axes extraction and varimax rotation) of the 19 scales, by which participants rated their emotional experience while reading this text, revealed three factors, which accounted for 46.4% of the total variance. The first factor includes negative emotions (with highest loadings on disgust, .89; anxiety, .70; fear, .66; hostility, .58; shame, .54; embarrassment, .53; and sadness, .51) and accounts for 20.2% of variance. The second factor, which accounts for 13.8% of variance, includes positive emotions (joy, .80; pleasure, .74; amusement, .64; and admiration, .61). The third factor accounts for 12.3% of total variance and refers to empathic feelings (affection, .69; sympathy, .61; and anger, .52). Although anger also loaded (.46) the factor of negative emotions, its main loading on the third factor makes appropriate sense because a reader can feel angry for the mistreating of little Ólafur by his adoptive family. It also seems interesting to note that sympathy was the single emotion with the highest mean rating (i.e. 4.52) in the whole sample. Hence, we can note that each factor extracted accounts for a sizable proportion of variance, and the factor structure of reported emotions is quite specific to the content and the tone of this literary passage.

The participants' responses on each of the eleven scales that rated the text, as well as their individual scores (obtained with the regression method) in each of the three emotional factors, were submitted to three-way analyses of variance, Age x Gender x Expertise. Descriptive statistics are reported in Table 2. Age only affected experience with similar stories, $F(2,36) = 5.41$, $p < .01$; older participants reported greater experience. Gender affected empathic feelings, $F(1,36) = 4.34$, $p < .05$; females felt closer to the protagonist than males. Expertise affected experience with similar stories, $F(1,36) = 12.80$, $p < .001$, vividness of imagery while reading, $F(1,36) = 7.46$, $p < .01$, and understanding of the text, $F(1,36) = 11.05$, $p < .002$; the "expert" readers reported more vivid imagery, better clarity of the text, and of course more experience with similar stories than the less expert participants. Finally, the Gender x Expertise interaction was significant both in the explicit rating of empathy towards the protagonist, $F(1,36) = 4.58$, $p < .04$, and in the empathic feelings score that emerged from factor analysis, $F(1,36) = 4.19$, $p < .05$; in both cases, it was only

among the more expert readers that females proved more empathic toward Ólafur than males.[2]

Considering, in particular, emotions, one may note in Table 2 that the absolute difference in positive emotions between higher- and lower-expertise groups is as large as that between males and females in empathic feelings. However, because of a larger within-group

Table 2

Means and Standard Deviations of the Participants' Ratings of the Text From a Contemporary Novel, by Age, Gender, and Expertise

Question	Age group			Gender		Expertise	
	13 yr	17 yr	Adult	Male	Female	High	Low
Liked reading	4.38	3.88	4.56	4.08	4.46	4.42	4.13
	1.26	1.26	2.03	1.53	1.44	1.44	1.54
Have often read similar stories	3.69	4.50	4.31	4.38	4.54	5.13	3.79
	1.45	1.51	1.82	1.66	1.44	1.26	1.53
Familiarity with themes	3.81	4.31	4.63	3.83	4.67	4.71	3.79
	2.37	1.82	1.63	1.97	1.88	1.73	2.08
Vivid imagery while reading	4.87	5.31	5.44	4.87	5.54	5.88	4.54
	2.06	1.49	1.86	1.75	1.82	1.57	1.79
Interesting	4.81	3.69	4.56	4.08	4.63	4.71	4.00
	1.60	1.40	1.86	1.69	1.64	1.57	1.72
Clear and understandable	4.38	4.56	5.06	4.92	4.42	5.42	3.92
	1.89	1.55	1.77	1.67	1.79	1.38	1.74
Empathy toward character	4.31	4.25	4.94	4.21	4.79	4.79	4.21
	2.02	1.88	1.81	1.86	1.91	1.84	1.93
Well connected story	4.25	4.06	4.75	4.33	4.37	4.71	4.00
	2.05	1.06	1.88	1.76	1.69	1.46	1.89
Happy ending	4.94	4.69	5.19	4.96	4.92	5.29	4.58
	1.24	1.82	1.38	1.65	1.32	1.30	1.59
Important themes	5.00	4.37	4.50	4.46	4.79	4.96	4.29
	1.79	1.54	1.32	1.69	1.41	1.23	1.78
Relevant to own life	2.25	2.13	2.50	2.25	2.33	2.58	2.00
	0.93	1.26	1.51	1.26	1.24	1.38	1.02
Negative emotions	+.12	−.17	+.05	+.14	−.14	+.08	−.08
	0.97	0.95	0.96	0.98	0.91	1.00	0.90
Positive emotions	−.20	−.05	+.25	+.05	−.05	+.24	−.24
	0.74	0.68	1.22	1.00	0.84	0.98	0.79
Empathic feelings	−.31	+.02	+.28	−.24	+.24	+.07	−.07
	0.68	0.97	0.87	0.75	0.92	0.82	0.92

Note. For each variable, the first line reports the means and the second the standard deviations. The first eleven variables are ratings on 7-point scales; the emotion variables are regression scores (i.e. z scores) derived from the factor analyses of emotion ratings, as described in the text.

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[2] Because 14 ANOVAs were performed, one may want to consider a statistical correction for the number of analyses. This can be achieved by setting a Bonferroni-corrected level of significance of $.05/14 = .00357$. The main effects of expertise on experience with similar stories and understanding of the text remained significant with this very narrow criterion.

variance in positive emotions, the trend for more intense positive emotions in more expert readers was only marginally significant ($p < .09$) and the only significant effect in reported emotions concerned empathic feelings, which were more intense in females (in particular, "expert" females) than in males.

Personal Remindings

The number of personal remindings elicited by this text ranged from 0–20, with a mean of 7.17. Out of all personal remindings, 13% were classified as referring to Icelandic culture, 14% to Icelandic lifestyle, 8% to Icelandic environment, and 5% to foreign culture.

The number of remindings reported by participants was entered in a three-way analysis of variance, Age x Gender x Expertise. No significant main or interaction effect was detected. Similar analyses were performed for the number of remindings classified in each cultural category by the experimenter, for the number of remindings classified by participants for source and content, and for the participants' ratings of importance, vividness, frequency, and emotional tones of their remindings. Also in these cases, no significant effects were detected. In short, age, gender, and expertise had no influence at all on the number or the quality of remindings elicited by this text to the participants in this study.

Character Representation

The interviews on Ólafur Kárason were submitted to content analysis. Content categories were identified in a bottom-up way, as it is necessary to do when the materials to be analyzed do not afford pre-defined categories. The content categories were very narrow at the beginning and, after having coded all interviews, two or more categories with a similar content were collapsed together whenever possible, through discussion between the authors and the assistants who collected the interviews. In this way, we ended with a total list of 68 content categories. The mean number of content categories used by each participant was 10.67 ($SD = 3.74$).

Similarity among participants' accounts of this character was evaluated by computing Jaccard's index. This is an index of similarity widely used in biology and to some extent also in the social sciences, which takes into account the common and non-common features of two cases (Aldenderfer & Blashfield, 1984).[3] The matrix of Jaccard's similarity indexes

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[3] An explanation of how this index works is given here. For instance, suppose that case A has 11 features and case B has 9 features; suppose that 5 of these features are present in both cases, while 6 are present only in A and 4 only in B. Then, the ratio of shared features to total features is $5/(5+6+4)$, i.e. .33: this ratio is called Jaccard's index. Note that this index only takes into account the features that are present in at least one of the cases under consideration. In our instance, let cases A and B be two participants in this study; to compute the similarity between their descriptions of Ólafur, those content categories used by either A or B would be used, while the categories only used by other participants would be ignored. This distinguishes Jaccard's index from most similarity indexes used in psychology with binary data. In this research it is appropriate to consider only three cells of the contingency tables, not four, because the *absent-absent* contingencies would not actually mean that participants A and B agree that those categories do not apply to the character of Ólafur, but rather, that during the interview those contents did not occur to them, or they did not think of such contents as relevant. Thus, in computing similarity between pairs of interviews, only the content categories that have actually been used by at least one of the two participants under consideration are taken into account.

Table 3

Proportion of Participants by Cluster who Used Each Content Category for Ólafur Kárason (only proportions with at least .20 in a cluster are reported, other categories are omitted)

Category	Cluster				overall
	1	2	3	4	
	(*n*=14)	(*n*=15)	(*n*=9)	(*n*=8)	(*n*=48)
Badly treated, beaten, spanked	.64	.60	.78	.75	.65
Artist, poet	.21				.10
Small, looks weak	.79	.60	.44	.37	.56
Thin	.79	.60	.67	.37	.60
Medium height				.25	.04
Tall				.25	.10
*In big cloths			.67		.19
*In old cloths				.37	.06
*Dirty; in dirty cloths	.21		.22	.50	.21
*Specification of hair colour	.71	.87	.22	.62	.65
*Existed	.86			.50	.35
*Maybe existed		.20	.89	.37	.33
*Did not exist		.67			.25
Laxness used real people as role models	.21		.22		.15
*Notes/interviews/memories by the author	.43				.17
Seek evidence (church books, etc.)		.40	.33		.23
*Reads	.29		.56		.23
Writes (letters on the ground, on paper)	.43		.22		.21
*Thinks			.44		.15
He is into books	.43	.20	.22		.23
*Goes to fetch horses		.33			.10
Looks at the birds		.20		.25	.12
Independent, does what not supposed to	.29		.22		.17
Seeks asylum on the beach	.21		.22	.25	.17
Wants to write, decides to be a writer	.29	.27	.44		.27
Intelligent, curious, wants to learn	.43		.33		.23
*Strong, determined, brave, survivor	.43				.15
A pushover			.33		.15
Eccentric, weird, strange		.33	.22	.25	.23
Shy, invisible type, avoids people	.29	.20		.25	.19
Sensitive, thinks a lot about feelings					.12
Has a high tolerance	.29		.22		.17
*A good boy			.22	.87	.21
Has a great/bright future			.22		.06
*Helpless, unhappy				.50	.10
*Has no confidence, is small inside				.75	.15
Empathy, sorry/hope for him, want help him	.64	.80	.89	.50	.69
I like him			.22		.06
Funny, fun			.22		.10
Interesting, exciting	.36	.33	.44		.29
Irritating, boring	.21	.20			.12
Reminds me of someone			.22		.08

Note. * categories used in a significantly different proportion among clusters (likelihood ratio, $p < .05$).

among participants was, in turn, submitted to a cluster analysis with the within-groups average linkage method. The within-groups method, in combining clusters, takes into account the similarity between elements that are already clustered within the same group as well as the similarity with elements that could be added to a cluster; thus, at each step, the average similarity between *all* elements in the resulting cluster is maximized (Anderberg, 1973). Because this is a hierarchical method, interpretation of the results requires "cutting" the dendrogram at a convenient point that yields a simple solution according to the researchers' judgement.[4] We have set the cutoff at the level of similarity of .23, which yielded four clusters.

The first cluster (average similarity = .25) includes 14 participants. The second cluster (average similarity = . 24) includes 15 participants. The third cluster (average similarity =. 24) includes 9 participants. The fourth cluster (average similarity = . 24) includes 8 participants. Two participants remained unclassified. Table 3 reports the content categories, their proportion of occurrence and the categories on which there were significant differences among clusters.

Before commenting on the different clusters, two general remarks are appropriate. First, there is a real point in participants' assertions that Ólafur actually existed or could have existed, and that Laxness often used real persons as role models for his characters (as mentioned above, Ólafur Kárason is modelled after Magnus Hjaltason). Second, it is noteworthy that, despite the lack of a physical description of Ólafur in the text, over half of the participants imagined him as small and thin and almost two thirds reported some detail on the colour of his hair (we collapsed different colours in a single category in order to avoid that clusters be differentiated by a detail of little relevance, such as imagining the character as blond or dark-haired). As reported in Table 3, participants used the content categories that describe the character's clothing less frequently, although those are the ones that are accurate with respect to the text.

The first cluster of participants described Ólafur as a badly treated child who looks small and thin; most of them believed that he really existed, and felt empathy or interest for him. Activities like reading, writing, and enjoying books were often mentioned, and the character was often described as strong or determined, intelligent or curious, highly tolerant, and independent. Some also considered him an artist or a poet, or mentioned his will to become a writer.

The second cluster of participants also described Ólafur as a badly treated child who looks small and thin; they tended to consider him a fictitious character, but all the same they felt empathy or interest for him. There was some tendency to regard him as a child in contact with nature, because activities like fetching horses or looking at the birds are among the most frequently mentioned. Eccentric or strange, and shy or avoiding, were the most frequently reported personality traits.

The third cluster of participants seemed more faithful to the text. They, too, saw him as a badly treated child who looks small and thin, but they refered more accurately to the clothing and made less reference to the colour of hair than the other groups. They usually asserted that he could have existed, and reported positive feelings (empathy, interest, liking, fun) even more often than other groups. Actions like reading, writing, thinking, and using books were

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[4] That researchers' judgement is, in a sense, arbitrary; but in the same way, the usual probability threshold of .05 for statistical significance is also arbitrary, because it does not follow any necessary rule or demonstrated criterion. For certain arbitrary values (such as statistical significance threshold or confidence intervals) there are widely accepted conventions that follow from cumulated experience. For other values (such as the cutoff in a cluster hierarchy) no such conventions exist, perhaps because application of the method is highly context-sensitive.

often mentioned, as well as his will to be a writer. However, personality traits did not seem to be a major distinctive feature of this cluster (intelligent or curious and pushover had slightly higher frequencies, but a number of heterogeneous categories were used in this regard).

The fourth cluster of participants seemed to emphasise that Ólafur is an unhappy child. As in the other clusters, they also described Ólafur as a badly treated child; however, emphasis on his old or dirty cloths was specific of this group. Only this group used such categories as a good boy, helpless or unhappy, with little confidence with high frequency. Half of this group reported empathy for Ólafur.

It should be noted that there were both similarities and differences among the four clusters. On one hand, as shown in Table 3, a majority of participants in all clusters described Ólafur as a badly treated child, small and thin, and reported some sort of empathic feelings toward him. These basic features of representation and response to the character were shared by all clusters. On the other hand, there were significant differences among clusters in no less than 15 content categories. These included, in particular, various aspects of the clothing, the actual existence of this person, several of his activities, and some personality traits (as well as inaccurate details on eye colour).

None of the four representations of Ólafur that emerged from the cluster analysis can be deemed incorrect. The third seems closest to the text, and the first is probably closest to the author's intention of presenting the independence and even stubbornness that is typical of a dedicated artist—and of an Icelander. However, Laxness presented little Ólafur as a multi-faced, complex character, and it seems that different groups of participants picked up different features of the literary character and focused on those in a selective way.

Two participants (both from the youngest age group) remained unclassified: one gave a very sketchy and bare description, and the other one gave a peculiar report of Ólafur in the frame of a "normal boy."

As reported in Table 4, a significant relationship was found between clusters and age groups ($\chi^2 = 13.62$, $DF = 6$, $p < .04$). The significance of the chi-square is a consequence of the fact that, with age, membership in cluster 1 increases and membership in cluster 4 decreases. Cluster belonging was not significantly related either to gender ($\chi^2 = 1.85$, $DF = 3$) or level of expertise ($\chi^2 = 2.39$, $DF = 3$).

We also explored whether character representation was related to other aspects of response to this text. There were very few significant results, and those few were not particularly remarkable. There were differences among clusters in reported experience with similar stories, $F(3,42) = 2.86$, $p < .05$ (where members of clusters 1 and 3 reported more experience than members of cluster 4); in reminding of events, $F(3,42) = 4.14$, $p < .02$ (members of

Table 4

Representation of Ólafur Kárason by Age: Observed (and Expected) Frequencies in the Contingency Table of Cluster Membership x Age Group

Age group	Cluster				
	1	2	3	4	Total
13 years	2 (4.3)	5 (4.6)	1 (2.7)	6 (2.4)	14
17 years	4 (4.9)	6 (5.2)	4 (3.1)	2 (2.8)	16
Adults	8 (4.9)	4 (5.2)	4 (3.1)	0 (2.8)	16
Total	14	15	9	8	46

cluster 1 were reminded of fewer events than members of clusters 2 and 4, and members of cluster 3 fewer events than members of cluster 4); and in reminding of something that was got from the media, $F(3,42) = 3.16$, $p <.04$ (members of cluster 1 had fewer remindings of this sort than members of clusters 2 and 4). Overall, we can conclude that (perhaps surprisingly) character representation, personal remindings, and explicit ratings of the text were essentially unrelated to each other.

Results on Eiríks saga Rauða and Þorbjörg
Overall Rating of the Text

An exploratory factor analysis of the emotion ratings (with the same method as for the passage from Heimsljós) revealed three factors, which accounted for 63.5% of the total variance. The first factor includes positive emotions (with highest loadings on amusement, .94; pleasure, .87; joy, .75; curiosity, .75; admiration, .71; and tension, .63) and accounts for 22.2% of variance. The second factor, which accounts for 21.9% of variance, includes non-social negative emotions (fear, .95; sadness, .90; anxiety, .88; hostility, .62; and stress, .61). The third factor accounts for 19.3% of total variance and includes social negative emotions (embarrassment, .86; shame, .85; disgust, .68; and anger, .67). However, most of the emotion ratings for this passage were rather low; in the whole sample, the single emotions with the highest mean rating were curiosity (mean = 3.65) and amusement (mean = 3.39). Negative emotions, in particular, had generally low ratings—which seems sensible for a description of an ancient future-telling rite that did not involve any particularly shocking action. Despite the low ratings for negative emotions, it is interesting to note that, for this passage, they clearly split into social and non-social ones and that the proportion of variance accounted for in the factor analysis was relatively high.

The participants' ratings of the text on each of eleven scales and their individual scores in the three emotional factors were submitted to three-way analyses of variance, Age x Gender x Expertise. Descriptive statistics are reported in Table 5. With this text, massive significant effects of expertise on ratings were obtained. In particular, expertise affected liking for the story, $F(1,36) = 6.81$, $p <.02$, interest in it, $F(1,36) = 7.03$, $p <.02$, vividness of imagery while reading, $F(1,36) = 18.69$, $p <.001$, experience with similar stories, $F(1,36) = 10.17$, $p <.01$, empathy towards the protagonist, $F(1,36) = 5.61$, $p <.03$, perceived importance of the themes, $F(1,36) = 4.53$, $p <.04$, perceived happy ending, $F(1,36) = 4.51$, $p <.05$, and positive emotions, $F(1,36) = 4.54$, $p <.04$. In all these cases, the "expert" participants produced higher ratings of the story. The other factors, instead, showed little influence in these analyses. Gender affected perception of a happy ending, $F(1,36) = 12.52$, $p <.001$, with females producing higher ratings than males; this difference makes sense, because one of the final events in the chapter is Þorbjörg's prophecy of a bright future and a good marriage for another female character, Guðríður. We have also found a significant Age x Gender interaction in experience with similar stories, $F(2,36) = 3.82$, $p <.04$. This interaction consisted of females reporting greater experience than males in the adolescent age-groups, and the opposite in the adult group.[5]

[5] With a Bonferroni-corrected level of significance of .05/14, the main effects of expertise on vividness of imagery and experience with similar stories, and that of gender on perception of a happy ending, remained significant.

Table 5

Means and Standard Deviations of the Participants' Ratings of the Text from a Medieval Saga, by Age, Gender, and Expertise

Question	Age group			Gender		Expertise	
	13 yr	17 yr	Adult	Male	Female	High	Low
Liked reading	4.00	4.44	4.50	4.25	4.37	4.79	3.83
	1.32	1.50	1.15	1.26	1.31	1.22	1.27
Have often read similar stories	4.25	5.56	5.06	4.96	4.96	5.75	4.17
	2.24	1.75	1.81	1.92	2.07	1.48	2.12
Familiarity with themes	4.07	4.75	4.81	4.52	4.58	5.09	4.04
	2.12	1.61	1.87	1.78	1.98	1.68	1.92
Vivid imagery while reading	4.25	4.63	4.56	4.25	4.71	5.46	3.50
	1.95	1.71	1.71	1.65	1.88	1.25	1.67
Interesting	3.69	4.31	3.88	3.71	4.21	4.58	3.33
	1.58	1.89	1.71	1.94	1.44	1.59	1.63
Clear and understandable	3.56	4.38	4.13	4.04	4.00	4.29	3.75
	1.59	1.67	1.02	1.40	1.56	1.46	1.45
Empathy toward character	2.06	1.69	2.37	1.92	2.17	2.54	1.54
	1.73	1.08	1.54	1.47	1.49	1.64	1.10
Well connected story	3.80	4.81	4.56	4.43	4.38	4.91	3.92
	1.93	1.72	1.59	1.97	1.58	1.47	1.91
Happy ending	5.07	5.38	5.44	4.65	5.92	5.70	4.92
	1.67	1.31	1.09	1.19	1.21	1.22	1.38
Important themes	4.19	5.00	4.44	4.42	4.67	5.08	4.00
	1.76	1.75	1.59	1.82	1.61	1.35	1.87
Relevant to own life	1.38	1.50	2.13	1.50	1.83	1.92	1.42
	0.50	0.89	1.71	1.02	1.31	1.38	0.88
Positive emotions	−.30	+.15	+.14	−.08	+.08	+.27	−.27
	0.93	0.94	1.07	1.10	0.88	0.98	0.94
Non-social negative emotions	+.03	+.10	−.12	+.12	−.12	−.05	+.05
	1.13	1.16	0.81	1.26	0.72	1.06	0.99
Social negative emotions	+.20	−.09	−.10	+.17	−.17	+.17	−.17
	0.92	1.06	0.95	1.23	0.57	0.97	0.95

Note. For each variable, the first line reports the means and the second the standard deviations. The first eleven variables are ratings on 7-point scales; the emotion variables are regression scores (i.e. z scores) derived from the factor analyses of emotion ratings, as described in the text.

Considering, in particular, emotions, the only significant effect concerned positive emotion ratings, which were higher in the higher-expertise than the lower-expertise group; all other main and interaction effects for positive emotions, and all effects for either social or non-social negative emotions, were clearly non-significant.

Personal Remindings

The number of personal remindings elicited by this text ranged from 0 to 15, with a mean of 3.44. Out of all personal remindings, 25% were classified as referring to Icelandic

culture, 11% to Icelandic lifestyle, 7% to Icelandic environment, and 10% to foreign culture. The overall number of remindings reported by each participant was entered in a three-way analysis of variance, Age x Gender x Expertise. No significant main or interaction effect was detected. Null findings were obtained also with the number of remindings classified in each category, for the various participants' ratings of their own remindings, and for their emotional quality. These null findings replicate closely those obtained with the contemporary text.

Character Representation

The interviews on þorbjörg were also submitted to content analysis, in the same way as those on Ólafur. In this case, we ended with a total list of 62 content categories. The mean number of content categories used by each participant was 11.81 (SD = 4.01).

The matrix of Jaccard's similarity indexes among participants was also submitted to a cluster analysis with the within-groups linkage method. We have set the cutoff of the dendrogram at the level of similarity of .22, which in this case yielded five clusters.

The first cluster (average similarity =.26) included 5 participants. The second cluster (average similarity = .26) included 14 participants. The third cluster (average similarity = .26) included 8 participants. The fourth cluster (average similarity = .25) included 6 participants. The fifth cluster (average similarity = .22) included 15 participants. Table 6 reports the proportion of occurrence of the content categories and the categories on which there were significant differences among clusters.

Also in this case, let us make some general remarks before reporting on the differences among clusters. First, because the text of the Saga does not describe the physical aspect of þorbjörg, any such content reported by participants is of their own making. Describing her as middle-aged or elderly, however, seems an acceptable inference from the text. Participants' recall of her clothing and equipment was usually correct. Claims about þorbjörg's historical existence or non-existence can be taken as legitimate opinions, and no specific opinion on her actual existence can be taken a priori as right or wrong.

The first cluster was small; these five participants represented þorbjörg as a clever woman, but selfish (some also added tricky), and they all said they felt nothing for her. They all stated that she could have existed. Some resembled her to a witch. Many added details on her physical appearance (often not correct ones, and partly congruent with the stereotype of a witch), and reported correctly some of her actions.

The second cluster represented þorbjörg as an old woman who predicted the future; also some other actions of hers were correctly reported. The participants in this cluster believed that she existed or could have existed, and that one could seek evidence about her existence. Many considered her a strange or eccentric person (some also clever or wise, and some tricky or false). More than half found her interesting, and some also exciting. More than half used the category of witch (but note that this category also includes expressions like "reminds me of witches in stories"). Half of this group thought that she acted so because she was asked to.

The third cluster saw þorbjörg as a middle-aged woman, who predicted the future and forecasted the weather, in order to end the famine. At least half of this group used the categories of clever or wise, exciting, powerful, and self-assertive; some said also glamorous. Most of this group believed that she actually existed, and that one could seek evidence of that. Many reported incorrect detail on her hair and physical size, but not in a way connected

Table 6

Proportion of Participants by Cluster who Used Each Content Category for þorbjörg (only proportions with at least .20 in a cluster are reported, other categories are omitted)

	Cluster					
Category	1 (*n*=5)	2 (*n*=14)	3 (*n*=8)	4 (*n*=6)	5 (*n*=12)	overall (*n*=48)
A witch; reminds of witches	.40	.57	.50	1.00	.60	.60
Details of clothing/outfit	.40	.21	.37	.33	.40	.33
Strange-looking; strange outfit	.20		.37	.67	.27	.29
Has a walking stick					.20	.10
*Details (normal) of hair	.80		.50	.67	.27	.33
Grey hair	.20	.29	.25		.20	.21
Messy hair	.40	.21				.17
*Face: ugly or unusual details				.33	.47	.21
*Physical size (any)		.21	.62	.50	.73	.46
Young	.20					.02
*Middle-aged	.20		.75		.33	.27
*Old	.20	.86			.53	.46
*Ugly	.40				.53	.25
Looks cool			.25			.06
*Existed		.64	.87	.50		.40
*Maybe existed	1.00	.29				.21
*Did not exist					1.00	.35
*Seek evidence (national library etc.)	.40	.86	.62			.46
*Forecasts the weather		.35	.50		.33	.29
*Predicts future	.40	.86	.75		.53	.58
Gets Guðríður to sing	.40	.35	.37		.20	.27
Makes/sings a *seiður* (magic rite)	.20	.21	.37		.27	.25
Goes to a party/to parties					.20	.10
Stays overnight as a guest	.40	.21			.20	.17
*Acted because asked to		.50	.25			.19
*Acted to end famine/epidemic		.21	.75		.20	.25
*Selfish; to get personal advantage	.60					.10
*Clever, wise	.60	.36	.50			.29
*Strong, determined			.25	.50	.47	.27
*Eccentric; strange person		.64		.33	.33	.25
*Powerful; has supernatural powers	.20		.62		.27	.23
Mysterious	.20				.20	.15
*Glamorous			.37			.08
*Self-assertive			.62			.27
Independent person			.25			.12
Pushy; forces Guðríður		.21	.25		.33	.21
False, tricky, a fake	.40	.29	.25		.20	.23
*Interesting; I am curious about her		.57			.27	.25
Exciting	.20	.28	.50	.33		.27
She's fun	.20			.33		.12
*Feel nothing for her	1.00			.83	.40	.37

Table 6
(Continued)

Category	Cluster 1 (n=5)	2 (n=14)	3 (n=8)	4 (n=6)	5 (n=12)	overall (n=48)
Sarcastic feelings for her	.20					.06
I don't like her						.10
*I respect/admire her			.62			.10
*I am proud of her			.37			.06
Empathy; sorry for her			.25			.10
I didn't understand the text well		.21				.08

Note. *categories used in a significantly different proportion among clusters (likelihood ratio, $p < .05$).

to the stereotype of a witch. Yet, half of the group used also the category of witch. The majority of this group said that they respected or admired her, and some felt even proud of her.

For the fourth cluster þorbjörg was also a witch, but they did not tend to consider her a fictitious character. Most of them described her as strange-looking, and most added (incorrect) details on her hair or physical size. Some added correct details about her clothing, or incorrect details about her ugly face. She was often described as strong or determined, and sometimes as a strange/eccentric person. A large majority of this group said that they felt nothing for her, although some considered her exciting or fun.

For the fifth cluster þorbjörg is definitely a fictitious character with negative connotations. The majority of this group stated that she is a witch or similar to a witch, and a majority also described her as old and ugly. This group often reported correct details about her clothing and incorrect details about her hair, physical size, and ugly face. These participants often reported her future telling, weather forecasting, and singing a *seiður* (a magic chant). A number of them described her as strong, determined or self-assertive, pushy, eccentric, and powerful. The feelings toward her were mixed, because some members of this group said that they feel nothing for her, but some were interested or curious about her, whereas some others did not like her.

In short, for cluster 5 þorbjörg is basically a fairy-tale witch, while cluster 3 could be called the enthusiasts of this powerful woman. The other groups seem to have less extreme views. Group 2 are perhaps the realists or conformists, who find her strange but interesting and rationalize a bit her actions in the context. Group 1 are perhaps the sceptics, who see her as motivated essentially by her own interest, and treat her coldly. Group 4 take a perspective that is not fully clear to us: she was a witch, but she probably existed; anyway she was strange, and we feel nothing for her.

Whereas for representations of Ólafur Kárason we found both similarities and differences among the various clusters, in the case of þorbjörg the differences seemed to prevail on similarities. There were a few similarities, as shown in Table 6, because in all clusters there was at least some mentioning of various aspects of þorbjörg's clothing or outfit, and especially because all clusters mentioned to some extent a witchy nature of þorbjörg (although the incidence of this category varied between 40% in cluster 1 and 100% in cluster 4). However, there were significant differences among clusters in no less than 25 content

categories. These include a few details of her physical aspect, her age, the actual existence of this person, her similarity to a witch, her role in telling the future and forecasting the weather (the members of cluster 4 even disregarded her main action of telling the future), numerous aspects of her motivations and personality traits, and several aspects of the participant's own reactions to her.

A significant relationship was found between cluster belonging and age (χ^2 = 17.97, DF = 8, p <.03). Details of the relationship between age groups and clusters are reported in Table 7; the significance of the chi-square is due to the fact that, with age, membership in cluster 3 increases and membership in clusters 4 and 5 decreases. Cluster belonging was not significantly related to either gender (χ^2 = 1.59, d.f. = 4) or level of expertise (χ^2 = 3.47, DF = 4).

Also for þorbjörg, character representation showed very few relations with other aspects of response to the text. There were differences among clusters in reminding of places, $F(4,36)$ = 3.16, p <.03 (in general there were very few remindings of places, but those few were concentrated in clusters 1 and 4), and in ratings of how important the remindings were, $F(4,36)$ = 2.76, p <.05 (where cluster 4 gave lower ratings than clusters 1 and 3, and cluster 5 gave lower ratings than cluster 3). No other difference among clusters reached significance. As for the contemporary text, for this one we can conclude that character representation, personal remindings, and explicit ratings of the reading were essentially unrelated to each other.

Discussion

The first conclusion that we can draw from this study is a methodological one. The method that we have adopted for studying the mental representation of characters, which includes a structured interview followed by content analysis and cluster analysis, enabled us to identify groups of participants who have similar mental representations of a given character. Thus, different types of representation of a same character can be identified. Therefore, we suggest that this method can be used also in future studies, when mental representations of literary characters are at issue.

Regarding the content of the representations that have emerged in this study, a detailed discussion of the differences in meaning among the four Ólafur Kárason or the six þorbjörg clusters would only be interesting for readers who are highly familiar with these particular characters (e.g. teachers of Icelandic literature). We limit ourselves, here, to

Table 7

Representation of þorbjörg by Age: Observed (and Expected) Frequencies in the Contingency Table of Cluster Membership x Age Group

Age group	Cluster				
	1	2	3	4	5
13 years	0 (1.7)	4 (4.7)	0 (2.7)	4 (2.0)	8 (5.0)
17 years	3 (1.7)	4 (4.7)	2 (2.7)	2 (2.0)	5 (5.0)
Adults	2 (1.7)	6 (4.7)	6 (2.7)	0 (2.0)	2 (5.0)
Total	5	14	8	6	15

more general considerations that are relevant to psychological and educational research on literary reading.

Our theoretical assumption that readers construct mental models of literary characters, and those mental models include information at different levels of abstraction, seems to be supported by the content of participants' answers. Not only that content includes items that obviously range from very concrete descriptions to conceptual abstractions (see Tables 3 and 6), but also, some of those content categories could hardly be accounted for by representational codes different from mental models. Consider, for instance, the abundant presence of content categories that refer to aspects of a character's external appearance that were *not* described by the author. These, in general, cannot be regarded as inferences based on a propositional representation of the text, because there is nothing in the text itself that could warrant them. Rather, it seems likely that the participants are trying to construct a mental model of a character, and that—lacking relevant information on some essential features of the character's look—they include in the model arbitrary properties or easily available tokens, which can be revised and replaced in case the subsequent text demands a revision of the current model. This suggestion is consistent with Johnson-Laird's (1983) account of how a mental model is constructed and revised while reading a text.

One might object that such concrete content could merely be fabricated by the participants while responding to the interview. However, the frequency of some content categories is so high (e.g. two thirds of the participants described the color of Ólafur's hair, and a similar proportion reported details on þorbjörg's hair or physical size) that it would seem implausible that so many participants are just fabricating these details during the interview. Even more important, the participants had already reported, by means of rating scales administered immediately after reading, the vividness of their imagery while reading that passage, and (as reported in Tables 2 and 5) on average our participants seem to have experienced medium to highly vivid images. Vivid mental imagery while reading is consistent with the notion that participants reported many concrete details (including ones that do not follow from the text) because these details were actually included in their mental representations of the characters—and this is also consistent with the more general view that "embodied cognition" is involved in text comprehension (e.g. Zwaan, 1999).

Moreover, one can note that such vivid imagery of (sometimes irrelevant) concrete details does not seem to be a fallback strategy adopted by less skilled readers. On the contrary, for both texts used in this study, the results showed that the higher-expertise group reported more vivid imagery while reading.

On the other hand, one can also find in the interviews content that several personality traits of both characters were mentioned by our participants. These, too, were not overtly stated in the text, but were inferences (often, correct or at least reasonable ones) made by the readers. The specific content of those inferences about a particular character was often different from one reader to another, as well as their emotional reactions to such inferred personality traits, and those differences contributed somewhat (as reported in Tables 3 and 6) to the differences among clusters. The fact that readers try to make sense of a literary character as an individual with a personality, and include in their mental representation of a character mental states and traits abstracted or inferred from the character's behaviors, is also consistent with the findings of Rapp et al. (2001).

We also found some hints of top-down processing, by which the activation of cultural conceptual schemata drives the instantiation of tokens for concrete, physical aspects in a mental model.

Specifically, consider the assimilation of þorbjörg to the prototype of a witch. Her role in *Eiríks Saga Rauða* is that of a prophetess, asked by the chief farmers to predict the future, who does conscientiously what she has been demanded. Although one can find a few evil women who practise sorcery in the Sagas (e.g. Ljót in *Vatnsdæla Saga*), in general they are not main characters and it is unlikely that they are very familiar to contemporary readers. Rather, the witch is a role that belongs to a different cultural context; it can often be found in European fairy tales of later centuries, and in comics and cartoons of the present times. Our participants, like the great majority of Icelandic children and young people, are likely to be familiar with those sources (see Guðbjörnsdóttir & Morra, 1997) and some of our participants explicitly stated that þorbjörg reminds them of witches in fairy tales. It seems likely that her behaviors (doing a magic rite, wearing a strange outfit) have activated in many participants the prototypical concept of witch, which in turn has driven some of them (in a top-down fashion) to think of various concrete details that belong to that prototypical concept, such as messy hair or an ugly face. Such top-down influence of cultural schemata is compatible with the view that mental models include different levels of abstraction, as well as with theories of schematic representation of information, in which schemes at differ- ent abstraction levels are embodied within one another and interact with one another (e.g. Pascual-Leone, 1984).

Having elucidated the general nature of representations of characters as mental models and aspects of the processes that construct them, let us turn to the effect of the independent variables considered in this study on such representations, and on other aspects of the read- ers' responses.

Expertise had a considerable impact on the readers' ratings of both texts, especially the medieval text. As reported above, not only did the higher-expertise group report greater experience with similar stories, but they also experienced more vivid imagery in reading both texts. In addition, they rated the passage by Laxness as clearer and more understand- able than the lower-expertise group did. In the case of the Saga chapter, the higher-expertise group reported better liking of the story and greater interest in it, found its themes more important, perceived the ending as happier, and reported greater empathy toward the protag- onist and, overall, more positive emotions. This suggests that the degree of expertise affects the appreciation of a story, particularly in the case of an ancient text, the understanding of which is not obvious even to more knowledgeable readers.

On the other hand, both gender and age showed very few significant effects on the ratings of these two texts. Even though null findings must always be interpreted prudently, in this case a set of null findings may have some informative value in that it seems to support the assumption, widespread in the Icelandic educational system, that passages from the Sagas or from Laxness' novels (or at least, suitably chosen passages) can be palatable also for young readers, such as eighth-graders, of both genders.

In this context, it is also worthwhile to note that, for both literary passages, the rating of emotions yielded a factor structure that was clear and specific to each passage. However, only few group differences were found in reported emotions; for *Eiríks Saga Rauða* the positive emotions were stronger in more expert readers, and for *Heimsljós*, within the higher-expertise group, females showed stronger empathic feelings than males.

The method of personal remindings, applied to these two texts, did not show any effect of age, gender, or expertise. Our expectation was to find at least some differences due to expertise, because we had assumed (on the grounds of cross-cultural differences, reported by the researchers who had used this method in the past) that the higher-expertise group,

being better tuned to the Icelandic literary culture, would also be more affected by this cultural background in subtle aspects of response to the texts, such as the quality of the remindings evoked by reading. The fact that this did not happen seems at odds with the results reported by Larsen and Laszló (1990; Laszló & Larsen, 1991). The contradiction, however, could be only apparent, and need not undermine researchers' trust in that method. The previous studies compared the response of Hungarians (cultural insiders) and Danes (cultural outsiders) to a rather shocking, and culturally laden, Hungarian short story. The method of personal remindings proved sensitive enough for detecting differences between insiders and outsiders of the narrative's culture. However, the differences between higher- and lower-expertise groups within the same culture (i.e. two groups of more and less knowledgeable Icelandic readers) could be too subtle for being captured by this method. In fact, in this research, readers' expertise only affected their explicit ratings.

Yet, the use of personal remindings was not totally uninformative in this study. As reported above, with each text, the number and the quality of remindings varied widely across participants. In particular, 13% of the remindings evoked by *Heimsljós* and 25% of those evoked by *Eiríks Saga* have been classified as referring to Icelandic culture. We intend to analyze in a separate paper the content of the culturally relevant remindings elicited by each text.

In contrast to explicit ratings of the text, which were related especially to expertise, the mental representations of characters were related to age (but not to gender or expertise). This pattern appeared in our results for both Ólafur Kárason and þorbjörg. The different clusters that we identified for each character seem to have meanings that take into account several aspects of the text—and of the mental model of the character as a person. The four representations of Ólafur Kárason that emerged from our analysis are different in terms of personality traits, preferred activities, clothing (which has a symbolic meaning), as well as in fidelity to the text and hypothetical existence of a real person with those features. Representations of þorbjörg varied along an even larger set of dimensions. She could be viewed as closer or less close to the prototype of a witch, and the participants' different views of her involved different aspects of her clothing and of her age and physical appearance (often with a symbolic value), as well as discussion on her actual existence. Different personality traits and value orientations attributed to þorbjörg were particularly relevant in differentiating the five clusters, as well as which of her actions were mentioned. Different feelings evoked by þorbjörg also have a role in distinguishing the clusters.

A possible, albeit speculative, interpretation of the relationship between representation of characters and age (but not gender or expertise) could be that mental models of characters seem to be more related to general development and experience of life than to experience of literature. Furthermore, for both characters there seemed to be a shift, with age, towards greater prevalence of representations that are more mature and probably closer to the authors' intentions.

An important aspect of our findings is the dissociation between the results yielded by the three methods that we have used, i.e. explicit ratings of the text, interviews on character representations, and personal remindings. No systematic relationship has been found between representation of a character, rating of the related text, and personal remindings evoked by it, with neither of the two texts that we have presented. In addition, for both texts, character representation was only affected by age, ratings were mostly affected by expertise, and personal remindings by none of the independent variables. This pattern of dissociations seems to suggest that explicit evaluation of texts, mental representation of characters, and

evoked remindings are three quite separate aspects of response to literature—like three islands with little communication between each other. One implication of this dissociation is that character representation could be in itself an important aspect of the readers' comprehension and response, but it does not seem to account for their explicit evaluation of a text. The title of this article intends to convey the idea that, while our research seems to show a way to study representations of literary characters, it also shows that those representations seem to be quite independent of other aspects of readers' response.

Of course, the latter conclusion is only based on this particular study; further research, with a different selection of texts, and possibly carried out in a different cultural context, is necessary to tell whether this provisional conclusion has a more general validity.

One methodological limitation of the current study is that we have considered only age, gender, and expertise as independent variables. Indeed, also other variables could be important determinants of some aspect of readers' response. For instance, here SES was only considered as a control variable in participant selection, but its role in shaping the cultural background has not been considered explicitly. It could also be that individual differences in variables like fluency, divergent thinking, or other aspects of cognitive style explain to some extent the large variance in personal remindings that we have found, but not accounted for. It could also be that some personality variables of the readers affect their selection of information and the inferential processes involved in constructing mental models of the characters. None of these possibilities were taken into account in the design of this study, and therefore exploring them is a task for further research.

More generally, one could ask to what extent the results of this study can be generalized to other texts, characters, contexts, or reader populations. Of course, this study cannot answer those questions. However, as any study that explores a new domain, it can provide some first relevant findings and leave to future research the challenge of teasing out which ones can be replicated and generalized. In this sense, it may not provide final answers, but it certainly takes some first steps on a new ground.

A positive methodological implication for further research is that, because our working assumption that the interview structure used here could reveal readers' mental models of literary characters did actually work, this method can be used in other studies and perhaps extended in its use. For instance, one could study not only the mental models based on a text that has been read some minutes earlier, but also those based on long-term knowledge derived from both reading literary text and other cultural sources. We are applying this method in a study, in which we interview participants on such characters as Hallgerður Langbrók and Egill Skallagrímsson, who are main characters of important Sagas; we do not ask participants to read those Sagas for the purpose of our study, but we rely on the fact that some participants have read fully or partly the relevant Sagas, and others will base their answers only on indirect sources that they have encountered in the general culture. Differently from other previous studies of long-term memory of literary text (e.g. Stanhope, Cohen, & Conway, 1993), we are not probing memory of specific items of information, but, rather, we consider the structured representation of main characters that is retained in long-term memory (possibly as a function of the amount of direct knowledge of the text).

Finally, this study has potential educational implications. A problem that teachers often meet is how to assist pupils, and particularly those who are less skilled or motivated, in extracting a meaning from literary text and put it into relation with one's own views of life and the world. A frequent risk is that pupils may take the reading of literature merely as a

scholastic exercise, and sometimes the teaching methods provide them with some justification in their point of view.

In this regard it is interesting to note that, in the results of this study, character representation and personal remindings were not affected by the readers' degree of expertise. We suggest, then, that such techniques could also be used in the context of teaching. Moreover—because we did not find differences in this regard between higher- and lower-expertise groups—these techniques, once adapted to the school context, could prove appropriate and useful also to less skilled pupils.

For instance, teachers could make it clear to their pupils that people may view the same character in different ways, elicit from them explicit oral or written representations of a character, and invite them to compare and discuss their different representations. Occasionally, teachers could also promote an overt discussion of the personal remindings that occur spontaneously while reading a text (and of the cultural relevance of those remindings). We suggest that such techniques could help pupils in meaning making, perhaps even better than the traditional exercises of summarizing or commenting a text. Speculatively, we may also suggest the didactic use of variations and combinations of the techniques used in this study. For instance, after having explored different representations of a character, one could propose to a group of students to de-contextualize that character (e.g. imagine meeting that literary character, or place it in the context of the contemporary world, and imagine his/her adventures); then, based on such de-contextualizing experience, one could return to explore with students the links between the character and the actual context of the literary text it belongs to. Such de-contextualizing experiences could also be framed as a proposal to pupils to sketch basic ideas to design a videogame (e.g. how should a þorbjörg character act in a Saga-world, or how should she behave to survive in a contemporary world?). Alternatively, one might use the remindings technique to elicit and make salient the representations of other cultural contexts, different from that of the literary text, and explore with students the differences between such cultural contexts. Such techniques, which we are suggesting as possible options to assist meaning-making also by students who are less versed or experienced in literature, of course could only be implemented if the class is already accustomed to a climate of discussion with the teacher and communication among students.

Conclusion

Although a number of questions remain open for future research, we believe that some conclusions can already be drawn from this study. First, we draw a methodological conclusion on the usefulness of content analysis and subsequent cluster analysis of structured interviews, which enables us to distinguish groups of participants who share different mental representations of the same character. Second, we conclude that mental representations of literary characters consist of mental models that include properties ranging from very concrete physical features to abstract concepts like personality traits. Cultural schemata (e.g. the prototype of the witch) are also used in the construction of such mental models. Third, in this study we have found that different mental models of the same character are related to the participants' age, but not to their gender or literary expertise. Fourth, mental representations of characters seem to be unrelated to other aspects of response to literature, such as personal remindings, or explicit rating of various aspects of text appreciation (which in turn is closely related to expertise). These conclusions are supported by the converging results obtained for two very different characters, in a study that did not use artificial narra-

tives but excerpts from two important literary texts, one medieval and the other contemporary, which can be regarded as highly representative of the Icelandic literature in different epochs. It is also advisable to carry out applied research to explore possible classroom use of techniques similar to those used for this study.

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