Presentation Abstracts

Invited Presentation

Levels and channels in discourse structure
Eve Sweetser
University of California, San Diego

A single discourse marker can have multiple parallel functions at different levels of the speech exchange, such as describing a causal event and labelling the causal structure of the speech exchange itself; this multi-levelled "polyfunctionality" is also characteristic of gesture (Kendon, 1993; Sweetser, 1997). This paper examines differences and similarities between the ways that spoken and gestural markers regulate discourse structure. It argues that these contrasts largely follow from the characteristics of spoken conventional language and more iconic, less conventional gesture (conventional signed languages will be briefly brought up as well). Interestingly, some of the systematic parallelism between the two "channels" lies in parallel use of shared metaphorical structures which systematically structure both language and gesture (cf. Cienki, 1996, 1997; Sweetser, 1997).

Invited Presentation

Literacy and linguistic specialization: Synchronic and diachronic evidence concerning the linguistic correlates of literacy
Douglas Biber
University of California, San Diego

A major issue for discourse studies over the last three decades concerns the ways in which literacy influences language use: Are there systematic linguistic differences between spoken and written language that can be associated with literacy as a technology? This paper argues that the written mode provides the potential for styles of linguistic expression not found in the spoken mode. Evidence for this claim will be presented from a series of Multi-Dimensional studies of register variation: synchronic, diachronic, and cross-linguistic. These studies conclude that there are few (if any) absolute linguistic differences between spoken and written language - rather, particular types of speech and writing are more or less similar with respect to different underlying 'dimensions' of variation. At the same time, these studies show that there are important differences in the potential range of linguistic variation found in each mode, with writing permitting a much wider range of linguistic expression than speech.

PAPER SESSION 1

Memory benefits of active experiencing for expository and narrative material

Tony Noice (Indiana State University) & Helga Noice (Augustana College)

This study used an adaptation of professional actors' learning strategy (previously employed only for theatrical dialogue) for the acquisition of both expository and narrative material by college students. Results showed that students using this strategy (called active experiencing) retained more of the essential content of each idea unit (and as many of the exact words) as students using an intentional memorization strategy. These results would indicate that active experiencing can be of substantive benefit in typical college learning situations.

Self-explanation: Effects of practice, prior domain knowledge, and reading skill

Danielle McNamara (Old Dominion University)

Readers who self-explain text aloud understand more from the text and construct better mental models of the content. This presentation summarizes two experiments conducted to examine the benefits of providing extensive self-explanation training, or practice, to middle-school children and adults. Effects of prior knowledge and reading skill were also examined in relation to the benefits of self-explaining and self-explanation training. The benefits of self-explanation depended largely on prior knowledge.

Retrieval from long-term working memory during reading

Guy Denhière & Cédrick Bellissens (Université de Provence, France)

The purpose of this study was to investigate the recent view of long-term working memory during reading proposed by Ericsson and Kintsch (1995). It is assumed that adult readers can readily retrieve the episodic structure of a text from long-term memory via the mediation of reinstated content retrieval cues. A reading interruption procedure was used. Cue sentences were inserted after the interruption but before reading resumption. The features of the cue sentence were manipulated.

Indexical understanding of instructions

Arthur Glenberg & David A. Robertson
(University of Wisconsin - Madison)

Is background knowledge solely descriptive, or is there room for a perceptual component? The indexical hypothesis suggests that perceptual components are crucial. On this hypothesis, words and phrases are indexed to objects. Then, affordances derived from the objects, not the words, are used to guide the interpretation of the language. In fact, participants given the opportunity to index read subsequent text more quickly and followed instructions more accurately than those who could not index.

Topicalization and left dislocation: A functional opposition revisited
Michelle Gregory & Laura Michaelis
(University of Colorado)

We use the Switchboard Telephone Speech corpus to investigate the discourse-pragmatic contrast between two fronting constructions: Topicalization (TOP) and Left Dislocation (LD). Our data reveal that LD performs a topic promoting function (Lambrecht 1994) for uniquely identifiable referents (Gundel et al. 1993). TOP is not topic promoting, and is much less constrained with regard to the activation status of the fronted denotatum. While our study generally supports Prince's (1984, 1986) account of TOP, it provides a revised account of the functional opposition between TOP and LD--one based on complementary rather than inclusive functions.

The use of reference forms to negotiate stance in English conversation
Pamela Downing (University of Wisconsin - Milwaukee)

This paper analyzes the use of reference forms in an English telephone conversation between a teenage girl and an adult friend. The analysis focuses on the speakers' exploitation of these forms to negotiate their stances toward and "ownership" of the topic of the conversation, a favorite soap opera. It is argued that many of the referential choices in the conversation are motivated by these stance-related considerations, and that the constraints on referential choice cannot be described without considering such socially situated, "natural" data.

Linguistic attributes and conceptual organization:
A cross-linguistic analysis of discourse in the light of Cognitive Grammar
Tânia Mara Gastão Saliés (Pontifícia Universidade Católica do Rio de Janeiro, Brasil)

This paper investigates sentence and attention unit length, independent constructions, types and tokens, word order effects, and other linguistic attributes cross-linguistically and analyzes them quantitatively and qualitatively. Specifically, it demonstrates how linguistic attributes lead to hypothesis about conceptual organization and reflect cost of processing. It adds to the literature in that it uses the descriptive tools of Cognitive Grammar to analyze a corpus of 20 English and 20 Brazilian Portuguese expository texts.

Narrative representation theory: Universals in creole discourse
Hirokuni Masuda (University of Hawaii at Hilo)

Narrative representations in creole discourse, which are computed by the right hemisphere of the brain, are realized by five external units (quintuple-hierarchy) that consist of three internal components (trinary branching). Creole languages also demonstrate preference for a specific numerical set of coherency-unit representations (numbering-preference). This study suggests that these common features were derived from the creolization process when the core part of

discourse grammar was being established according to universal principles.

PAPER SESSION 3

The interaction between discourse, cognition, syntax, pragmatics, and prosody:
The case of word order variation in spoken Spanish
in constructions with a verb, a noun phrase argument, and an adverb
Francisco Ocampo (University of Minnesota)

Spanish has been characterized as a flexible word order language, in the sense that a particular construction may exhibit different word orders. Constructions formed by a conjugated verb, an argument np, and an adverb, occurring in informal conversations are studied. There is a correlation between word order and syntactic, semantic, cognitive, and pragmatic factors, and factors pertaining to the general organization of discourse. There is also a correlation between primary stress placement and pragmatic factors.

The effect of referent accessibility on pronoun processing:
Evidence from eye movement recordings
Stéphanie Montoya (Université de Provence, France), Thierry Baccino (St Jean d'Angély, France) & Guy Denhière (Université de Provence, France)

This study tested the effect of referent accessibility on pronominal anaphor processing when the referent is located far away in the surface structure of the discourse. More specifically, we investigated eye movement behaviors during initial processing and re-processing of anaphoric sentences. According to the memory-based text processing view proposed by McKoon, Gerrig, and Greene (1996), automatic retrieval processes rely mainly on the organization of the information encoded in memory.

Time course of single-word context effects on meaning access
Pierre Thérouanne & Guy Denhière (Université de Provence, France)

This study deals with the time course of lexical context effects on access to word meaning. In three lexical decision experiments, a context formed by a word, a homograph, and a target word expressing the homograph's dominant meaning were presented in succession. The context word and two temporal factors were manipulated. Immediate facilitation of response time was noted when the context word was related to the target, suggesting that access is initially constrained by lexical context.

What is associated in the mind of a subject when he reads words or sees pictures?

Martine Cornuejols & Jean-Pierre Rossi (University of Paris XI - Orsay, France)

This research examines the nature of the associations in semantic memory when a reader views a word or a picture. Since Collins and Quillian, Psychologists suppose the existence of a semantic network for words into which propagation of activation can occur. In our study, the existence of a semantic network for pictures as it exists for words is examined. In three experiments of association generation and semantic priming, we compared the activation of semantic representations by written-words and pictures.

SYMPOSIUM

AutoTutor: A computer tutor that simulates human tutorial dialogue
Organizer: Arthur Graesser (The University of Memphis)
Symposium Abstract

The participants on this symposium have been developing and testing AutoTutor, a fully automated computer tutor that simulates dialogue moves of normal human tutors. There is a tutorial dialogue of several turns as AutoTutor and the learner collaboratively answer questions and solve problems. After the learner types in the content of a turn, AutoTutor selects dialogue moves that assist the learner in the active construction of knowledge. The dialogue moves include immediate feedback, pumping, prompting, splicing, hinting, elaborating, requestioning, and summarizing. The tutor's moves are delivered by a talking head with appropriate facial expressions and synthesized speech. This symposium will demonstrate AutoTutor, describe its mechanisms, and report tests of its performance.

1. The goals and design of AutoTutor
Art Graesser & Stan Franklin
(The University of Memphis)

AutoTutor simulates the dialogue moves of an unskilled human tutor. AutoTutor "comprehends" what the human learner types into the keyboard by using language modules, segmenting the content into speech act categories, and using Latent Semantic Analysis to evaluate the truth, relevance, and quality of student contributions. AutoTutor uses curriculum scripts to guide the tutorial dialogue at a macro-level. At the micro-level, appropriate dialogue moves are selected in a tutor's turn and are expressed by a talking head.

2. A demonstration of AutoTutor
Lee McCauley, Barry Gholson & Bill Marks
(The University of Memphis)

There will be a demonstration of AutoTutor. The demonstration will illustrate the range of contributions that typical learners type into the keyboard. The alternative dialogue moves of AutoTutor include the delivery of curriculum script subtopics, questions, immediate feedback (positive, neutral, and negative), pumps, prompts, elaborations, hints, splices, and summaries. Graphics, animation, synthesized speech, and the talking head will also be demonstrated.

3. A curriculum script on the topic of computer literacy
Myles Bogner, Douglas J. Hacker, Holly Yetman, & Bianca Klettke
(The University of Memphis)

A curriculum script was developed for 37 subtopics on computer literacy. In addition to an initial seed subtopic, there were 12 subtopics on computer hardware, 12 on operating systems and 12 on the Internet. The subtopics vary in difficulty and have one of four formats: Question+Answer, Didactic-information+Question+Answer, Graphic-display+Question+Answer, and Problem+Answer. The composition of these subtopics are described.

4. Language modules and speech act classification
Jim Hoeffner, Brent Olde & Zhaohua Zhang
(The University of Memphis)

Language modules analyze the content of the message that the learner types into the keyboard during a particular conversational turn. The sequence of words and punctuation marks in a turn are segmented and classified into speech act categories (i.e., Question, Contribution, versus Short Response). The language modules include a lexicon, a connectionist network that identifies the syntactic classes of words, software agents implemented as "codelets" that sense surface linguistic features, and a connectionist network that formulates predictions about the next speech act category.

5. Using latent semantic analysis to represent knowledge about computer literacy
Peter Wiemer-Hastings (The University of Memphis)

Latent Semantic Analysis (LSA, Landauer & Dumais, 1997) was used to represent the knowledge of computer literacy. Two books and 21 additional articles were compressed into space of 300 dimensions using LSA. This high-dimensional space is included in computations that evaluate the truth, relevance, and quality of the learner's contributions during tutoring. This presentation describes LSA, the corpus of texts on computer literacy, and the computational methods of evaluating learner contributions.

6. Tests of latent semantic analysis in the domain of computer literacy

Katja Wiemer-Hastings & Ashraf Anwar
(The University of Memphis)

Latent Semantic Analysis (LSA) provides the representation that is needed for evaluating the meaning of learner contributions in AutoTutor. The LSA match scores are used to compute the truth, relevance, and quality of a learner's contributions during tutoring. It is important to assess the fidelity of these LSA scores in the knowledge domain of computer literacy. We compared LSA "match scores" for sentences and paragraphs that varied in length and quality.

7. Tutor dialogue moves in naturalistic tutoring

Natalie Person (Rhodes College)
Victoria Pomeroy & Matt Weeks (The University of Memphis)

After a subtopic is introduced by the tutor, there is a collaborative interaction between AutoTutor and the learner in an effort to answer a question or solve a problem. The dialogue moves of the tutor include immediate feedback (positive, negative, neutral), pumping, prompting, elaborating, hinting, splicing, requestioning, and summarizing. These dialogue moves were analyzed in a corpus of naturalistic tutoring protocols.

8. AutoTutor's generation of dialogue moves

Derek Harter (The University of Memphis)

AutoTutor's dialogue moves within a turn are determined by a set of fuzzy production rules. Multiple rules are associated with each move category. The production rules are tuned to (1) the truth, relevance, and quality of the learner's recent contributions, (2) the phase of the tutorial dialogue within a subtopic, and (3) the learner's ability, initiative, and volume of verbal output. AutoTutor's generation of dialogue move categories has a close fit to the dialogue move patterns of human tutors.

9. Intonation and facial expressions of talking head

Roger Kreuz, Kristen Link & Xiangen Hu

(The University of Memphis)

Most of AutoTutor's dialogue moves are produced with synthesized speech and a talking head. The immediate feedback phase of the tutor's turn has facial expressions and intonation that signify positive, negative, or neutral feedback. The parameters of the facial expressions and intonation are based on a corpus of feedback expressions produced by human tutors. The extended information after the immediate feedback is also delivered with a talking head, but without precisely tuned evaluative parameters.

PAPER SESSION 4

The role of attention allocation during reading in the construction of mental representation of a text

Paul van den Broek (University of Minnesota), Yuhtsuen Tzeng (University of Minnesota)
& Michael E. Young (University of Iowa)

We present a theoretical/computational account of the cognitive processes during reading and of the role that these processes play in the gradual emergence of a stable episodic memory representation of the text. The presentation consists of three parts. First, we describe the unique features of the model. Second, we demonstrate the model's properties by projecting a simulation onto the overhead screen. Last, we explore some of the model's unique predictions and compare these to empirical data.

The comprehension of scandals:
Cognitive implications from descriptions of cheating behavior

Franz Schmalhofer (Universität Heidelberg, Germany)
& Ludger van Elst (DFKI Kaiserslautern, Germany)

In our research program we are investigating whether information about social exchanges and the detection of cheating behavior may be equally important for the construction of situation models during text comprehension as causal, temporal and spatial information. By performing causal analyses of various scandals, a particular structure of cheating behavior was identified in three-party interactions. With corresponding texts, which were designed according to experimental criteria, we investigated in three experiments under which conditions a cheating inference is drawn by a reader when reading such a text.

The multidimensional aspects of a situation model constructed from text:
Effects of spatial and non spatial information

Isabelle Tapiero & Nathalie Blanc (Université Lyon 2, France)

In this study, we investigated the multidimensional content of a situation model constructed from a text in which spatial information are foregrounded. More specifically, we examined what information relative to the characters of a story readers preferentially integrate. As we expected, the results to inferences judgment tasks indicate that readers not only monitor character's spatial location but also information relative to personality traits, emotional reactions, and intentions.

The effects of text coherence, need for cognition, and prior knowledge on situation models

Sami Gulgoz, Tarcan Kumkale & M. Emrah Aktunc
(Koc University, Turkey)

The effects of need for cognition, text coherence, and prior knowledge on readers' situation models were investigated in two experiments using different texts. Participants were given original texts or their high-coherence revisions. Analyses of answers to open-ended questions showed readers of high-coherent text learned better in both experiments. In one experiment, there was a text version x need for cognition interaction; low-nfc participants learned better from revised text and high-nfc participants learned better from original.

PAPER SESSION 5

A cross-linguistic analysis of idiom comprehension by native and non-native speakers
Heather Bortfeld (Brown University)

Native speakers of three different languages (Latvian, Mandarin, or English) rated collections of their language's idioms for how transparent, mappable, or opaque they perceived the relationship to be between the idioms' literal and figurative meanings. In four experiments, native English speakers classified these idioms according to their figurative meanings. Response times and error rates indicate that speakers' ability to interpret idioms depends on whether the phrases are Normally, Abnormally, or Un- Analyzable. Based on these results, I argue that universally-held conceptual metaphors motivate idiomatic language in general, with further differentiation made based on the cultural and linguistic subtleties unique to specific language groups.

Familiar and less familiar ironies: The graded salience hypothesis
Rachel Giora (University of California, Santa Cruz) & Ofer Fein (Princeton University)

As predicted by the graded salience hypothesis (Giora, 1997), 'less familiar' ironies were processed only literally initially - 150 msec after their offset, regardless of contextual bias. However, 1000 msec after their offset, the ironic meaning became available and the literal meaning was still as active. In the literally biasing context, only the literal meaning was available (see also Giora et al., 1998). In contrast, 'familiar ironies' revealed no significant interaction. Both their literal and ironic meanings were similarly active in both types of contexts and under both interstimulus intervals, as predicted.

An evaluation of conceptual metaphor via extra-linguistic paradigms: Evidence from category accessibility and reading inferences
Herbert L. Colston (University of Wisconsin - Parkside)

Two obstacles in attempts to evaluate the psychological reality of conceptual metaphor in figurative language comprehension are the lack of extra-linguistic evidence and the presence of more parsimonious accounts. To address these obstacles, two extra-linguistic paradigms not usually associated with conceptual metaphor--category accessibility and reading inferences-- were used to evaluate four accounts for the comprehension of proverbs: conceptual metaphor, the standard pragmatic model, association and conceptual base. The results supported the conceptual metaphor view.

Conceptual organization and discourse processing
Mark Andrews & Frank Keil (Cornell University)

The extent to which comprehension is affected by different types of explanatory introductions was investigated. Findings suggest that introductions that are "functional" in emphasis facilitate comprehension of subsequently read texts to a significantly greater extent than introductions that are "mechanistic" in emphasis. These introductions were found not to differ on obvious superficial characteristics but rather on deeper or conceptually based characteristics. These findings are taken to reflect differences in conceptual organization and its influence on the processing of discourse.

POSTER SESSION 1

1. An intertextual typology for text analysis
Juanita Marinkovich & Ricardo Benitez
(Universidad Catolica de Valparaiso, Chile)

The present work focuses on the stage of recognition of intertextuality in a text. Intertextuality is an operative semiotic mechanism seen as a hybrid area between semiotics and pragmatics; it is the way we relate textual instances among themselves and the way we recognize them as signs which make us recall areas of our previous textual experience or pre-text. Every text contains tangible elements that acts as intertextuality indicators which can be grouped according to a typology.

2. Updating a situation model: Evidence for on-line and backward processes
Nathalie Blanc & Isabelle Tapiero (Université Lyon 2, France)

This research deals with the distinction between on-line and backward processes in the updating of a situation model. We assumed that readers use one of these temporal components according to their knowledge specificity of the situation. The results to on-line and backward tasks showed that readers with specific knowledge preferentially update their situation model in a backward way, compared to subjects with general knowledge who used equally well the two temporal components.

3. The effects of prior knowledge on the content of a situation model constructed from a descriptive text
Nathalie Blanc & Isabelle Tapiero (Université Lyon 2, France)

In this study, we investigated whether readers' prior knowledge on a spatial layout determine the content of a situation model constructed from a descriptive text. As we expected, our results showed that subjects with specific knowledge process equally well layout and characters

information and constructed a more precise and a more available situation model than subjects with general knowledge who focused more on layout information.

4. Evolution of subjects' initial knowledge structure on a specific domain:
Effects of relations between concepts and of expertise
Isabelle Tapiero & Gaelle Molinari (University Lyon 2, France)

The goal of this research was to study the changes in knowledge structure novices and experts have on a specific domain. Subjects had to perform a key-word sorting task before and after reading a text either coherent or not coherent in terms of the temporal-causal sequence of information. Our results showed a differential effect of textual coherence on subjects' knowledge structure and emphasize the importance of the semantic nature of information.

5. Memory for metaphors and similes in meaningful discourse
Richard Jackson Harris & Noah Jacob Mosier (Kansas State University)

Three experiments examined memory for sentential metaphors ("Playful monkeys are clowns") and similes ("Playful monkeys are like clowns") presented auditorily either with or without a meaningful discourse context. Results using both recognition and recall showed metaphors to be remembered better than similes, with the latter helped only slightly by the presence of a meaningful context. Concrete sentences were recalled and recognized better than abstract ones, with or without the discourse context.

6. Violating orientational metaphors affects text comprehension
William Langston & John Terzo (Middle Tennessee State University)

Two experiments investigated the effect of prior knowledge of orientational metaphors (e.g. MORE IS UP) on text comprehension. Participants read texts that were consistent or inconsistent with MORE IS UP. Reading time for a critical sentence was slowed for inconsistent texts. For texts describing horizontal arrangements, no evidence of a preferred mapping was found. The data suggest that readers' knowledge of orientational metaphors can influence text comprehension.

7. The eventuality of propositions
Max Louwerse (University of Edinburgh, Scotland)

In this paper the use of the concept 'situation' (eventualities and thematic roles) is discussed. It will be claimed situations should replace the concept of 'proposition'. The role of situations will be presented in a theoretical discussion of a semantic representation of linguistic information, of language evolution and language acquisition, and in a discussion of the results of a connectionist model of text summarization and the results of an eye movement research.

8. The influence of causal connections on
the construction of a coherent memory text representation:
Connection strength versus connectivity strength

Marie-Pilar Quintana (Universite Lumiere Lyon2, France), Isabelle Tapiero
(Universite Lumiere Lyon2, France) & Paul van den Broek (University of Minnesota)

This study investigates the properties of events in a memory representation as a network. We evidenced using a recognition priming task on pairs extracted from narratives, that the connection strength has a greater influence on the representation of events in memory than the connectivity strength. Moreover, we showed that a global activation of the network (general primes) can slow down memory retrieval of information compared to a local activation, even with non-causally related primes.

9. Implicit causality effects in the interpretation of pronouns

Jane Oakhill, Alan Garnham, David Reynolds, & Carolyn Wilshire
(University of Sussex, UK)

Some verbs, such as "blame" and "confess", implicitly impute causality to one or other of the participants in the actions they describe. Previous studies have shown that readers have more difficulty processing passages containing "because" clauses when the explicit and implicit causes differ than when they are the same, but the content of the "because" clauses also varied. In a series of experiments, we used materials in which identical "because" clauses were congruent or incongruent with different main clauses. Although the previous effects of congruity on reading time were not replicated, congruity did have other effects on other dependent variables.

10. The influence of verb bias information on clausal integration: Implicit causality and implicit consequentiality

Andrew J. Stewart, Martin J. Pickering & Anthony J. Sanford
(University of Glasgow, Scotland)

In this paper we focus on how verb bias information facilitates clausal integration. We describe how knowledge about likely causes (implicit causality) and consequences (implicit consequentiality) affects the way in which locally ambiguous relations between clauses are understood. We show that the language processor is influenced by this implicit information independently of the actual plausibilities of the described events.

11. Detecting subgoal relations in narrative comprehension

Eric Richards & Murray Singer (University of Manitoba, Canada)

Text comprehension of causally complex texts were examined in two experiments. Materials outlined two protagonists who had independent subgoals and a shared superordinate goal. The superordinate goal could only be satisfied when both subgoals were satisfied. In experiment 1, the reading times of spillover sentences were longer when they followed previously satisfied subgoals compared to when one of the subgoals was unsatisfied. In experiment 2, this finding was replicated, and then reversed when the position of the subgoal was brought closer to the target sentence region.

12. Are elaborative task conditions necessary for making on-line inferences about fictional characters' emotional states?

Tammy Bourg (California State University, Sacramento), Lori Bernard (University of North Texas), Candise Bockrath (California State University, Sacramento), & Peter Tran (University of Connecticut)

Three experiments were conducted to determine (a) whether adults make inferences about fictional characters' emotional states both when they are and are not expected to write continuations to stories, and (b) the extent to which adults make such inferences automatically, particularly under the no-continuation task conditions. The results of two reading time experiments and one divided attention task experiment indicate that adult readers do make emotion inferences and do so automatically, both under elaborative and non-elaborative task conditions.

13. The importance of reactions for inferring characters' emotions in narrative texts

Scott Vincent Masten & Tammy Bourg (California State University, Sacramento)

The role that reactions play in adult readers' understanding of story characters' emotions is explored. Goals, s/u outcomes and reactions were found to be considered the most important story grammars, however emotional reactions as a unique category were considered the single most important story grammar. When emotional reactions were absent from the narratives, the adult readers were found to increasingly rely on goals to understand the characters' emotions. The presence of emotional reactions increased the readers' perceived intensity of anger in aversive episodes and sadness in loss episodes.

14. Does instrument inference occur on-line during reading?

Sung-il Kim (Kwangwoon University, Korea), Jung-Mo Lee (Sung Kyun Kwan University, Korea), Jae-Ho Lee (Korea University, Korea), & Kun-Hyo Lee (Sung Kyun Kwan University, Korea)

The instrument inference is one of the kinds of elaborative inferences. Although most research on inference showed that elaborative inferences were not generated on-line during comprehension, they have several methodological problems. This study was conducted to investigate whether instrument inference was generated during comprehension using various on-line measures. Lexical decision time and reading time data provided convergent evidence for on-line generation of instrument inference. The results were consistent with the prediction of constructionist view on inference.

15. The contribution of associative processes to the generation of predictive inferences

Nicolas Campion (Université de Paris XI, France) & Jean-Pierre Rossi (LIMSI Equipe Cognition Humaine Université de Paris XI, France)

In this research, we studied the role of semantic associations provided by a predictive text in the generation process of a prediction. Readers had to perform an on-line lexical decision task or a plausibility judgment task at two different delays. Our results suggest that semantic associations increase the generation degree of the prediction, but must add new causal relations between the text content and the prediction, to increase its integration degree in the final representation.

16. What inference generation research can learn from cinema studies
Per Persson (Stockholm University, Sweden)

This paper raises three theoretical insufficiencies with the research on inference generation. First I question if measure of comprehension of narrative texts is satisfactory considering that the primary function of narratives seems to be entertainment, affective responses and pleasure. Secondly, I claim that knowledge based inferences are given far too little attention. Thirdly, I maintain that the number of on-line inference types in narrative comprehension is impossible to set if based only on studies of reception. The text itself and the narrational strategies employed are paramount influentials and have to be carefully considered. Since some of these issues are studied within the cognitive strands of cinema studies, this might be a good partner for psychological studies of narratives.

17. Cultural influences on online text elaborations
Darcia Narvaez, Christyan Mitchell & Brian Linzie
(University of Minnesota)

Culture affects recall of cultural texts (e.g., Reynolds, Taylor, Steffensen, Shirey, & Anderson, 1977) and moral judgment development affects recall of moral texts (Narvaez, 1998). Does culture affect the online processing of moral texts? Participants took an inventory of individualism-collectivism and read stories about requests for help in which the protagonist did or did not help a relative. Results indicate significant differences in individualism-collectivism and in moral inference generation.

18. Cognitive-cooperative strategies in the writing classroom
Pilar Morán (Universidad Catolica de Valparaiso, Chile)

This study was designed to examine student writers at different levels of instruction, to describe their cognitive cooperative strategies as shown in the cooperative method. A teaching-learning module was designed within a cooperative context and then was experimentally applied to sixth-grade students (10-12 year-old children). An experimental group (who worked cooperatively), and a control group were given the same tasks behaviours so as to detect their composing process. In this paper the application stage is revised.

19. Reading-writing connections: discourse-oriented research
Giovanni Parodi (Universidad Catolica de Valparaiso, Chile)

The aim of this research was to conduct an exploratory study of the connections between reading and writing of argumentative texts, based partly on van Dijk and Kintsch's theory (1978; 1983), van Dijk (1985, 1990)and important contributions from Kucer (1985), Reuter (1994, 1995) , Eisterhold (1994) and Nystrand (1990). It is argued that the processing of information in reading

and writing must share some psycholinguistics strategies, knowledge, Two tests were administered to a group of students . One on reading comprehension and the second on composition. An exploratory study of different variables was made using canonical correlational analysis. Specific relations are examined and research implications are drawn.

20. Plan implementation in narrative writing
Brian Linzie & Amy R. Briggs (University of Minnesota)

Twenty writers planned aloud for five minutes, then wrote a short narrative on an assigned topic. We expected that more developed writing plans and more causally connected plans would result in more plan elements being included in the final story. However, on a relative basis, more developed and causally connected plans had fewer plan elements in the final story. Yet, individual story elements with more causal connections did appear more often in the final story.

21. The effects and sources of effects
of questioning timing on comprehension of stories
Yuhtsuen Tzeng & Paul van den Broek (University of Minnesota)

In this study, the effects of questioning during and after reading on memory were compared to a recall without questioning. The results indicate that questioning during reading increases proficient readers recall but decreases the comprehension of less proficient readers. Furthermore, questioning after reading not only does not benefit proficient readers but also may decrease young readers, comprehension. The effects of questioning depend on timing and readers abilities, and they do so by directing readers, attention to specific text information targeted by questions.

22. The effects of causal text revision on
more- and less-skilled readers' comprehension of easy/difficult text
Tracy Linderholm, Michelle Gaddy, Maureen Mischinski, & Paul van den Broek (University of Minnesota)

The importance of causal structure has been well-documented in text comprehension research. This study investigated how both easy and difficult texts can be improved using the causal network theory and how these repairs can differentially impact comprehension for more- and less-skilled readers. Results indicated that all readers, especially less-skilled, benefited from the revisions but only for the difficult text. The causal network theory provides an appropriate and systematic method for revising texts.

23. Individual differences in remediating poor text comprehension
Mina C. Johnson-Glenberg (University of Colorado at Boulder)

Fifty-nine third through fifth grade poor comprehenders but good decoders were assigned to three conditions: a visually-based remediation, a verbally-based remediation, or an untrained control. Thirty-six of the students were further split into groups that crossed low and high visual skills, with low and high verbal skills. The results indicated that an effective comprehension remediation program must take into consideration the student's profile of cognitive strengths and weaknesses. In particular, programs designed to remediate weaknesses are more effective

than those designed to build on strengths. Thus, a student who is weak in visual skills but strong verbally should be remediated with a program that strengthens visual skills.

24. The role of working memory capacity in integrating outline material with text
Amber D. Wells & Peter W. Foltz (New Mexico State University)

The experiment explored the role of working memory capacity on higher-level text processing. Readers studied an outline, read a text, and then answered questions based on the text information. Working memory effects were obtained for inference and problem solving questions such that a larger working memory capacity corresponded to improved performance. No working memory differences were obtained for text based questions. It was concluded that working memory plays a role in higher-level text processing.

25. Locating information in complex text: Domain expertise or document literacy?
Jean-François Rouet & Laurent Guillon (University of Poitiers and CNRS, France)

Psychology and geography specialists were asked to search psychology and geography texts in order to answer four content-related questions. Search time and search patterns showed a limited influence of discipline on students' online search strategies. However strategies were consistent within question types and participants. Participants had a better incidental memory for the structure of the document in their specialty. The data support a model of document search as an generalized process with a limited influence of domain-related knowledge.

26. Effects of literacy and type of TV news on recall
Fatos Goksen, Sami Gulgoz & Cigdem Kagitcibasi
(Koc University, Turkey)

This study examines the influence of literacy, international, national and local television news, and hard vs. soft nature of news on recall. Subjects were asked to watch a fabricated news program and assessed on their ability to recall the news. Results indicated that (a) literate audience recalls better, (b) hard and national news are better recalled than soft and local news, (c) the difference between hard and soft news is smaller among illiterate women.

27. Suppression mechanisms in children: Memory for previously relevant information in good and poor comprehenders
Alix Seigneuric (Université Paris V, EPHE, and CNRS, France)
& Marie-France Ehrlich (Université Paris V, France)

This study aimed to identify the suppression mechanism as a basic process involved in the relationship between working memory capacity and text comprehension in 4th grade children. First, the contribution of working memory capacity to reading comprehension was established with correlational methods. Second, using the Hartman & Hasher's (1991) paradigm, differences

in the ability to suppress previously relevant information were investigated in good and poor comprehenders who differ in working memory capacity.

28. Modelisation of sentence comprehension in reading by children
Céline Asmussen (Université de Provence, France)

The present experiment was performed in order to evaluate the influence of various factors in sentence comprehension by young readers. It appeared that 1) the syntax played no significant role; 2) complex grapho-phonological structures delayed correct sentence understanding, and 3) sentence comprehension was primarily dependent on pragmatic factors directly related to the children world knowledge. These data will help to develop a model of sentence comprehension by young readers.

Invited Presentation

Individual differences in children's comprehension skill
Jane Oakhill

University of Sussex, UK

In this talk, I consider the difficulties of children who have problems with reading comprehension, even when they are competent at single-word recognition. I shall discuss the relative contribution of several theoretically relevant skills and abilities to the prediction of children's reading comprehension. The aim of a current longitudinal project is to assess which skills and abilities might play a causal role in the development of reading comprehension. I shall present some recent data from this project, and discuss the implications of the findings for our understanding of children's problems in text comprehension.

PAPER SESSION 6

What does children's discourse tell us about the nature of coherence relations?
Wilbert Spooren (Tilburg University, The Netherlands) &
Ted Sanders (Utrecht Institute of Linguistics OTS, The Netherlands)

In previous work we have argued that an adequate theory of discourse should explain the fact that the similarity between coherence relations varies. A classification based on concepts like polarity (positive-negative) has been proposed. If these concepts indeed have a cognitive status, then the order of acquisition of coherence relations should reflect the classification principles. This hypothesis was tested in an investigation of primary school children's utterances and in an experiment using a sentence completion task.

"Where's Glowbird?": Children's use of multiple dimensions in story narratives

Peter M. Meyerson, Susan R. Goldman, Nathalie Cote, Cynthia Mayfield-Stewart & David M. Bloome (Vanderbilt University)

In this study, we examine how children use various dimensions of coherence in constructing narrative texts for younger students. Dyads of middle school children saw an animated video and then constructed a printed text. We report on dyads' use of prosodic (e.g., rhyme, repetition) and causal dimensions in the printed texts, their production strategies, and quality ratings of their texts. Results suggest that children use multiple dimensions of narratives, including the prosodic, to construct coherent representations.

Why did the protest turn violent?
12 to 14 year-olds' understanding of controversy accounts

Jean-François Rouet & Caroline Golder (University of Poitiers and CNRS, France)

We examined the effects of text organization, introduction and delay on 6th and 4th graders' comprehension of a text describing a controversial protest. The students read the text and then answered comparative and integrative questions immediately and after a one-week delay. There was a main effect of grade on both types of questions, but the argument version did not improve students' answers to comparative questions. Moreover a rhetorical introduction interfered with the comprehension of the source version. The relevance of causal-temporal vs. other sources of coherence are discussed.

Using a corpus of textbooks to predict and
to simulate organization of knowledge concerning biological concepts

Guy Denhière & Patrick Bougé (Université de Provence, France)

This research investigated the effect of occurrence and co-occurrence frequencies of concepts, computed from a corpus, on knowledge organization. Our main hypothesis was that knowledge organization of three groups (Students, 7th grade and 8th grade) were calibrated to inputs they received from textbooks. This hypothesis predicts that knowledge organization could be accounted by quantitative factors such as occurrence and co-occurrence frequencies. A lexical decision task, an association task and simulations with LSA model were performed.

PAPER SESSION 7

The comprehension and retention of temporal information in situation models

Mike Rinck & Andrea Haehnel (TU Dresden, Germany)

We investigated how temporal information is understood and retained in situation models of narratives. In Experiment 1, comprehension of temporal information was slowed down and its

retention impaired, if the information was inconsistent with temporal order information given earlier. This was true for absolute as well as relative temporal order information. Experiment 2 indicated that temporal inconsistencies increase reading time even if readers are unable to report the inconsistencies.

Grammatical markers as processing instructions for situation model construction: A case for verb aspect

Joe Magliano & Michelle Schleich
(Northern Illinois University)

This study investigated the role of verb aspect and world knowledge in conveying the duration of narrative events. Stories contained an aspect sentence describing an event that was either completed or in progress and three post-aspect sentences which could either occur concurrently or subsequently to the aspect event. The perception that the aspect event was still ongoing and its accessibility to working memory were both assessed across the four test sentences. The results indicate that readers rely on verb aspect to construct the temporal components of a situation model.

Updating situation models across readings of descriptive texts

Keith Millis, Anne King & Shelly Walquist
(Northern Illinois University)

The present study examined comprehension changes across two readings of texts that described simple machines. After each reading, participants drew and labeled the machines that the texts depicted. Sentence reading times were predicted by variables assessing the textbase, the situation model, and subjects' memories for the text. The results indicated that readers reread the texts strategically, allocating fewer resources to proposition assembly and more resources to updating their situation models.

Translation of text: A new approach to monitoring the construction of situation models during comprehension

Rolf A. Zwaan (Florida State University), K. Anders Ericsson (Florida State University),
Carolyn E. Lally (University of Nebraska - Omaha), & Len Hill (Florida State University)

The translation from a non-native language into individuals' native language reveals the mediation of situation models during text comprehension. Sixteen native speakers of English differing in their level of mastery of French translated French sentences into English, one sentence at a time. The results suggest that situation models (1) are constructed during skilled translation of texts and (2) facilitate translation performance.

Invited Presentation

Processing language in real time: Cross-linguistic evidence

Elizabeth Bates

University of California, San Diego

In interactive, connectionist or constraint-satisfaction theories of language processing, lexical, grammatical and discourse information are used together, as soon as they are available, to access words and construct sentences in comprehension and production. This approach contrasts markedly with modular accounts, in which each source of information is evaluated (at least at first) within a separate processor. In this presentation, I will review evidence from several different languages in favor of the interactive approach, and I will also show how claims about modular dissociations in aphasia can be reconciled with the interactive view.

PAPER SESSION 8

Gestures in relation to speech:
Clues to discourse processes in Chinese and English
Susan Duncan (University of Chicago)

Analysis of unwitting gestures and co-occurring speech in videotaped, unrehearsed conversation reveals the on-line origins, evolution, and organization of linguistically communicative productions. Three Chinese and three English speakers tell the story of a cartoon to a listener. Comparisons of the meanings and synchrony of their gestures in relation to speech reveal differences in how speakers of these typologically different languages negotiate with the formal structures of their languages to organize comparable narrative sequences.

The complementarity of speech and gesticulation in learner articulation
Timothy Koschmann (Southern Illinois University) &
Curtis D. LeBaron (University of Colorado at Boulder)

We describe here a study on how gestures are used as a resource in the course of articulating one's knowledge. Our data consists of a corpus of videotaped interaction of medical students participating in a Problem-Based Learning (PBL) curriculum. Our analysis involves a number of issues including: the form of the gestures observed, how gestures are located within their material environment, how gestures are coordinated with speech in ways that provide for their mutual interpretation, how gestures are coordinated with other nonvocal behaviors, and how gestures are used to organize social interaction whereby participants negotiate mutual understandings.

Prosodic expressions of text structure
Leo Noordman (Tilburg University, The Netherlands), Ingrid Dassen
(Tilburg University, The Netherlands), Marc Swerts (Institute for

Perception Research, The Netherlands), & Jacques Terken (Institute for Perception Research, The Netherlands)

This study investigates whether prosodic characteristics of a text correlate with text structure. The hierarchical structure of the texts was described by two theories. The texts were read aloud; the duration of pauses and the pitch of text segments were measured. There was a strong linear relationship between pause duration and pitch on the one hand and level in the hierarchy on the other hand. Prosodic characteristics play a role in expressing the structure of the information and in packaging the information in meaningful units.

PAPER SESSION 9

Automatic recognition of hostile electronic messages
Ellen Spertus (Mills College)

While most people consider hostile electronic mail to be one of the hazards of the Internet, "flames" are a boon to scholars wishing to better understand insulting speech. We analyzed 1222 messages sent to controversial Web sites and developed a successful set of syntactic and semantic rules to automatically classify whether messages were flames. We discuss our most and least successful rules, our methodology, and directions for future research on text classification and computer-mediated communication.

Human and computer evaluation of student essays
Peter W. Foltz (New Mexico State University)

Essays provide a rich representation of a reader's knowledge of a topic, but can be difficult to grade. Expert graders graded essays using several criteria and we used Latent Semantic Analysis (LSA) to automatically determine several measures of the quality of the essays. Results indicated that LSA graded as accurately as the human graders. A grading application will be described which was used in an Psycholinguistics course to provide students with instant feedback on the quality of their essays and an indication of what key pieces of information were missing from their essays.

Discourse learning: Dialogue act tagging with transformation-based learning
Ken Samuel (The University of Delaware)

To interpret natural language at the discourse level, it is very useful to recognize dialogue acts. We have implemented Transformation-Based Learning, because this machine learning method has a number of advantages over alternative approaches for computing dialogue acts. We extended and modified our system to address the limitations of the original algorithm and the particular demands of discourse processing, and our experiments show that our system performs as well as two benchmark algorithms.

PAPER SESSION 10

On the use of narrative as argument
James Voss (University of Pittsburgh), Jennifer Wiley (University of Massachusetts)
& Rebecca Sandak (University of Pittsburgh)

Narrative as argumentation was studied. A "prosecuting attorney" presented a narrative stating how and why the defendant performed the crime. Four conditions of narrative were presented, a baseline, and three conditions of poorer narrative quality, as defined by historians' conceptions of quality narratives. Judgments of guilt, confidence judgments, and judgments of narrative quality and convincingness were lower when the narratives were deficient in chronology/coherence or causation. Narrativity as an argument form is discussed.

Content integration and source separation in learning from multiple texts
M. Anne Britt (University of Pittsburgh), Rebecca Sandak (University of Pittsburgh), Charles Perfetti (University of Pittsburgh), & Jean-François Rouet (University of Poitiers, France)

We investigated college students' representation and use of source information when learning from multiple texts. The importance and uniqueness of the items presented in a pair of texts was manipulated. We found that readers were able to identify the source of the propositions, and that both reading ability and verbal reasoning ability were related to their accuracy on this task. Representing source information and connecting it to the situations described in texts becomes important as we increasingly expect students to learn from multiple sources.

Delayed revisions
Bonnie McLain-Allen & Douglas J. Hacker
(University of Memphis)

The effects of delay on essay revision were investigated across four delay periods. At one and two weeks, writers made more meaning changing revisions and essay quality tended to be higher than at no delay or a three week delay. Analyses of essay quality across delays showed that higher quality essays contained more meaning than surface changing revisions. Delayed revision may lead to better revision, and emphasis on meaning revisions may account for increased quality.

PAPER SESSION 11

Coherence and inference generation in cinematic texts
Per Persson (Stockholm University, Sweden)

Films are also texts. This paper tries to support this assertion by applying the constructivist model (Graesser, Singer & Trabasso, 1994) to cinematic comprehension. The features of coherence, explanation, situation model, information sources and reader's goals are found to have equivalents in cinema, although the contents and background knowledge of the processes might vary. Although it is concluded that verbal and visual comprehension overlap to considerable degree, an empirical investigation into cinematic comprehension has to be sensitive to the specificity of text and background knowledge. Throughout, excerpts from films are used to support the argumentation.

Boundary crossing in miscommunication and problematic talk
C. David Mortensen (University of Wisconsin - Madison)

Boundary crossing entails a shift from one scope of activity to another, often with increased tension or resistance, and unwelcome or adverse consequences. There was considerable support for hypotheses that acts of boundary crossing would intensify risk, heighten uncertainty, reveal deficient verbal skills, and lead to signs of increased frustration and confusion over what transpires. A climate of protracted disagreement and misunderstanding produced a surplus of negative affect (anger, sadness, fear) and more frequent complaints about performance defects and critical appraisals than social settings where a climate of agreement and understanding promoted a surplus of positive regard (love, joy, surprise) and minimal boundary crossing issues.

Denotational and interactional structure in autobiographical narrative: A dialogic approach
Stanton Wortham (Bates College)

This paper describes a "dialogic" approach to analyzing autobiographical narrative. By drawing on and systematizing Bakhtin's dialogic theory of narrative discourse, the paper develops conceptual and methodological tools for analyzing both denotational and interactional functions of autobiographical narrative. It illustrates these tools with an analysis of one life history interview. The analysis reveals a systematic parallel between the events described in the narrative and the interactional positions adopted by the narrator while telling that narrative.