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ABSTRACT

Noting that register and cohesion are two concepts that define a text, this paper describes register as the variety of language that is appropriate for the situation of the speech event and cohesion as the semantic relations in a text that make it coherent. The first part of the paper discusses three cross-cultural studies of comprehension conducted within the framework of the schema theory of reading in terms of register and cohesion. The three studies discussed involved (1) the effects of cultural interference on recall of written material by adults in India and the United States; (2) the effects of cultural interference on oral recall of Australian Aboriginal and American women, and (3) the recall of black inner city and rural white adults of a text biased toward minority readers. The second part of the paper considers the interaction of register and background knowledge, while the third part examines that of cohesion and background knowledge. The final part of the paper examines the interaction of register, cohesion, and background knowledge using data derived from the processing of a short passage based on Indian culture by an American and an Indian subject. (FL)

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Technical Report No. 220

REGISTER, COHESION, AND CROSS-CULTURAL
READING COMPREHENSION

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Register, Cohesion, and Cross-Cultural
Reading Comprehension

Register and cohesion are two concepts which define a text (Halliday & Hasan, 1976). Register refers to the variety of language which is appropriate for the situation of the speech event, while cohesion refers to the semantic relations in a text which make the text cohere. In this paper, three cross-cultural studies of comprehension conducted within the framework of the schema theory of reading will be discussed in terms of these two concepts.

The schema theory of reading comprehension proposes that the structures embodying background knowledge provide the ideational scaffolding for understanding the setting, mood, characters, and chain of events in a text. Readers acquire meaning from a passage by analyzing the words and sentences against the backdrop of their own personal knowledge of the world. Such personal knowledge is conditioned by a variety of factors--age, sex, race, nationality, occupation--which can be described as a person's culture. Comprehension is achieved as bits of information about an event, which is an exemplar of a particular class of events, are incorporated into the related schema.

Readers who share the cultural background of the writer "come equipped" with the appropriate schemata. Those who are reading a text based on an unfamiliar culture, on the other hand, must garner the

particular details to be instantiated, as must the native reader, but they must also learn a great deal about the framework underlying these details. The lack of the undergirding schemata that provide for the instantiation of specific facts would be expected to cause breakdowns in reading comprehension at the level of inference. However, this void can also result in problems in comprehending even explicitly stated facts: The information presented in the text may not be processed during reading because the reader is not primed for it; it may not be remembered because it cannot be integrated with other bits of information in the text; or it may be instantiated into the schema underlying the native event with drastic distortion.

Register is created by the linguistic forms and structures in a text that vary with such aspects of the speech event as participants, setting, topic, modality, and purpose (see Halliday, McIntosh, & Stevens, 1964). For example, one may talk about the register of a domain such as economics and the variation in the specialized lexical items and grammatical structures for that topic that is related to whether the discourse is oral or written, whether the participants are economists or laypeople, whether they are at a cocktail party or attending a national symposium on inflation, etc. Three aspects of the situation--field, mode, and tenor--have been developed for analyzing how the context determines the meanings expressed in the discourse (Halliday et al., 1964). "Field of discourse" refers to the nature of the entire event and includes the

subject matter or domain; "mode of discourse" refers to whether the medium is spoken or written (with oral reading being a particular type of written) and to the genre (narrative, persuasive, didactic, etc.); and "tenor or discourse" refers to the social relations between the participants in the speech event.

The concept of register reflects the fact that within any speech community there are domains of specialized information which are realized linguistically. The fact that membership in a society itself entails specialized knowledge vis-à-vis other societies is widely accepted, but the implications of such privileged information for cross-cultural communication, particularly written, are only recently beginning to be studied. It will be argued that register evokes the appropriate class of events for the addressee who shares the author's linguistic/cultural background and makes possible the understanding of the text as the author intended.⁴ Furthermore, there is a two-way interaction between register and schemata: Once the linguistic signals have activated a schema in the reader, the schema activation guides further reading and, among other things, inhibits assigning ambiguous linguistic tokens to any register except the one appropriate for the selected schema.

Unlike the concept of register, which is an external one relating text to situation, cohesion is internal to the text. It refers to the meaning relationships within a passage and occurs when the understanding of one linguistic element is possible only by reference to

another in the discourse (see Halliday & Hasan, 1976). Such "ties" between elements can be accomplished grammatically, lexically, or by a combination of the two, in the form of conjunctions.

Anaphora is an example of grammatical cohesion. In sentence pairs such as the following, the pronouns can be understood only in relationship to the preceding lexical items which they signal:

Nancy and her brother walked into the old house. As she opened the door, it creaked ominously.

If the pronoun she in the above example were replaced with the proper noun Nancy, the reiteration of that term would provide an example of lexical cohesion:

Nancy and her brother walked into the old house. As Nancy opened the door . . .

Conjunctions create cohesion through their specific meanings, which entail that other meanings be expressed in the text.

It will be argued that textual cohesion represents a potential which can be fully realized only when a reader appropriately identifies the schemata underlying the passage. In other words, recognizing that a text is about an example of a class of situations makes possible the complete processing of the cohesive elements in that text.

The first part of this paper will briefly describe the three cross-cultural studies which provide the data for this discussion. The second will consider the interaction of register and background knowledge, while the third will examine that of cohesion and background knowledge. In the

final section, the interaction of register, cohesion, and background knowledge will be examined using data from an Indian and an American subject's processing of a short passage based on Indian culture.

Synopsis: Three Cross-Cultural Studies

The first cross-cultural study to be discussed involved adult subjects from the United States and India who read letters about an Indian and an American wedding (Steffensen, Joag-dev, & Anderson, 1979). After the subjects read each letter, they completed an interpolated task designed to inhibit short-term memory, then were asked to recall the letter. While verbatim recall was not the goal of this procedure, subjects were told to reproduce the exact letter, to maintain the order of events, and to paraphrase as closely as possible if the exact wording could not be recalled. This procedure was intended to forestall any subject's thinking that the study involved a creative writing task. After subjects rewrote the first letter, they read the second letter, completed a second interpolated task, and recalled the second letter.

The results showed several effects of cultural interference. First, both groups read the native passage more rapidly than the foreign passage. Second, an analysis of subjects' recall protocols based on parsing the two original texts into idea units provided the following results:

(a) Each of the two groups of subjects recalled significantly more of the idea units in their native passage correctly. (b) They also elaborated the native passage more; i.e., they introduced details which

were not in the original text but were consistent with the cultural basis of the text. (c) In the recalls of the foreign passage, subjects made more errors in which the content of the passage was seriously distorted because of lack of generalized information about the event being described or accommodation of the foreign events to superficially similar practices in the native culture. This experiment, which had a balanced design, provided strong evidence for the claim that if the reader and writer of a text share the same cultural background, reading will be facilitated; if they do not, there will be interference.

A second experiment replicated this study in oral form. American and Australian Aboriginal women listened to two texts about illness and treatment, one of which was based on Aboriginal beliefs, the other on Western beliefs (Steffensen & Colker, Note 1): After hearing one text read, each subject supplied personal information about herself to inhibit short-term memory, then recalled the story orally. The procedure was repeated for the second story. The entire procedure was tape recorded. All recordings were transcribed and analyzed into idea units, which were then matched to idea units in the original text. As in the case of the first study, more of the native story was recalled, there were more elaborations of idea units, and there were more distortions of idea units in the foreign passage.

Of particular interest in this study was the effect of background knowledge on language variation. The Aboriginal subjects were living in a speech community characterized as a creole continuum. In such a

community, the speech varieties range from a heavy creole to a form comparable to the standard language upon which the creole is based (DeCamp, 1971). Speakers command a span of this continuum, a range of varieties, depending upon such factors as their age and their sphere of social contacts. While the texts in the present study were read in Standard English, it was predicted that if any subjects elected to retell the stories in a creole, they would use a heavier variety for the native story than for the foreign one. This was expected in spite of the fact that the people in the community increasingly rely on Western medicine, frequently use the nursing station in the community, and denigrate native beliefs and practices. This prediction was supported. It suggests that for these subjects a greater depth of background knowledge is associated with the native culture, and an event in this domain elicits a deeper variety of the creole.¹

The third study involved the recall of a text biased towards minority readers. The passage described an episode of sounding, the ritual of verbal insults that occurs primarily in black inner-city communities (Reynolds, Taylor, Steffensen, Shirey, & Anderson, 1981). Rural white and inner-city black eighth-grade subjects read the story, then were asked to recall it. They were instructed to adhere to the original story as closely as possible. They also rated a series of statements on a four-point scale covering the relationship of each statement to the original text. Due to the passage content, it was predicted that rural

white subjects would give a fight interpretation to the story, while inner-city black students would understand it as the writers intended--as a case of verbal sparring.

Theme, disambiguations, and intrusions in the recall protocols and the ratings of the probes were analyzed. All showed that if readers shared the authors' cultural orientation, they were significantly more likely to understand the passage than were those who did not share the authors' perspective. Taken together, the three cross-cultural studies described above provide evidence that "routine" cultural knowledge and assumptions are an important factor in understanding a discourse.

Register and Background Knowledge

In written communication, writers appear to form a hypothesis about the experience and assumptions of their intended audience; the message is accommodated to that projected background knowledge. While this process is probably often outside awareness, it is sometimes consciously controlled, as in the case of didactic writing. Successful writers use the linguistic resources of their language to evoke the situation, or the context of communication, in a way that mirrors the creation of that context by multiple participants in spoken communication.² Because of the constraints on the interaction of reader and writer, the relationship between tenor (the prediction the writer makes about audience) and mode, especially genre, is static and cannot be modified over the course of the communication event. In oral communication, what is said depends

on the already accomplished interaction, and there are repair strategies for breakdowns in understanding. In reading, the same sort of monitoring and accommodation does not exist, and mismatches between the reader's understanding and the writer's prediction of that understanding go uncorrected.

As individuals experience those cultural events within their society that engender the relevant schemata, they also acquire the appropriate ways of talking about such events. The social significance of lexical items and grammatical forms that are distinct for a particular topic and social situation are learned. However, when an individual acquires such linguistic forms from a vantage point outside the culture, they are often indulging in a process of translating these forms and all they entail into their own cultural systems of meaning. The social meaning of the lexical item or structure in the target culture is not controlled.

Such potential register failures can be identified in the cross-cultural studies reported above and can be related to the domains of field, mode, and tenor. In the first sentences of the Indian text, for example, there are linguistic cues which enable the knowledgeable reader to identify the field as that of a traditional Indian wedding. The proper names Meena and Prema specify the culture, while the information that the marriage was arranged specifies it as a traditional one, an inference supported by the fact that the bridegroom asked to see his fiancée before the wedding. Naive American readers probably would not be able to identify the culture and would be forced to a higher level

of generalization, i.e., "foreign wedding." By default, the clause ". . . the marriage was arranged only a month ago . . ." would be assigned to the register of American weddings, with significant distortions of meaning. Given this development, the information about the bridegroom's request would either force a reassessment of what had already been read or would be lost because it could not be incorporated into the construction of textual meaning that had occurred up to that point. It is probably safe to claim that such "dislocations" in processing a foreign text force many readers to remember sentences as citation forms, i.e., as linguistic tokens isolated from both the encompassing linguistic context and the broader social context of communication.

The mode and tenor of each letter was appropriate for native readers but not for foreign readers. Thus, the Indian letter was addressed to someone with the same cultural background and conveyed specific information about how the prescribed marriage events (well understood by both sender and receiver) were realized in a particular instance. It was succinct on points of common cultural knowledge and made no attempt to teach details of the structure into which the information should be integrated. In the case of the American letter, on the other hand, Indian subjects were in a very different relationship with the writer. They were not correspondents who shared a cultural background. Because the tenor was different, the mode was inappropriate. One Indian subject

responded to this dissonance in mode by stepping outside the format of the personal letter and adopting an omniscient point of view.

Janet is writing the letter to her friend describing the occasion of her girl friend's marriage to George.

In the case of the Indian text, he used the style of the personal letter with an introductory sentence in the first person, suggesting that he was able to identify with the writer:

Deer Meena, we all enjoyed Pam's [sic] wedding. Her in-laws didn't ask for much, but there was an oral settlement . . .

Both original texts were signed with a feminine name and were actually written by a woman. If the tenor of the foreign letter had been conceptualized differently (e.g., American writer, Indian reader), the mode would have been reassessed with changes in genre. Rather than a straight narrative in which much was assumed, there would have been a large expository component to spell out the ideational scaffolding for the foreign reader.

In a study such as this one, the fact that the field of discourse was a foreign event would be obvious to even the most unsophisticated reader, provided she/he possessed a knowledge of the corresponding native event with which it stands in sharp contrast. In the study of black inner-city/white rural cultural knowledge, on the other hand, there was not a balanced contrast between an event in each of the two cultures that performed similar functions. The description of the sounding event, for the rural white subject, did not elicit a rural white version of

verbal play. Instead, the field of discourse was misidentified as a fight. Linguistic reflexes of the register of ritual insulting--the syntactic and semantic relationship of the insults themselves as well as collocations such as "the dozens were flying" and "Tony turned around and sounded on me"--did not evoke the schema the authors intended and were either omitted or distorted to make them appropriate to the perceived field. For example, one white rural subject balanced the sounding register to the fight schema with the recall: "Then the fists were flying by the dozens." On the other hand, inner-city black subjects showed that they had correctly identified the field by drawing other terms from the sounding register, e.g., "The others started to join in on the signifying."

In studies such as these, the question always remains of how far the results can be generalized. Experimental texts, after all, are either selected or developed to show the maximum effect and to some degree represent a contrived situation. However, there is at least one case in which an entire novel appears to be routinely assigned to the wrong field by American readers. According to the book jacket, Lucky Jim (Amis, 1953) describes "through one young adventurer in particular, an attempt of England's postwar generation to break from the country's traditional class structure." For British readers, the theme involves the class conflict between the main character of the book, a lecturer in history, and his professor; it culminates with his ignominious dismissal from the faculty and his fortuitous landing of the job a rival

had been pursuing. From the point of view of American readers, however, it is the story of the trials and tribulations of a gauche young academician who is attempting to secure a permanent position at a British university via scholarly publication.³

This is a particularly interesting case because many Americans are aware of the major differences between American and British social structure and at least some of the specific manifestations of these differences. The problems in understanding this novel can be attributed to two problems with register. First, there is a failure to assign the linguistic signals to the appropriate register because there is an initial error in schema selection which blocks the correct processing. The schema "attainment of tenure" is more salient for American academics than "class conflict," it fits the language of the text well, and it blocks the processing of following linguistic cues. Second, in some cases the register is not known and the social implications would be missed even without schema selection interference.

Consider the following cases. The strongest indication of Jim's working-class membership is his speech, i.e., "a flat northern voice" (Amis, 1953, p. 9). This probably would have been picked up if the incorrect schema had not already been accessed. The same is true of the statement that Jim's degree was from Leicester. On the other hand, many signals of the disparity between Jim's and his professor's class were simply not known: Jim identifies himself with a bar maid; the professor

describes his elitist tastes in music ("I played the recorder, of course" [Amis, 1953, p. 7]); and the professor lives in a small town rather than a large city. Even when the embracing schema is pointed out, these are not recognized as indications of class membership. The difference in the responses of British and American readers to this book indicates that interference at the level of culturally based schemata may be more widespread than experimental studies with prepared materials might suggest. Clearly, this effect is most powerful when an entire text can plausibly be assigned to another field and existing schemata can be brought forward for its interpretation. However, it also occurs in subevents (or sub-schemata) even when the text is appropriately assigned to field, as in the Indian/American study.

In the case of the Aboriginal/American study, the use of creole by the Australian subjects added a dimension to the study of cross-cultural interference. The field of the two texts was correctly identified, but adjustments in the linguistic register used in recall reflected an interaction with background knowledge and amount recalled.

It has long been recognized that there is a relationship between features of a code which reflect levels of linguistic formality and aspects of the situation such as age of the participants or changes in the physical setting of the speech event. In this case, however, everything was held constant, with the exception of the two narratives about illness. For Aboriginal subjects, the stimuli represented alternative

perspectives on illness and its treatment, both of which are practiced in their community.⁴ The one that was more fully understood and closer to older cultural values (the Aboriginal view) was retold in a heavier creole. This reflects the subject's allegiance to this world view even though these Aboriginal medical beliefs and practices were overtly denigrated.

It should be noted that a style shift from a more formal to a less formal code was made even though the women who were speaking knew that the experimenter had not had extensive contact with Aboriginal culture and could have guessed she was not familiar with either the treatment or the underlying rationale. One explanation for this shift may be the importance of field over tenor for these subjects in choosing register, i.e., it was more important for the register to be appropriate to the subject matter than to listener characteristics such as knowledge and assumptions. However, such an explanation does not ring true, even in a communicative event in which the text is determined. A more tenable explanation is that the Aboriginal text rested on such deeply rooted and widely held beliefs that subjects assumed a commonality of viewpoint and were quite oblivious to differences between their own perspective and the experimenter's.

Cohesion and Background Knowledge

When readers do not possess the schemata underlying a passage, there is a breakdown in comprehension of the real-world relationships

described; this should be reflected in the breakdown of textual cohesion. Thus, the number of cohesive elements recalled in a textual memory task should be, in part, a function of how well readers have understood what they have read. This, in turn, can be related to the presence or absence of the facilitating cultural background knowledge.

To examine the interaction of background knowledge and cohesion, the causal and adversative conjunctions in the Indian and American texts were identified and were rated as occurring in sentences either with or without cultural significance. A sentence was considered not to have cultural significance if the cause-effect relationship could be predicted on the basis of universal knowledge (see Item 3, Table 1). A sentence was considered to have cultural significance if it was based on information the reader would have only through familiarity with that culture (see Item 6, Table 2). In each text there were six complex sentences with a causal or adversative conjunction; two in each were considered not to have particular cultural significance. It was predicted that in the protocols of foreign readers, cause and effect statements would break down and only one proposition of the two would be remembered, the one ranked as more important by other subjects with the same cultural background (see Steffensen et al., 1979). Furthermore, it was predicted that foreign readers would be more likely than native readers to remember propositions without the conjunction, an indication that the cause-effect relationship was not understood or recalled in spite of its being explicitly encoded.

Finally, in those cases where events in the foreign text were distorted through accommodation to the native culture, it was expected that cohesion would remain at a high level but conjunctions would be used inappropriately, encoding a misunderstanding of cause and effect.

An analysis of the recall protocols of the American text show that more cohesive elements in culturally significant sentences were recalled by American subjects than by Indian subjects in three of the four cases (see Table 3). In the case where this did not occur (Item 4, Table 1), a post hoc explanation is possible. For Indians, marriage is a test of status during which the display of money, power, and influential friends is important (Mandelbaum, 1970). It is quite likely that the information that the groom did not have many friends at the ceremony was accommodated to the Indian system and was easily stored and retrieved. A similar case occurred in the recall of the Indian text when a high proportion of American subjects included the information about the bride's new name (Item 6, Table 2). They may have seen a similarity to the traditional American custom of the bride's adopting her husband's last name.

The prediction that a higher percentage of foreign than native readers would recall both propositions without the causal conjunction was not supported. However, more foreign readers recalled only one part of the causal statement, and in every case where there was more than one such occurrence, the majority of cases involved the idea unit rated as most important by other Indian subjects. For example, eight Indian subjects remembered only the proposition that there was a stag

Table 1

American Passage: Sentences
with Causal Conjunctions

- 1.* (5) Actually, it was surprising
(6) that the men were in such good shape
(7) because they had a stag party
(8) on Thursday
(9) and didn't get in until 3 a.m.
- 2.* (66) Have you seen the ring she has?
(67) It must have cost George a fortune
(68) because it's almost two carats.
3. (69) Not many of his friends were able to
come to the wedding
(70) since he's from California
(71) and it's such a long trip.
- 4.* (72) The ushers seated some of the bride's friends
(73) on his side of the church
(74) so things wouldn't look off-balance.
- 5.* (78) I thought
(79) Pam and George might write their own vows
(80) since so many couples do these days
(81) but it was right out of the prayer books.
6. (121) I guess they were expecting it
(122) since they didn't seem at all surprised.

*culturally significant cohesion.

Table 2

Indian Passage: Sentences
with Causal or Adversative Conjunctions

- 1.* (48) They did not create any problem in the wedding
(49) even though Prema's husband is their only son.
- 2.* (50) Since they did not ask for any dowry,
(51) Prema's parents were a little worried
(52) about their asking for a scooter
(53) before the wedding,
(54) but they didn't ask for one.
3. (89) Since only fifty people could be seated at one time,
(90) it went on for a long time.
- 4.* (94) Since we were in the bride's party,
(95) and her close friends besides,
(96) we ate in the last batch
(97) with her parents.
5. (101) Prema's parents had decided
(102) to serve ice-cream
(103) for the reception,
(104) and everybody enjoyed it
(105) since it was a rather hot day.
- 6.* (108) Her husband and in-laws picked "Uma"
(109) for her new name
(110) since her husband's family calls him "Shiva."

*culturally significant cohesion.

Table 3

Recall of Cohesive Elements as a Percentage of Total Recall of Target Sentence

American Passage	Clausal Constructions											
	With Cultural Significance								Without Cultural Significance			
	1		2		4		5		3		6	
	A ^a	I ^b	A	I	A	I	A	I	A	I	A	I
Both parts remembered with conjunction	50	36	64	22	77	100	36	22	85	92	75	67
Both parts remembered without conjunction	28	--	27	22	--	--	7	--	15	8	--	17
Only one part remembered	22	64	9	44	23	--	57	78	--	--	25	17
Scrambled with conjunction	--	--	--	11	--	--	--	--	--	--	--	--

^aAmerican

^bIndian

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party (item 1, Table 1), and three out of four remembered only that the ring was a two-carat diamond (item 2, Table 1), both rated as highly important idea units by other Indian readers.

There were a number of cases in which the cohesive element was used incorrectly to conjoin two propositions that did not stand in a cause/effect relationship in the original passage. These showed a lack of understanding by Indian subjects of events in the description of the American wedding. In the sentences in which the relationship between the two clauses was not culturally significant, the difference between Indian and American subjects in recall of the complete sentence, including the cohesive element, was much smaller.

The data from the Indian passage were not so clear (see Table 4). This can be attributed in part to the fact that two of the sentences with the cohesive elements being studied were contiguous and invited confusion. In the original text, reference was made to the fact that marriage negotiations can be difficult if the groom is an only son (item 1, Table 2). Indian subjects related the proposition containing that information to both the proposition that the bride's parents were worried and the proposition that the groom's parents did not ask for a dowry. Both of these are culturally appropriate inferences. The other principal difference was that a higher percentage of Indian subjects remembered only one idea unit in the case of two of the culturally significant sentences, those that were contiguous. This was undoubtedly the same confounding effect described above. As in the case of the

Table 4

Recall of Cohesive Elements as a Percentage of Total Recall of Target Sentences

Indian Passage	Clausal Constructions											
	With Cultural Significance								Without Cultural Significance			
	1		2		4		6		3		5	
A ^a	I ^b	A	I	A	I	A	I	A	I	A	I	
Both parts remembered with conjunction	33	25	31	38	44	75	70	75	76	42	--	71
Both parts remembered without conjunction	--	--	23	13	25	8	20	25	--	8	--	14
Only one part remembered	33	38	8	44	31	17	10	--	24	42	--	14
Scrambled (meaningful) with conjunction	--	38	--	6	--	--	--	--	--	8	100	--
Scrambled with conjunction	33	--	38	--	--	--	--	--	--	--	--	--

^aAmerican^bIndian

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American passage, when the cohesive elements were retained but were used to conjoin clauses that violated cultural meaning, they were always in the protocols of foreign subjects.

Only a small aspect of cohesion was examined, but the findings support the claim that when there is a mismatch in cultural background knowledge, there will be a loss of textual cohesion. What is being reflected is a breakdown in meaning relationships at the linguistic level that parallels a breakdown in understanding of relationships in the real world. The fact that American subjects as well as Indian subjects used causal conjunctions to join propositions that did not stand in a cause-effect relationship suggests that what appears to be a language problem in the recall protocols of non-native speakers of English may in fact be a problem of background knowledge. In such a case, teaching them facts about American customs would probably improve their verbal production more than language drills on the use of conjunctions would.

A Clause-Based Analysis of Comprehension

Register, cohesion, and the background knowledge represented by schemata interact to provide both a priming effect for what follows in the text and a rich elaboration of the information presented by the passage. To examine this claim, the first 302 words of the text about the Indian wedding used in the study by Steffensen et al. (1979) were prepared using a methodology developed by Fillmore and his associates (Fillmore, Note 2). In this method, the text is typed and parsed into

clauses. Copies are made, so that the number is one more than the number of clauses in the text. A booklet is prepared: On each page one more clause is exposed than on the preceding page; all the remaining clauses are blacked out. Subjects then read the text, a clause at a time, in an interview setting, and describe what they have already learned from the text and what they anticipate will follow.

An Indian and an American woman agreed to participate in this analysis. Both were in their early thirties, were married, and had bachelor's degrees. It was expected that the Indian subject would know the register of Indian weddings and would access the related schemata as a result of register cues. Accessing those schemata was expected to prepare that reader for subsequent information in the text, including linguistic features. In the case of the American reader, on the other hand, it was expected that the appropriate register would not be highly developed, there would be problems with schemata (in terms of both access and articulation), and cohesion in the text would not be processed adequately.

These predictions were supported. For the Indian informant, register was an important factor in the comprehension process. The salutation told her the text was a personal letter addressed to an Indian woman. Furthermore, the absence of a word conveying either respects (appropriate for an older addressee) or blessings (for someone younger) allowed her to correctly predict that the letter was written to a peer. Thus,

with the first two words of the text, this subject has a strong set about the mode and tenor of the text that was supported by each successive sentence. When pressed later on in the procedure to predict what would follow the opening line of the third paragraph, "The wedding ceremony was a combination of old and new styles," she gave a very strong statement about the interaction of tenor and mode in this particular passage:

I wouldn't tell her about the ceremony at all because I assume she knows how everything takes place. I'd only give her tid-bit news about--something out of the ordinary, something about the people, especially about the people. I wouldn't tell her about starting a fire or how they go around it seven times, how they tie the knot--anything . . .

It appears that field was identified and the principal schema also was accessed very early, with the reference to "Prema's wedding" at the end of the first sentence. As predicted, this drove subsequent processing, blocking alternative readings of ambiguous phrases. Thus, when this subject was asked what "the marriage was arranged only a month ago" conveyed, she mentioned problems in organizing the ceremony. When after many probes she was finally directly asked whether this was an arranged marriage, she said, "I didn't even think of it any other way." In numerous cases, she predicted so explicitly what would follow that no additional comment was necessary. For example, in discussing the statement about the style of the ceremony, she pointed out that the groom's family has the final say and "It's the lady who maintains the tradition of the family." Further along she read "Prema's mother-in-law wanted

it that way," to which she responded, "As I told you, [the] groom's mother . . . is the leader here, she is the one who carries on the tradition."

A good example of how background knowledge facilitates the processing of textual cohesion was provided by the sentence, "They did not create any problem in the wedding, even though Prema's husband is their only son." When she read the first clause, the Indian informant said, "Yeah, that's true. They can if they want to." On reading the second clause, she briefly described the cultural importance of sons, then commented, "So if you have just one son and if you still behave very normally, without too much demanding, it's something to be commented on." The conceptualization underlying the sentence already existed and was tapped by the linguistic realization. It was not created by the linguistic form.

For the American subject, this passage was very difficult. First, she did not get much help from the register because she did not know it. With the salutation, she was able to predict only that she would be reading a letter and, on the basis of phonological shape, she correctly guessed that "Meena" was a woman's name. It was not until she got the information in the second paragraph that Prema's fiancé asked to see his intended bride that our American subject realized, "Well, this is not your basic West Coast marriage" and she was one-third into the passage before she somewhat arbitrarily decided she was reading about an Indian wedding. (The proper names did not fit any other culture she knew of that arranged marriages.)

Even when she did identify the field, she in effect had no schema to access and she based her predictions, which were often incorrect, on the only remotely relevant schemata she had available, those undergirding an American marriage:

I don't know what an Indian wedding ceremony [is], but I guess the bride wore an old-fashioned dress, . . . but maybe the parts of the service were new. I guess that 'cause it's what we do in our culture.

Thus, her reactions to the sentence about the in-laws causing problems were very different from the Indian subject's. With the first clause, she laughed with disbelief and said:

The wedding was arranged! Why in the world would the parents create a problem! What kind of problem!

Then, on getting the information that an only son was involved, she incorrectly drew the following conclusion:

It must be that the fiancé has married beneath his station. . . "They did not create any problem in the wedding although their son's trying to marry the chambermaid."

This is clearly rooted in Western cultural assumptions.

Her comments made clear that while she was learning from the text and was developing the ideational scaffolding underlying it, she could not make the appropriate inferences. Thus when she read, "There was a verbal agreement about the gifts to be given to the in-laws," she focused on the assumed information and said, "Oh, jeez, what! They give gifts to the in-laws! From the couple? Who gives the in-laws

gifts?" The fact that she had no basis for making any predictions was clear. "At this point I'm willing to believe anything."

In regard to the effect of schema selection upon processing of register, because the American subject was not restricted by a schema, she immediately saw the ambiguity in the phrase ". . . the marriage was arranged only a month ago . . ." When questioned about it, the first reading she gave was consistent with her own cultural assumptions. However, unlike the Indian subject, it did not take a direct question to point out the ambiguity. She was able to see immediately that it could fit either of two registers.

The breakdown in textual cohesion for the American subject was most clear in the case of pronominal reference. Consider her processing of the passage:

Prema's parents were not sure / how they felt about that, / but they allowed him to see her anyway. / In this day and age, they were lucky / that he even asked for their permission.

The problem involved the last sentence. The discussion went as follows:

Subject: "In this day and age they were lucky . . ." This is hard. ". . . this day and age they were lucky." To have the opportunity to see each other?

Experimenter: Who does they refer to?

Subject: The bride and groom. I would guess that the end of this was that at this day and age they were lucky to be allowed to see each other. I mean, this sounds so foreign.

It was only when she read the entire sentence that the American informant was able to correctly identify the referent of they. The Indian informant had no such problem. On the basis of linguistic structure, the referent of they is quite clear, even if the sentence is handled as a citation form.

Conclusion

Schema theory has provided insights about how world knowledge and the assumptions of the reader affect the comprehension process. There is now a great deal of evidence that reading is a constructive process and what is understood involves far more than what is present on the page. Even something as transitory as the reader's perspective at a given point in time will result in certain bits of information being highlighted and those that would be remembered with a different orientation being lost (Pichert & Anderson, 1977). To claim that background knowledge effects comprehension is obviously not to claim that the language of the text itself is unimportant. It is well known that the amount of information garnered from a text can be varied by changing structure, for example (Davison & Kantor, in press).

This paper is an attempt to show how the reader's world knowledge and linguistic knowledge interact in the construction of meaning. The language of the text triggers schema selection, which in turn makes possible the maximum realization of both the content and structural information present in the text. This description of the interaction

provides a means of studying the relative contributions of linguistic competence and knowledge to the comprehension process, and it should result in guidelines for reading instruction that will address some of the intractable problems in the attainment of literacy.

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Footnotes

¹The one subject who did not fit this pattern used essentially the same number of features in her recalls of the Aboriginal and Western passages and also recalled about the same amount of information for each story.

²A number of linguistic forms are available for prefacing statements about background knowledge: "As you know," "It is generally understood that . . .," "It is common knowledge" These enable the authors to provide necessary background knowledge without sounding patronizing if their audiences already possess that information.

³This difference in assignment of field, incidentally, is probably why British readers feel this novel is dated. American readers have no such reaction.

⁴American subjects recognized that the two texts involved illness and treatment, but they were bewildered and put off by the Aboriginal text, which was described as "some sort of superstition thing." For these subjects, the two texts did not describe choices but, rather sanctioned medical beliefs on the one hand and practices approaching witchcraft on the other.

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