

**Boston University  
School of Education**



# **The Sixth Annual Boston University Conference on Language Development**

**Meeting Handbook  
October 9, 10 and 11, 1981  
George Sherman Union**



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School of Education**



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**Meeting Handbook  
October 9, 10 and 11, 1981  
George Sherman Union**

**Organized by the students of The Program in Applied Psycholinguistics,  
Boston University School of Education**

**Chaired by Michèle Solá**

**George Sherman Union, 775 Commonwealth Avenue, Boston, Massachusetts 02215**



## FOREWORD

It is a pleasure to welcome you to the Sixth Annual Boston University Conference on Language Development, which is organized and run by the students in the Applied Psycholinguistics and Language Behavior programs. As Chairperson, I owe incalculable gratitude to all those fellow students who have helped during the past twelve months, but especially to a few without whose work there would be no Conference. Jay Kuder, Millicent Kushner, and Judy Levin-Charns of the Program Committee, Elise Trumbull on Publicity, Melanie Schneider and Peggy Hoyt on Advertising and the Conference Handbook and Exhibits, Toni Deser on Registration, and Jay Kuder on Facilities. In addition, I want to thank Professors Bruce Fraser, Bob Hoffmeister, and Paula Menyuk and Don Loritz of the Literacy and Language Institute for their strong and continuous support and encouragement.

Numerous Boston University offices must be recognized for their special efforts on behalf of the Conference: Dean Paul Warren, Joan Dee and Margie Oliver in the School of Education; Tom Culliton in the Division of Reading and Language; Pat Mahon, Linda Weinerman, and Dorothy Snowman in the Publications Office; Paul Curnutte and his staff who have helped get our mailings out on time; Glenn Rifkin, Margaret Dowling, and Janet Converse for their assistance in publicizing this event within and outside Boston University; Paul Tafe and the Reservations Office for making the George Sherman Union facilities available. A word of gratitude goes to Evelyn Alvero, who was my work-study student for several hectic months and to Leslie MacLean for typing the Handbook. Every organizer knows how indebted one becomes to the office staff who contribute in countless ways to the final product of one's efforts. Finally, I thank Barbara Gomes for having faithfully encouraged me throughout the organization process.

On behalf of the entire Conference staff I want to express our thanks to everyone who will present papers at the Conference. We received one hundred and fifty summaries of completed research, from which the papers on the Conference Program were selected. Many thanks are due to the Review Committees, whose task is always a difficult one. We are grateful to everyone who submitted summaries and regret that more could not be accommodated.

Welcome, again, to the Sixth Annual Conference on Language Development. Please feel free to offer us suggestions for improving next year's program. We hope you will enjoy the papers you will hear and the contacts you will make this Columbus Day weekend at Boston University.

Michèle Solá  
Conference Chairperson

The Conference wishes to thank the following members of the Review Committees for their aid in the selection of this year's papers:

Michele Banker (Boston University)  
Nan Bernstein (Boston University)  
Robert Blake (Dartmouth College)  
Maria Brisk (Boston University)  
Courtney Cazden (Harvard University)  
Craig Chaudron (UCLA)  
Sandy Cohen (Kennedy Hospital, Boston)  
James Flood (Boston University)  
Melanie Fried-Oken (Boston University)  
Barbara Gomes (Boston University)  
Jan Hirschberg (Harvard University)  
Judy Kegl (Northeastern University)  
Donald Loritz (Boston University)  
Donaldo Macedo (M.I.T.)  
Lise Menn (Veterans Administration Hospital)  
Barbara Oppenheimer (Massachusetts General Hospital)  
Ellen Rintell (Boston University Medical School)  
William Stokes (Lesley College)  
Kristine Strand (Boston University)  
Helen Tager-Flusberg (University of Massachusetts, Boston)  
Sandy Thomas (Boston University)  
Elise Trumbull (Boston University)

The Conference wishes to thank  
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NEWBURY HOUSE PUBLISHERS  
REGENTS PUBLISHING COMPANY, INC.  
for their generous contributions.

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# **General Information and Conference Program**

## GENERAL INFORMATION

### REGISTRATION

Registration will be held Friday, October 9 from 6:30 to 8:30 p.m. and Saturday, October 10, from 8:00 a.m. to 2:30 p.m. in the Stone Lobby.

### LOCATION

All sessions will be held in the Boston University George Sherman Union building at 775 Commonwealth Avenue. (Registration will be held in the Stone Lobby of the Sherman Union. See above.)

### KEYNOTE ADDRESS

Professor Jerome Bruner, The New School, will deliver the keynote address at 8:30 p.m. on Friday, October 9, in the Ballroom on the second floor.

### RECEPTION

A wine and cheese reception will be held in the Ziskind Lounge following Dr. Bruner's address.

### NEW ENGLAND CHILD LANGUAGE ASSOCIATION (NECLA)

NECLA will convene its annual business meeting at 1:30 on Saturday in the Terrace Lounge. Please feel free to bring your lunch.

### PUBLISHERS' EXHIBIT

There will be a publishers' exhibit of books and publications during Saturday and Sunday in the Ziskind Lounge of the George Sherman Union.

### SIGN LANGUAGE INTERPRETERS

Sign Language Interpreters will be available for all sessions. Please inquire at the Registration Desk when you arrive.

### ADDITIONAL HANDBOOKS

Additional handbooks may be purchased for \$3.00 each (checks only!!!) at the Registration Desk. We are sorry, but we cannot replace lost handbooks free of charge. A limited number of copies of the 1977, 1978, 1979, and 1980 handbooks are also available for purchase at \$3.00 each. A complete set of handbooks is available for \$10.00.

### CHECKROOM

Coats and luggage may be checked at the cloakroom in the Stone Lobby.

DAY & TIME	BALLROOM	CONFERENCE AUDIT.	TERRACE LOUNGE	ZISKIND LOUNGE
FRIDAY PM	7:30 8:30			
	Welcoming Address Keynote Address			
SATURDAY AM	8:30	Language Disorders I	First Language Acquisition/Syntax	Book Exhibit
	11:00 12:30	Special Session		
SATURDAY PM	2:30	Lunch	NECLA Lunch Meeting	Lunch
	5:30	Special Session		
SUNDAY AM	9:00	First Language Acquisition/Semantics and Pragmatics	Cross Linguistic Language Acquisition	
	11:00			
	12:30			
SUNDAY PM	2:00	Lunch	Lunch	Lunch
		Special Session	Second Language Acquisition	

SIXTH ANNUAL BOSTON UNIVERSITY CONFERENCE ON LANGUAGE DEVELOPMENT

October 9, 10, and 11, 1981

Conference Program

FRIDAY EVENING

- 7:30 p.m. Welcoming Address Ballroom  
Paula Menyuk, Boston University
- 8:30 p.m. Keynote Address Ballroom  
Jerome Bruner, The New School  
The Social Context of Language Acquisition

SATURDAY MORNING

- First Language Acquisition/Syntax Terrace Lounge  
Chair: Joan Bresnan (M.I.T.)
- 8:30 a.m. The Role of Linguistic Experience in the Child's  
Acquisition of Language Universals (Erika Hoff-  
Ginsberg, U of Michigan)
- 9:00 a.m. Acquisition of Complex Sentences in English: Similar-  
ity and Variation Across Children (Ann Eisenberg and  
Tanya Renner, UC-Berkeley)
- 9:30 a.m. The Acquisition of the Passive (David Lebeaux and  
Steven Pinker, Harvard U)
- 10:00 a.m. Productivity and the Dative Alternation (Ronald Wilson,  
M.I.T.; Steven Pinker, Annie Zaenen, David Lebeaux,  
Harvard U)
- 10:30 a.m. BREAK
- 11:00 a.m. The Acquisition of Verb Propositional Schemata (Chris  
Dollaghan, U of Wisconsin-Madison)
- 11:30 a.m. Syntactic vs. Semantic Knowledge: Evidence from Word  
Order Comprehension in Early Stage I (Kenneth Roberts,  
U of Kansas)
- 12:00 p.m. A Cognitive vs. a Syntactic Explanation of an Acquisi-  
tion Error: An Empirical Test (Stephen Crain, U of  
Texas; Henry Hamburger, UC-Irvine and NSF)

Reading

Ballroom

Chair: Lee Indrisano, Boston University

- 8:30 a.m. Antecedents to Reading: "I Can't Read That, I Just Know It" (Anne Carter and William Stokes, Lesley College)
- 9:00 a.m. From "Unicorns to Screwdrivers": A Longitudinal Study of Kindergarten Naming and First Grade Reading (Maryanne Wolf, Tufts University, and Heidi Bally, Univ of Fribourg)
- 9:30 a.m. Reading Strategies in a Second Language (Maria Estela Brisk and Barbara Conteh, Boston U)
- 10:00 a.m. BREAK
- 10:30 a.m. Word Use as a Dimension of Growth in Writing: Implications for Models of Oral and Written Language Development (Sandra Stotsky)
- 11:00 a.m. How Deaf Readers Interpret Lexical Ambiguities (Judith Zorfass and Judith Gardner, Children's Hospital Medical Center)
- 11:30 a.m. A Study Investigating the Relation Between Reading and Linguistic Classification in the Unskilled Adult Reader (Blanche Korngold, Boston U)

Language Disorders I

Conference Auditorium

Chair: Linda Rosen (Boston College)

- 8:30 a.m. A Comparison of Discourse Features in Autistic and Normal Language (Jeanne Paccia-Cooper, Frank Curcio, and Gail Sacharko, Boston U)
- 9:00 a.m. The Discourse of Schizophrenic Children: A Preliminary Report (Campbell Leaper, UCLA)
- 9:30 a.m. Non-social and Social Tool Use Abilities of Normal and Down's Syndrome Prelinguistic Infants (Barbara Gaines, Alberta Children's Hospital)
- 10:00 a.m. The Relationship Between the Development of Symbolic Play and Language in Language Disordered Children (Elizabeth Skarakis, UC-Santa Barbara)

SPECIAL SESSION

Conference Auditorium

- Featured Speaker:  
11:00 a.m. Fay Vaughn-Cooke, Center for Applied Linguistics  
Locative Constructions in the Language of Working-Class Black Children (Research conducted by Fay Vaughn-Cooke and Ida Stockman)

SATURDAY AFTERNOON

NECLA Meeting 1:30 - 2:30

Terrace Lounge

Language Disorders II

Conference Auditorium

Chair: Carol Levy (Kennedy Memorial Hospital for Children)

- 2:30 p.m. A Societal Definition of Communicative Disorder  
(Carol A. Prutting, Ph.D., UC-Santa Barbara)
- 3:00 p.m. Prosodic Patterns under Spontaneous and Imitation  
Conditions in Normal, Aphasic, and Autistic Children  
(Christiane Baltaxe, Eric Zee, James Simmons, UCLA  
School of Medicine)
- 3:30 p.m. Iconicity and Manual Complexity in Sign Acquisition  
by Non-speaking Autistic Children (Beverly Barkon,  
Northwestern U)
- 4:00 p.m. BREAK
- 4:30 p.m. Learning Disabled Children's Comprehension and Pro-  
duction of Syntactic Devices for Marking Given vs.  
New Information (Mavis Donahue, U of Illinois-Chicago)
- 5:00 p.m. Nonstandard Spelling by Developmentally Speech-  
Deprived Individuals (Cheryl Goodenough-Trepagnier,  
Tufts-New England Medical Center)

SPECIAL SESSION

Ballroom

- Featured Speaker:  
2:30 p.m. Dell H. Hymes, U of Pennsylvania  
Narrative Form as an Indoctrination of Children into  
a "Grammar" of Experience: Native Americans and a  
Glimpse of English

SUNDAY MORNING

Cross Linguistic Language Acquisition

Terrace Lounge

Chair: Ronnie Bring Wilbur (Purdue University)

- 9:00 a.m. Children's Construction of Word-Formation  
Processes in Hebrew (Zvia Walden, Harvard U)
- 9:30 a.m. The Development of Complex Noun Phrases by Particle  
Use in Japanese First Language (Wendy Snyder, Barbara  
Lust and Tatsuko Wakayama, Cornell U)
- 10:00 a.m. Verb Nominalization and Categorization in Navajo Chil-  
dren's Speech (Madelyn Anne Iris, Northwestern U)
- 10:30 a.m. BREAK

- 11:00 a.m. The Development of Sentences in Narrative Discourse  
(Patricia M. Clancy, Brown U)
- 11:30 a.m. Children's First Verb Forms in Quiche Mayan: A Phonological Conspiracy Unmasked (Clifton Pye, U of Pittsburgh)
- 12:00 p.m. The Acquisition of Relative Clauses in Mandarin  
(Jerome L. Packard, Cornell U)

First Language Acquisition/Semantics and Pragmatics Conference Auditorium  
Chair: Peter Salus (University of North Florida)

- 9:00 a.m. Aspects of the Evolution of Verb Meanings (Joanne Gallivan, College of Cape Breton, Canada)
- 9:30 a.m. But of Course Preschoolers Understand the Meaning of  
But! (Lucia French, Hampshire College)
- 10:00 a.m. Children's Metaphors: Making Meaning (Marylou Boynton and Nancy E. Kossan, U of Rochester)
- 10:30 a.m. BREAK
- 11:00 a.m. Before and After: Correcting an Error of Omission in Comprehension Tasks (Stephen Crain, U of Texas-Austin)
- 11:30 a.m. Taking Away the Supportive Context: How Preschoolers Talk About the "Then-and-There" (Lucia French, Hampshire College, Katherine Nelson, CUNY)
- 12:00 p.m. Preschool Children's Comprehension and Production of Directive Forms (Nancy J. Spekman and Froma P. Roth, U of Maryland)

SPECIAL SESSION

Ballroom

- Featured Speaker:  
9:00 a.m. Isabelle Liberman, U of Connecticut-Storrs  
Learning to Read: Some Current Misconceptions and Some Possible Truths

SUNDAY AFTERNOON

Second Language Acquisition

Terrace Lounge

Chair: Ellen Rintell (Boston University School of Medicine)

- 2:00 p.m. Second Language Acquisition of Dative Structures and Linguistic Theory (Irene Mazurkewich, U de Montreal)
- 2:30 p.m. Cerebral Dominance for Language in Relation to the Cognitive-Academic Function of Mexican Immigrant Children (Fairlee Elizabeth Winfield, N Arizona U)
- 3:00 p.m. BREAK

3:30 p.m.

A Theoretical Model for the Interaction Between  
Semantic Memory and Lexical Memory in Bilinguals  
(Alberto Rivas, U Mass-Amherst)

4:00 p.m.

Stimulus Suffix Effects for Recall among Spanish-English-  
Hebrew Trilinguals (Joel Walters, Margalit Ingus, and Sara  
Kaufman, Tel Aviv U)

SPECIAL SESSION

Conference Auditorium

2:00 p.m.

Featured Speaker:  
Ursula Bellugi, Salk Institute  
The Acquisition of American Sign Language

Discussants: Laura Petitto (Salk Institute)  
Robert Hoffmeister (Boston U)

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# **ABSTRACTS**

Christiane A. M. Baltaxe, Eric Zee, James Q. Simmons III, UCLA School of Medicine

Prosodic Patterns Under Spontaneous and Imitation Conditions in Normal, Aphasic and Autistic Children

The acquisition of intonation patterns for declaratives in 31 normal, aphasic, and autistic children is studied, based on an imitation (1) and spontaneous elicitation condition (2). Instrumental acoustic tracings of the linguistic output were analyzed for prosodic characteristics. We were interested first, in the type of intonation patterns produced by each group and in between-group differences, and secondly, in determining whether the two experimental paradigms were comparable in results, since in the past imitation has been shown to reflect productive competence.

Both experimental paradigms showed between-group differences which were more prominent for condition (2). All three groups also showed additional between-paradigm differences, the autistics showing the greatest, the aphasics the least, and the normals an intermediate number of differences. Between-paradigm differences decreased with increasing psycholinguistic age.

Results indicate that imitation acts as a controlling force on prosodic productions, with group differences diminishing, and prosodic productive competence reflected in varying degrees. Although the imitation paradigm shows the autistics to be good imitators, prosodic data least reliably reflects their spontaneous prosodic productions. For comparison studies non-imitation conditions may yield maximal results for prosody.

\* \* \* \* \*

Beverly Barkon, Northwestern University

Iconicity and Manual Complexity in Sign Acquisition by Nonspeaking Autistic Children

This study investigated two internal characteristics of sign language: iconicity and manual complexity. Their role in the acquisition of sign vocabulary was studied. The two characteristics were operationally defined in a preliminary study and four indices of vocabulary items which varied in two levels of iconicity and manual complexity were created. Twenty items, five from each of the four indices, were taught to six nonspeaking autistic children using three teaching strategies: comprehension, imitation and spontaneous expression.

Training sessions were videotaped. Number of response attempts, number of sign language parameters accurately produced and number of correct picture identifications were analyzed. No significant differences were found between vocabulary items in the number of response attempts or the number of correct picture identifications in any of the teaching strategies. Interaction between manual complexity and teaching strategy and between iconicity and teaching strategy were found for the number of sign language parameters accurately produced. Implications for sign language training programs as well as for sign language research are disclosed.

MaryLou E. Boynton and Nancy E. Kossan, University of Rochester

Children's Metaphors: Making Meaning

Preschool children's ability to interpret conventional metaphors, e.g., "a heart of stone," novel adult metaphors, e.g., "a pillow lap," and child produced metaphors, e.g., "tall as a light switch," was examined in a forced choice metaphor comprehension task. Subjects, ages 3-5, were successful at interpreting conventional and child produced metaphors. Adult metaphors were most difficult for subjects at all ages. These findings suggest that preschool children are able to formulate and interpret their own metaphors, often judged anomalous by adults, and that preschoolers can interpret conventional frozen figures of speech.

Spontaneous explanations of metaphor meanings by the children indicated a script-based process of interpretation which reflects a shared knowledge base derived from experiences common among preschool children. Traditional theories of metaphor which rely on lexical feature comparison to interpret metaphor were found to be inadequate as descriptions of the interpretation process of preschool children and may be incomplete descriptions of adult metaphor comprehension as well.

\* \* \* \* \*

Maria Estela Brisk and Barbara A. Conteh, Boston University

Reading Strategies in a Second Language

Most studies on reading and bilingual children deal with the product rather than the process of reading in a second language. In this presentation, we will submit and interpret data gathered from our research on the specific types of strategies and processes used by readers of a second language. The study will analyze and compare the Cloze tests in English and in Spanish of bilingual Spanish-speaking students in grades 2-8 who are at age/grade level in reading in Spanish and in English, and who have a high oral ability in English. Reading difficulties will be categorized as syntactic and semantic at two levels: the sentence level and the text level. While individual strategies will be considered, we will be observing and commenting on the salient patterns or strategies which good readers share; and how these strategies compare across grades and across languages. The identification of the habits or strategies of good readers will assist in further studies of other bilingual populations, and in the identification of their particular reading strategies. The results will have implications for the teaching of reading to second language learners.

Anne Carter and William T. Stokes, Lesley College

Antecedents to reading: "I can't read that, I just know it."

This paper examines the characteristic achievements of children who have not yet begun formal instruction in reading, but nevertheless have begun to discover the significance of print. The strategies that fourteen children (1;9-5;8) employ to extract meaning from assorted visual stimuli and their metalinguistic awareness of these strategies are examined. Attention is given to the relationship between the acquisition of reading and language development, especially the acquisition of phonological rules. Three principal strategies are identified: meaning emphasis, code emphasis, and reliance on memory. All children showed some competence with each approach, but most revealed decided, if temporary, preferences for specific approaches. Clear developmental stages were not found and age proved a poor predictor of performance. We argue that young children display substantial metalinguistic awareness of their own approaches to print and that the relationship between the development of reading and language acquisition lies in shared cognitive processes.

\* \* \* \* \*

Patricia M. Clancy, Brown University

The Development of Sentences in Narrative Discourse

In this paper developmental trends in sentence structure in the elicited narratives of 60 Japanese children between 3.8 and 7.4 years of age will be analyzed with respect to sentence length, internal coherence, and the use of conjunctions. Sentence length increased with age; the production of single-clause sentences was an early strategy, whereas several older children would incorporate an entire narrative into a single "endless" sentence. In both adult and child narratives the majority of sentence boundaries occurred at the ends of identifiable discourse units, although the material within individual sentences did not usually consist of a single coherent unit at a consistent level of discourse structure. Within sentences a single conjunction, "-te" (and/then/so), was by far the most common at all ages, with a developmental trend toward the use of a wider range of more specific connectives. The development of the sentence level in narrative discourse thus repeats at a later age the progression from juxtaposition of separate sentences to the use of increasingly explicit conjunctions which has been documented in the conversation of young children.

Stephen Crain, The University of Texas at Austin

Before and After: Correcting an Error of Omission in Comprehension Tasks

Experimenters sometimes ask too much of children in comprehension tasks. A telling example is recent research on their understanding of sentences containing "before" and "after." These temporal terms appear in subordinate clauses which are presupposed to be true, rather than asserted. In numerous studies using "before" and "after" the fact that they relate presupposed information has been ignored. If the presupposition has not been established in the context, their use is infelicitous. Although adults readily accommodate sentences with presuppositional failures, young children apparently cannot. Many children simply fail to act out the presupposed event. This has been construed to be an error. In fact, acquisitionists have erred in their experimental procedures by not providing contexts appropriate to the use of sentences containing "before" and "after." Experimental evidence is presented showing that once this procedural defect has been rectified, even 4-year-old children display unprecedented competence with these temporal terms.

\* \* \* \* \*

Stephen Crain, The University of Texas at Austin  
Henry Hamburger, University of California, Irvine, and National Science Foundation

A Cognitive vs. a Syntactic Explanation of an Acquisition Error:  
An Empirical Test

To provide empirical support for a theory of language acquisition one would like to know the developmental course of language competence. Unfortunately, it is performance, not competence, that is directly available for observation. In this study we attempt to strip away extraneous cognitive aspects of performance to gain a clearer view of language competence with respect to a particular syntactic construction.

Noun phrases with an ordinal, for example the second green ball, can apparently be misinterpreted by 5-year-olds. In the example, a ball which is both second and green is often chosen, even though it is the first of the green balls. Roeper (1972) and Matthei (1979) assign this phenomena a syntactic explanation.

We argue that this kind of phrase involves substantial cognitive demands, which can be appropriately represented procedurally, and more specifically, that one potential cognitive process for handling such phrases requires nested loops and is therefore difficult for young children. By altering the experimental procedure in a manner designed to eliminate the need for an inner loop, we were able to eliminate the error, and therefore conclude that it was based on cognitive process, not syntactic structure.

Chris Dollaghan, University of Wisconsin-Madison

The Acquisition of Verb Propositional Schemata

In addition to componential aspects of verb meaning, children must also acquire a representation of each verb's combinatorial properties or propositional schema, i.e., the number of arguments with which it is obligatorily or optionally associated. The present study investigated developmental changes in children's awareness of the combinatorial requirements of 22 early-learned verbs, through their judgments and corrections of sentences from which obligatory and optional arguments had been omitted. Twenty-five children at each of 3 age groups (mean chronological ages: 4;4, 7;2, and 10;0) were asked to judge and correct 44 sentences constructed to contrast verb pairs for which the same argument was obligatory or optional. Results showed significant changes across age groups in awareness of verb argument requirements, with an apparent progression from: 1) initial ignorance of argument requirements, 2) gradually increasing awareness of these requirements, 3) overgeneralization of requirements to sentences lacking optional arguments, to 4) an adult-like representation of obligatory and optional arguments for each verb.

\* \* \* \* \*

Mavis Donahue, University of Illinois at Chicago

Learning Disabled Children's Comprehension and Production of Syntactic Devices for Marking Given vs. New Information

This study examined learning disabled children's ability to understand and use syntactic devices for marking given vs. new information in discourse, a skill where syntactic and pragmatic knowledge clearly intersect. Using a modification of Hornby's (1971) paradigm, LD and nondisabled children in grades 1 through 6 selected pictures on the basis of varying sentence types (e.g., passive, cleft, contrastive stress), such that their choices revealed their identification of the new information in each sentence. The production of syntactic structures for marking new elements in sentences was also assessed. Multivariate analyses revealed only grade and sentence type effects on the comprehension task. On the production task, LD children relied on less complex sentence types; however, their strategies for marking given vs. new information were as effective as those of the nondisabled children. Implications of these findings for the relations between syntactic repertoire and the ability to integrate given and new information in oral and written discourse will be discussed.

\* \* \* \* \*

Ann R. Eisenberg and Tanya Renner, University of California, Berkeley

Acquisition of Complex Sentences in English: Similarity and Variation Across Children

The emergence and early use of complex sentences in English-speaking children was analyzed with attention to similarities and differences in acquisitional

strategies. Five children from 2;0 to 3;6 years were audiotaped under naturalistic conditions; at first weekly and later bimonthly. An early phase was identified in which children moved from same-subject verb complements to different-subject ones. In this phase there were striking similarities between children in strategies employed. Once different-subject constructions emerged, however, individual cognitive styles became pronounced: different strategies for utilization and practice were manifested. There is converging evidence that subordination of a second, underlying proposition depends on the conceptual ability to hold two different cognitive structures in mind simultaneously. We propose that conceptual development dictates order of acquisition in the earlier period, but that once basic forms have been grasped, children may take different routes into the elaboration of a linguistic system.

\* \* \* \* \*

Lucia French, Hampshire College

But of course preschoolers understand the meaning of but!

This paper analyzes spontaneous productions of but which occurred while interviewing preschoolers about familiar activities. Contrary to comprehension studies investigating the acquisition of but, our subjects did not misunderstand but to mean and or believe that its function was to introduce statements that confirmed rather than denied previous implications. But-statements occurred 65 times. Except for five uninterpretable utterances, all uses appropriately signalled that the following statement might be unexpected. These utterances were divided into five categories depending on the type of information being denied. Possible reasons for the large differences in the ages at which competency is shown on production and comprehension measures are discussed. Preschoolers' use of but provides information about the structure of their world knowledge that is otherwise difficult to access. Also, their use of but-statements indicates that children as young as three are sensitive to the implications of their own statements and to discourse constraints.

\* \* \* \* \*

Lucia French, Hampshire College and Katherine Nelson, CUNY

Taking away the supportive context: How preschoolers talk about the "then-and-there"

This paper reports an analysis of discourse content when preschoolers (2;11 and older) were asked to describe familiar activities. The language used reveals quite different cognitive and linguistic competencies than those exhibited in spontaneous speech during play or in experiments designed to assess comprehension. Children as young as 2;11 talk about familiar activities in the absence of contextual support. Their accounts are general and "timeless" in nature and show sensitivity to the underlying temporal-causal structure. By about age four, subjects show evidence of interpropositional and hypothetical reasoning and use a variety of relational terms (before, after, because, etc.) appropriately.

These data contrast with previous claims that preschoolers are incompetent in these different domains. Requiring them to talk about the "then-and-there" removes the possibility of preschoolers' speech relying upon the extra-linguistic context and allows them to demonstrate underlying competencies that more traditional methods of research have failed to detect.

\* \* \* \* \*

Barbara Gaines, Alberta Children's Hospital

Nonsocial and Social Tool Use Abilities of Normal and Down's Syndrome Pre-linguistic Infants

The purpose of this study is to examine the non-social and social tool use abilities of prelinguistic normal and Down's syndrome infants. Six normal and four Down's syndrome infants at the prelinguistic stage of development were selected for study. A detailed analysis of subjects' performance on elicited tool use tasks provides a qualitative and quantitative data base. Individual results and group findings are reported for a variety of dimensions involved in non-social and social tool use. Findings concerning the similarities, delay, and the distinct differences between the normal and Down's syndrome subjects are presented. These findings are examined for their import on designing strategies for clinical intervention. Implications concerning the development of tool use abilities as a prerequisite for language development are discussed.

\* \* \* \* \*

Joanne Gallivan, College of Cape Breton

Aspects of the Evolution of Verb Meanings

Two experiments on verb acquisition are reported. A study of extension showed measures of familiarity with the words and the actions denoted to be predictive of acquisition order, but not a measure of semantic complexity. Apparently, exposure to the words and actions affects verb acquisition more than the words' semantic structures. A study of intension indicated that children's verb concepts are very specific and limited and that the development of verb meanings consists of generalization of those concepts. Acquisition orders obtained in the two studies were not correlated. Also, performance on the first task was far better than on the second. Evidently, referential use of verbs by children is not directly related to explicit knowledge of their component features. In the evolution of verb meanings, acquisition of referential use of a word apparently precedes identification of the semantic components which define its meaning.

Cheryl Goodenough-Trepagnier, Tufts-New England Medical Center

Nonstandard Spelling by Developmentally Speech-Deprived Individuals;  
Implications for Phonological Development in the Nonvocal

The motor theory of speech perception leads us to expect difficulties in phonological development in children unable to speak because of the severe motor impairment of cerebral palsy. The theory seems to be disconfirmed by those non-speaking individuals who are proficient and prolific users of written language. The majority of the non-speaking cerebral palsied population are not however fluent users of written language. Far more common is the incidence of difficulty in producing written language and in reading.

Nonstandard spellings produced by developmentally non-speaking adolescents and adults are analyzed and compared with spellings of pre-school children (Read, 1975).

The spellings by individuals who have never been able to speak reflect deviant assignment of phonemes to sound features, raising the possibility that their speech perception proceeds on information somewhat deficient in respect to the information used by speaking individuals, i.e., with over-reliance on sound data, due to inability to reference speech production categories.

\* \* \* \* \*

Erika Hoff-Ginsberg, The University of Michigan

The Role of Linguistic Experience in the Child's Acquisition of Language  
Universals

The relationship between maternal speech and child syntax development was examined for 22 mothers and their two-year-old children. Significant correlations were found which suggest that linguistic experience contributes to syntax acquisition both by providing an opportunity for linguistic interaction and by providing data for the child's structural analysis of input. Frequent maternal use of *wh*-questions was associated with greater child growth in MLU over a two-month interval. The frequency in maternal speech of those partial self-repetitions and expansions which illustrated constituent structure was positively related to the children's verb growth over the same interval. This finding is consonant with work on artificial language learning, which suggests that information about constituent structure must be available in input, and it suggests the source of that information for the language-learning child.

\* \* \* \* \*

Madelyn Anne Iris, Northwestern University

Verb Nominalization and Categorization in Navajo Children's Speech

This paper investigates the process of verb nominalization in Navajo as a strategy by which children create category labels when the adult lexical

item is not known and which allows for the creation of uniquely descriptive category labels. The findings are drawn from a series of interviews with several Navajo children aged four and a half to approximately ten years, all native speakers of Navajo with limited fluency in English. The interviews were conducted in an open-ended fashion focusing on the domain of animals. The findings indicate that the younger children use nominalized verbs as a means of creating category labels out of known lexical items but without any attempt to reproduce those found in adult speech. Instead, the children's categories are more descriptive in nature without reference to hierarchic or taxonomic categories. The implications of the research lead to a new perspective on the ways in which children think about the universe and integrate their knowledge into developing cognitive models.

\* \* \* \* \*

Blanche Korngold, Boston University

#### A Study Investigating the Relation Between Reading and Linguistic Classification in the Unskilled Adult Reader

Research in literacy and cognition has focused mainly on reading among the young. The literature suggests there is a moderate relation between reading and cognition in children. Corresponding research on adults has been minimal. Presently, an estimated 16 million adults have less than a fifth grade education and are defined as functionally illiterate.

At each stage in the reading process, whether decoding or comprehending, there is a strategy associated with processing the information into usable form, and in every case the strategy calls for classification in one form or another. The aim of this study was to examine the relation of classification in the linguistic domain to reading in adults.

Sixty-four adults were selected from lower and middle lower classes, aged 18 to 60, with reading abilities ranging from non-reading to reading at the college level. Forty-two percent read below fifth grade level. Three reading tests and two linguistic classification tasks as well as vocabulary, IQ and SES measures were administered. Multiple regression, commonality analyses, incidence matrices and a hierarchical clustering program were used to analyze results. Results indicated that significant correlations at  $p < .01$  level exist between classification and reading in the adult reader. The ability to classify as a subset of the stage of concrete operations cannot be assumed to be achieved by all adults, contrary to Piagetian theory. An experimental training program in classification for adults is recommended as an area of further research.

\* \* \* \* \*

Campbell Leaper, University of California, Los Angeles

#### The Discourse of Schizophrenic Children: A preliminary report

Preliminary data from a study examining the discourse of thought-disordered schizophrenic children is presented. Two schizophrenic and two normal children between the ages of six and seven were tape-recorded in the following contexts: an interview, an interpretation of TAT cards, and a re-telling of

a short narrative. The procedure and analysis are adapted from those used by Rochester and Martin (1979) with adult schizophrenics. Analyses were made of the children's degree of verbal encoding, sentence cohesion, and reference network. In comparison to the normal children, the schizophrenic children demonstrated the following characteristics in their discourse: First, they had less verbal encoding. Second, they strongly relied on lexical cohesion to link their discourse. Finally, they presented and presumed much information with obscure reference. Implications for the assessment and treatment of schizophrenia are discussed.

\* \* \* \* \*

David Lebeaux and Steven Pinker, Harvard University

### The Acquisition of the Passive

The paper presents results bearing on two issues in the formulation of the passive. First is the question of whether the initial passive rule should be considered a semantic rule, coded in terms of categories such as agent and patient, or a syntactic rule, as the adult rule is. The second is whether the early passive rule of children provides any support for the contention that passive is a lexical rule, and not a transformation.

The results indicate, first, that the passive rule of 4 year olds operates just as well with sensory predicates as with predicates taking agents and patients. Hence there is no evidence for a semantically restricted early passive for these children. Second, the early passive rule is fully productive. If the early passive rule had been shown to be unproductive, it would have been evidence for a lexical rule. As it stands, the present result can be accommodated by either theory.

\* \* \* \* \*

Irene Mazurkewich, Université de Montreal

### Second Language Acquisition of Dative Structures and Linguistic Theory

We investigated the acquisition of dative structures in English by second-language learners using two experimental groups - 45 French native speakers and 38 Inuktitut native speakers - and a control group of 12 English native speakers. Data was elicited by means of an intuitive judgment test of declarative and passive stimulus sentences containing dative verbs that optionally take the alternation and verbs that obligatorily take only dative prepositional phrase complements. The results obtained support a base-generated analysis in which the dative alternation is accounted for by a lexical rule that assigns dative verbs the following subcategorization frames: V NP PP, V NP NP. The results also show that the former subcategorization frame which represents the unmarked structure is acquired first, followed by the second which represents the marked structure. This is in accordance with the theory of markedness which, as we argue, determines the acquisition sequence. We will also discuss the instances of lexical overgeneralizations we elicited and their relevance for acquisition theory.

Jeanne Paccia-Cooper, Frank Curcio, and Gail Sacharko, Boston University

A Comparison of Discourse Features in Autistic and Normal Language

A discourse analysis was applied to the conversations between an adult and each of 22 children: 11 with a diagnosis of autism and 11 normal 3 to 5 year-olds. The groups were individually matched in terms of sex and the grammatical complexity of their speech. Preliminary results indicate that the two groups do not differ in terms of certain quantitative aspects of discourse functioning, e.g., the proportions of different initiation types are roughly equivalent, as is the incidence of interrupting the speech of a conversational partner. However, qualitative differences in communicative functioning between groups were observed. In particular, autistics were more likely to (1) produce initiations which represented a change of topic, (2) interrupt with utterances not tied to the topic at hand, and (3) either fail to respond, or else respond inappropriately, to the conversational partner's utterances. The results are interpreted in terms of a social-cognitive deficit among autistic children.

\* \* \* \* \*

Jerome L. Packard, Cornell University

The Acquisition of Relative Clauses in Mandarin

This paper reports the results of a study of the development of relative clause formation in the first language acquisition of Mandarin Chinese. It identifies both syntactic and pragmatic factors in this development, and considers the implication of these results for a theory of universals of first language acquisition.

This study investigates the use of relative clauses and pronominal modification in the natural speech utterances of approximately 20 Mandarin-speaking children ages 2-0 to 2-11. Preliminary results show that the string modifying the NP in Mandarin child speech varies in complexity, depending on whether the head is lexically filled or empty. Other results indicate a developmental increase in the proportion of utterances using pronominal modification with the marker de, and a preponderance of headless over headed modified NP forms.

Our data imply that embedding structures in Mandarin are developmentally acquired. The significance of our data is interpreted in comparison with relative clause acquisition in other languages.

\* \* \* \* \*

Carol Prutting, University of California, Santa Barbara

A Societal Definition of Communicative Disorder

Normative data has most often been the criteria used to classify individuals as normal or disordered. The purpose of this study was to compare a societal definition of communicative disorder to a clinical definition of communicative disorder.

Four retarded adults served as subjects for this study. Video tapes were made of subjects interacting with others. One hundred observers responded to a social validation questionnaire.

The subjects with the linguistic deficit were judged more positively while subjects with a pragmatic deficit the reverse was true. Judgments regarding severity of the individual varied as a function of the dyad.

Clinical assessment procedures which treat communicative competencies as fixed with little or no reference to the relational system need to be questioned. The clinical profile yields different information than the societal profile. We will have to decide what these differences mean in terms of ranking behavior with regard to priorities for intervention purposes.

\* \* \* \* \*

Clifton Pye, University of Pittsburgh

Children's First Verb Forms in Quiche Mayan: A Phonological Conspiracy Unmasked

Data from Quiche, an agglutinative Mayan language spoken in western Guatemala, suggest that there may be considerable differences across languages in the form of children's first words. Verbs in Quiche are typically polysyllabic with a complex internal structure and a status suffix. Although the status marker does not encode a simple semantic or syntactic meaning, the children used the status marker correctly in over 86% of their first verbs. At the same time, the children produced only one syllable in 80% of their verbs. The syllable structure and stress rules conspire together in Quiche to promote the early use of the status markers, evidence that quite complex grammatical morphemes need not be absent from children's first words.

\* \* \* \* \*

Alberto M. Rivas, University of Massachusetts, Amherst

A Theoretical Model for the Interaction Between Semantic Memory and Lexical Memory in Bilinguals

This paper redefines the categories of compound and coordinate bilinguals, and includes a new one, the concatenating bilingual, in terms of the relationships between Semantic Memory and Lexical Memory. The model is based on the interaction between concepts and words. A linguistic memory structure is defined such that concepts are stored in the Semantic Memory, and words are stored in the Lexical Memory. Concepts are associated with words through a Concept/Word Lattice.

A fundamental question that is addressed in this paper is whether a bilingual speaker has one or two Semantic Memories and one or two Lexical Memories, and whether the Concept/Word lattice of the bilingual is the same as that of the monolingual. This analysis leads to the question of whether a bilingual has extra machinery necessary for the access of a structurally different Concept/Word lattice, and whether this extra machinery is part of the innate linguistic knowledge or is developed as the languages are learned.

Kenneth Roberts, University of Kansas

Syntactic vs. Semantic Knowledge: Evidence from Word Order Comprehension in Early Stage I

To experimentally examine the level of abstraction (syntactic or semantic) which may be psychologically functional, children were asked to carry out actions specified in reversible pairs of active sentences presented to a triad of listeners of which they were a part. Sentences utilized three test verbs (kiss, hug, tickle). For each child word order comprehension was found to be specific to a particular verb(s). This failure to apply word order knowledge to all test sentence pairs, each having the same noun arguments in the same position and semantic roles, as well as failure to comprehend across all three closely related verb contexts, indicates categories such as agent, action, or object may be too abstract. The same points apply regarding the existence of high level abstractions such as subject or predicate. Data suggest that individual ordering rules are formed for the arguments of each verb. These data will be related to available explanations of the child's eventual acquisition of more abstract categories.

\* \* \* \* \*

Elizabeth A. Skarakis, University of California, Santa Barbara

The Relationship Between the Development of Symbolic Play and Language in Language Disordered Children

A deficit in the underlying representational ability of children has been hypothesized by some investigators as a possible cause of disordered language. The present study describes the development of two manifestations of representational ability, language and symbolic play, in three language disordered children between 21 and 36 months. These subjects were observed once a month over a six-month period in one-hour videotaped play sessions. Videotapes were later analyzed for developmental level, amount and variety of symbolic play, as well as for level of language production and comprehension. Results revealed that language and symbolic play did not always have parallel courses of development. In some cases, development of symbolic play exceeded development of language production. Comprehension level appeared to parallel symbolic play more closely than language productions. These results suggest that a deficit in representational ability may not entirely account for language disorders in young children.

Wendy Snyder, Barbara Lust, and Tatsuko Wakayama, Cornell University

The Development of Complex Noun Phrases by Particle Use in Japanese First Language

This study argues that young Japanese children distinguish the particles to and mo (both of which can be used to connect nouns as in 1 and 2 below) from an early age. It provides evidence that the nature of the distinction children make is syntactic as well as semantic, and not simply pragmatic.

1. Taroo to Hanako (to) ga ikimasita  
Taro Hanako subj went (Taro and Hanako went)
2. Taroo mo Hanako mo ikimasita  
Taro Hanaka went (both Taro and Hanako went)

Analysis of over 6,000 utterances of 2 and 3 year-old Tokyo children's natural speech showed that although to and mo are equally productive in the speech of young Japanese children, their distributions differ significantly. For example, while Japanese children predominantly use to to link two or more nouns (64% of to usage) as in #1 above, they do not use mo as in 2, but mainly use it with a single noun and predicate (76% of mo usage).

Since both particles to and mo can appear in similar surface contexts, these data are used to argue for young Japanese children's sensitivity to complex syntactic and semantic aspects of their language which go beyond surface structure. The paper discusses results in terms of their implications for universals in development of complex sentence structure by coordination.

\* \* \* \* \*

Nancy J. Spekman and Froma P. Roth, University of Maryland

Preschool Children's Comprehension and Production of Directive Forms

The purpose of this study was 1) to examine and compare normal 3, 4, and 5 year old children's comprehension and production of the full set of adult directive forms in an experimental task; and 2) to examine the revision strategies employed by these children when their messages fail to achieve their communicative intent. Subjects were 30 normal, native English speaking preschool children, ten each at the 3, 4, and 5 year old levels. All children participated in both the comprehension and production experimental activities which involved puppets and familiar toys. Analysis of the comprehension data revealed no age differences in terms of overall compliance, but did reveal that the two most implicit directive forms had significantly lower compliance rates. Data on the production of directive forms and revision strategies revealed significant differences which were a function of their interaction with age or task.

Sandra Stotsky

Word Use as a Dimension of Growth in Writing: Implications for Models of Oral and Written Language Development

Little attention has been paid to lexical aspects of growth in writing. This paper reports research to identify differences in ways in which lexical resources are used by developing writers in order to provide a better understanding of differences in written language acquisition. Using samples of writing from a holistic evaluation of writing of Grade 10 students, papers judged lowest in writing quality were compared with papers judged highest in quality on several aspects of word use: (1) types of lexical cohesion used and (2) the nature of the grammatical subject of each clause.

Examples of different types of lexical cohesion could be found in all the high papers; however, poor writers used only repetition. In the high papers, only 51 of the 154 subjects of each clause were personal or indefinite pronouns; in the low papers, 93 of the 121 grammatical subjects were personal or indefinite pronouns. Moreover, of these 93 pronominal subjects in the low papers, "you" was the subject of 25, and "I" the subject of another 20. In contrast, "you" was never the grammatical subject in a high paper, and "I" was the subject in only 7 clauses.

At higher stages of reading and writing, many features of oral language seem to account for many of the problems poor writers have. A major difference between oral and written language is the greater expansion in writing of the subject portion of the utterance. Use of pronouns as subjects of clauses almost automatically precludes such expansion and precludes many possibilities for lexical cohesion as well. Poor writers need to be guided to predicate about something other than "you" or "I" and probably need much more exposure to the formal language of essay writing. Results thus suggest that good writing is not simply speech written down. In fact, a useful model of language development will need to differentiate oral from written language development and suggest how they interact and influence each other positively and negatively at different stages of development.

\* \* \* \* \*

Zvia Walden, Harvard University

Children's Construction of Word-Formation Processes in Hebrew

Semitic lexicons are characterized by morphological patterns into which tri-consonantal roots are cast. The abstract unpronounceable root bears the core semantic meaning; the morphological pattern indicates the word's grammatical features.

The performance of 48 Israeli children aged 5, 6, 7 and 8 is compared with that of 12 adults of similar background. The children were presented with pictures--for each of which the researcher read a definition; they were then asked to produce entries (necessarily innovative) and to judge made-up lexical innovations suggested for the same stimuli.

The findings suggest that despite the overwhelming preponderance of patterns in Hebrew morphology, children first acquire morphological rules for suffixes

and prefixes. Children seem to learn the morphological patterns signalled internally latest and with greater difficulty. The ability to extract a root correctly varies with the phonological transparency of the form given and with the cognitive complexity of the pattern in which it is cast.

\* \* \* \* \*

Joel Walters, Margalit Ingus and Sara Kaufman, Tel Aviv University

#### Stimulus Suffix Effects for Recall Among Spanish-English-Hebrew Trilinguals

Memory processing among trilinguals is investigated using the stimulus suffix effect, a procedure in which a list of items to be recalled is followed by a redundant suffix item to be ignored. This stimulus suffix interferes with an otherwise reliable recency effect. The study examines the relative effects of a speaker's first and second languages on processing in a third at the precategorical stage of processing. Thirty South American immigrants to Israel, who had learned English as L2 and were learning Hebrew as L3, participated. Subjects were exposed to 15 eight-item lists in Spanish, English, and Hebrew with a same-language suffix and 30 Hebrew lists, half with a Spanish and half with an English suffix word. Initial results show a suffix effect in all conditions but its relative strength across treatments is indeterminate at this time. Results will be discussed in light of competing claims about the content of precategorical storage (acoustic vs. semantic) and in terms of storage models for multilingual individuals.

\* \* \* \* \*

Ronald Wilson, Steven Pinker, Annie Zaenen, and David Lebeaux (Harvard and M.I.T.)

#### Productivity and the Dative Alternation

The debate over whether grammatical constructions like passive and dative should be treated transformationally or lexically has often appealed to children's supposed ability or lack thereof to hear a verb in one surface structure (e.g., active, or direct object - to - indirect object) and then produce or comprehend that verb in a novel surface structure (e.g., passive, or indirect object-direct object dative, respectively). However, there is very little empirical data documenting the actual extent of these abilities.

Four and five year old children were taught novel words for novel bitransitive actions (e.g., passing an object through a tube to a recipient), and then tested for their ability to generalize these new verbs (and the familiar word give, as a control) to both the witnessed and novel surface structures in a reversible act-out comprehension task and production task designed to bias children toward producing either the DO-to-IO form, or the IO-DO form. Children never understood or produced the IO-DO form, always producing and interpreting sentences in the DO-to-IO form, even with verbs never heard in that form. Results argue against either a transformational rule or a lexical-redundancy rule account, but for an account whereby children have a rule mapping source/theme/goal predicate argument structures into subject/object/to-object surface structure forms.

Fairlee E. Winfield, Northern Arizona University

Cerebral Dominance for Language in Relation to Cognitive-Academic Function of Mexican Immigrant Children

This study was undertaken to determine if the notion of two types of linguistic proficiency, cognitive-academic proficiency and basic interpersonal communication skills, could be related to particular patterns of cerebral lateralization in children acquiring a second language. Two tests of cerebral dominance, dichotic listening and finger tapping, were used as measures of lateralization while a syllogisms test and recognition of ambiguities constituted the cognitive tasks. Additional social and academic performance data were also considered. Results obtained with the 18 Mexican children (ages 5 - 13) indicate no significant difference in Spanish and English lateralization scores; however, early establishment of a high degree of cerebral dominance and early dominance in the second language may inhibit the incorporation of pragmatic information into the underlying CALP and cause students to perform less well on the cognitive tasks and in the academic setting. Family case studies will be cited as well as individual and group results.

\* \* \* \* \*

Maryanne Wolf, Tufts University  
Heidi Bally, University of Fribourg

From "Unicorns" to "Screw-horses": A Longitudinal Study of Kindergarten Naming and First Grade Reading

In research in the cognitive and neurosciences, a co-occurrence between naming and reading disorders has been found in children and aphasic adults. Evidence from a completed cross-sectional study will be briefly summarized and an ongoing longitudinal study will be presented to suggest that factors disrupting specific stages of the naming process can impede the development of children's reading in particular, perhaps predictable, ways.

Based on the components of a neurolinguistic model of naming, a battery of naming and reading tests was administered to a cross-sectional sample of 64 children divided in three age groups and two reading levels. Results indicated that poor readers were significantly different ( $p < .001$ ) from average readers on all naming tests except those emphasizing receptive vocabulary, perception, or number retrieval. The oldest poor readers scored below the 6-7 year average reader.

To determine the developmental nature of these patterns and to examine the predictive value of naming measures, a longitudinal study of 115 kindergarten children was begun. Trends in the results of the first and second year comparisons will be presented along with findings on bilingual-monolingual naming comparisons, the development of automaticity in specific categories, and the discrete patterns of naming errors that characterize specific groups and ages in children.

Judith Zorfass, Harvard University  
Judith Gardner, The Children's Hospital Medical Center

### How Deaf Readers Interpret Lexical Ambiguities

This study examined the knowledge and use of multiple meanings of printed homographs by deaf adolescents who are sign language users. In the 1st condition Ss were asked to sign two meanings for each of 35 homographs. One week later, in the second condition, they were asked to sign biasing sentences in which the homographs were embedded.

Subjects knew two meanings for 2 to 34 words when they were presented in isolation (and with priming words as needed). When these words appeared in sentential contexts, two meanings were known for 9 to 33 words. Ss who knew one meaning in isolation demonstrated three types of response when the word appeared in sentences: 1) one meaning used for both contexts, 2) one meaning in the correct sentence and no response for the alternate context, and 3) correct meaning in both sentences, indicating correct retrieval. Many Ss who knew two meanings in isolation used the two meanings appropriately in sentences; however, some Ss used only one meaning, the dominant one, and thus created anomalous sentences.

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