Boston University
School of Education

# The Fourth Annual Boston University Conference on Language Development

**Meeting Handbook**
**September 14 and 15, 1979**
**School of Law**

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## Meeting Handbook
## September 14 and 15, 1979
## School of Law

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

Chaired by Rebecca Kantor

School of Law, 765 Commonwealth Avenue, Boston, Massachusetts 02215

# Foreword

As chairperson of the Fourth Annual Boston University Conference on Language Development, and on behalf of the students of the Applied Psycholinguistics Program, I'd like to welcome you to our conference. As a four year veteran of the conference organizing committee, it is especially exciting to be here today to witness the changes that have taken place since our first conference.

It's been a long time since the students in the Program sat around a table and planned a conference for two hundred people on a veritable 'shoe-string' budget. Today, we anticipate five hundred to six hundred people and begin planning each conference one month after the current conference ends. This year, we had the unhappy task of 'blind reviewing' over two hundred excellent abstracts to pick the thirty-eight papers you will hear this weekend.

Now that we have some of the basics down, we are exploring new possibilities for the Conference Program. I'd like to invite you, especially those of you who have joined us in the past, to fill out the suggestion sheets we have made available. Please feel free to give us any comments or suggestions that might be helpful in planning future conferences. We have made the sheets available on the registration table and have placed boxes in several locations for you to drop off the completed forms.

This year we are honored to have Professor Victoria Fromkin to continue the tradition of stimulating and important keynote addresses. We are also grateful to James Cummins, Macalyne Fristoe, David Pearson, Howard Schane, Marilyn Shatz and Ronnie Wilbur for their special session presentations. We are confident they will be exciting and rewarding.

The Conferences on Language Development continue to be run under the direction of the students of the Program in Applied Psycholinguistics. I'd like to especially thank: Nan Bernstein, Program Chairperson; Blanche Korngold, Treasurer; Wendy Goodhart, Handbook and Advertising; Barbara Gomes, Publicity; Michele Banker, Facilities; Sister Carmela Abbruzzese and Martha Markowitz, Registration; Judy Levin, Exhibits. Special thanks also go to Mark Bernstein, Kristine Strand, Sandy Thomas, Don Loritz, and especially to Mary Fiorenza, Conference Secretary.

The faculty and administrative support this year, as always, has been outstanding. The Conference staff wishes to thank: Professors Ronnie Wilbur and Bruce Fraser. Special gratitude is also extended to Dean Paul Warren, acting Dean of the School of Education, whose continued support we have come to gratefully depend upon, and to the members of his staff, especially Margie Oliver.

As mentioned before, selection of papers this year was an enormously difficult task. We'd like to thank the selection committee members listed on the next page for making those difficult decisions.

And once again to all our Conference attendees...Welcome! We hope you will enjoy our program.

Rebecca Kantor
Fourth Conference Chairperson

The Conference on Language Development 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)
Craig Chaudron (Boston University)
Barbara Gomes (Boston University)
Kenji Hakuta (Harvard University)
Lee Indrisano (Boston University)
Len Israel (Northeastern University)
Elissa Koff (Wellesley College)
Don Loritz (Boston University)
Lise Menn (Boston Veteran's Administration Hospital)
Margery Miller (Lesley College)
Rivka Perlmann (Boston University)
Linda Rosen (Boston College)
Catherine Snow (Harvard University)
David Stillman (Boston University)
Kristine Strand (Boston University)
Helen Tager-Flusberg (University of Massachusetts-Boston)
Tzvia Walden (Harvard University)
Elisabeth Wiig (Boston University)
Maryanne Wolf (Brandeis University)

# Contents

**From the widely acclaimed Perspectives in Audiology series...**

# AMERICAN SIGN LANGUAGE AND SIGN SYSTEMS

By **Ronnie Bring Wilbur, Ph.D.,** Division of Reading and Language Development, Boston University

This volume offers four important features for graduate and advanced undergraduate students in audiology, speech pathology, communicative disorders, linguistics, language development, psychology, mental retardation, autism, and special education with emphasis on hearing impairment:

An extensive review of research on American Sign Language, including linguistic, psycholinguistic, and sociolinguistic research.

A much-needed critical review of sign language systems used in education, including Seeing Essential English, Manual English, Signed English, fingerspelling, Cued Speech, and others. The focus of these reviews is on how these systems differ from American Sign Language and from English.

An analysis of research on manual communication that relates to educational achievement; for instance, acquisition of English, speech skills, and others.

A review of the use of manual communication with language-impaired, nondeaf populations, such as mentally retarded or autistic persons.

This is the only text that comprehensively includes reviews of other sign systems, research on the role of manual communication in educational achievement, the use of manual communication with nondeaf populations, and an up-to-date analysis of all aspects of American Sign Language. With all four included in a single volume, this book forms a valuable collateral text for courses on language and communication, psychology of language, philosophy of language, linguistics, and communicative disorders. It is also a primary text for courses in teaching language to the deaf, language disorders, manual communication, and mental retardation.

**American Sign Language and Sign Systems** is highly recommended for all educators, students, and clinical workers concerned with any aspect of manual communication. It is an essential acquisition for departments and libraries of communication and communication disorders, language, linguistics, special education, mental retardation, speech and hearing, and psychology.

360 pages Illustrated 1979 **$24.50**

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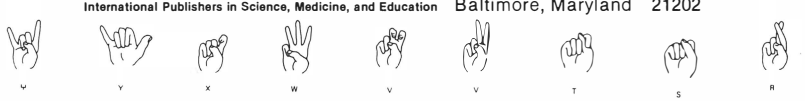


# Information and Program

## GENERAL INFORMATION

### Location

All sessions will be held in the Boston University School of Law at 765 Commonwealth Avenue. Registration will be held in the lobby on the first floor of the School of Law.

### Keynote Address

Professor Victoria Fromkin, University of California at Los Angeles, will deliver the keynote address at 8:30 p.m., Friday, September 14, in the Auditorium, located to the left of the entrance to the School of Law.

### Reception

A wine and cheese reception will be held in Barrister's Lounge following Professor Fromkin's address.

### New England Child Language Association (NECLA)

NECLA will hold its annual business meeting at 1:00 on Saturday in the Barrister's Lounge. Please feel free to bring your lunch.

### Publishers' Exhibits

There will be a publishers' exhibit of books and publications during both days of the Conference in the lobby of the Law School Auditorium.

### Sign Language Interpreters

Sign language interpreters will be available for all sessions. Please inquire at the Registration desk when you arrive.

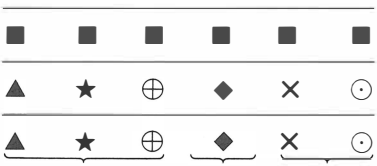
### Additional Handbooks

Additional handbooks may be purchased on Saturday morning for $1 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 and 1978 Handbooks are also available for purchase at $1 each.

### Checkroom

There are no checkroom facilities in the School of Law. Coats and luggage may be checked on the second floor of the George Sherman Union, 775 Commonwealth Avenue.

# Linguistics Pure and Applied



**Linguistics:**
An Introduction to Language and Communication
*by Adrian Akmajian, Richard A. Demers, and Robert M. Harnish*

An undergraduate text designed to allow the teacher to select his/her own sequence from among a wide variety of topics so that it can serve either as a general survey of current linguistics (with an emphasis on how evidence is gathered and how hypotheses are tested) or as a text that specifically relates language to the concerns of other fields, including philosophy, cognitive psychology, anthropology, neuroscience, artificial intelligence, language teaching, and education.

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**Principles and Methods for Historical Linguistics**
*by Robert J. Jeffers and Ilse Lehiste*
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**Recent Transformational Studies in European Languages**
*edited by S. Jay Keyser*
$19.95, hardcover

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Structures and Processes
*edited by John Morton and John C. Marshall*
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A Review, A Survey, and a Criticism
Third Edition
*by Colin Cherry*
$17.50, hardcover

**Linguistic Theory and Psychological Reality**
*edited by Morris Halle, Joan Bresnan, and George A. Miller*
$17.50, hardcover

*Titles to be published in late 1979:*

**Panini as a Variationist**
*by Paul Kiparsky*
$25.00 (est.), hardcover

**Linguistic Communication and Speech Acts**
*by Kent Bach and Robert M. Harnish*
$19.95 (est.), hardcover

**Dyslexia:**
Theory and Research
*by Frank R. Vellutino*
$19.95 (est.), hardcover

**The Eye-Voice Span**
*by Harry Levin with Ann Buckler Addis*
$15.00 (est.), hardcover

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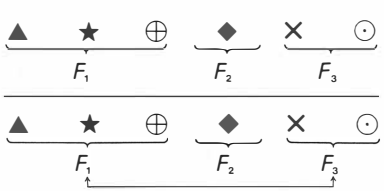

## CONFERENCE PROGRAM

Friday, September 14th, 1979

12:00 - 4:00 p.m. Registration
7:00 - 8:30 p.m.

1:30 p.m Welcoming Addresses — Auditorium

2:30 - 6:30 p.m. Friday Afternoon Sessions

8:30 p.m. Keynote Address — Auditorium

Professor Victoria Fromkin
(University of California-Los Angeles)

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### Development of Conversational Competence

Auditorium

Chair: Jean Berko Gleason (Boston University)

2:30 J. VerHoeve, M.B. Stevenson and L.A. Leavitt (University of Wisconsin-Madison). "The Contexts of Infant Vocalization and the Beginnings of Conversation"

3:00 Lynne Feagans (University of North Carolina). "Babbling in Discourse: A Way to Skip the Two Word Utterance Stage in Language Development"

3:30 Elizabeth K. Thomas (Boston University). "It's All Routine: A Redefinition of Routines as a Central Factor in Language Acquisition"

4:00 BREAK

4:30 M. Jeanne Wilcox and Elizabeth J. Webster (Memphis State University, Tennessee). "Early Discourse Behavior: An Analysis of Children's Responses to Listener Feedback"

5:00 Ruth Pearl, Mavis Donahue and Tanis Bryan (University of Illinois at Chicago). "Learning-Disabled and Normal Children's Responses to Requests for Clarification Which Vary in Explicitness"

5:30 Reaction by Session Chairperson

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### Later Language Development

Barristers Hall

Chair: Tom Roeper (University of Massachusetts)

2:30 Barbara Lust, Kate Loveland and Renée Kornet (Cornell University). "Development of Pronominal Anaphora: Syntactic and Pragmatic Constraints"

3:00 Carole Platt and Brian MacWhinney (University of Denver). "Solving a problem versus remembering a solution: Error assimilation as a mechanism in language learning"

3:30 Andrea Guillory and M. Michael Akiyama (University of Oklahoma). "How do children acquire the verification system?"

4:00 BREAK

4:30 Kristine Strand and Bruce Fraser (Boston University). "That's the Way the Cookie Crumbles: The Development of Idiom Comprehension in Children"

5:00 Rae A. Moses (Northwestern University). "Learning That Language Can Stretch"

5:30 Reaction by Session Chairperson

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**Phonological Development** Room 570

Chair: Peter Salus (Scarborough College)

4:00 James Hillenbrand (University of Washington-Seattle). "Perceptual Organization of Speech Sounds by Young Infants"

4:30 Richard G. Schwartz (University of Pittsburgh) and Laurence B. Leonard (Purdue University). "Do children pick and choose? An examination of phonological selection and avoidance in early lexical acquisition"

5:00 Deborah Fallows (Georgetown University). "Development of Word-Final Consonants"

5:30 Sr. Carmela Abbruzzese and Michele S. Banker (Boston University). "Phonological acquisition in language-disordered and normal children: Duration as a productive strategy"

6:00 Reaction by Session Chairperson

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**Issues in Second Language Acquisition** Room 520

Chair: François Grosjean (Northeastern University)

4:00 Kathryn J. Lindholm (University of California-Los Angeles). "Acquisition of Communicative Competence: Children's Communicative Strategies in Conversations with a Speaker of a Second Language"

4:30 Teresa H. de Johnson (Saint Louis University). "Monolingual and Bilingual Development, III"

5:00 Randa Mulford and Barbara F. Hecht (Stanford University). "Learning to Speak Without an Accent: Acquisition of a Second-Language Phonology"

5:30 William L. Leap (American University). "Semi-lingualism as a form of linguistic proficiency"

6:00 Reaction by Session Chairperson

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**Friday Evening Session**

**Keynote Address** Auditorium

Professor Victoria Fromkin
University of California-Los Angeles

"Brain, Mind and Language"

Reception: A wine and cheese reception will be held in Barristers Lounge following Professor Fromkin's address.

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**Saturday, September 15, 1979**

8:30 - 11:00 a.m. Registration

9:00 - 12:30 p.m. Saturday Morning Sessions

1:00 - 2:00 p.m. NECLA Annual Meeting (Barristers Lounge)

2:00 - 4:00 p.m. Special Sessions

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**Early Language Development** Auditorium

Chair: Camille Hanlon (Connecticut College)

9:00 Lynn Snyder, Elizabeth Bates and Inge Bretherton (University of Colorado). "The transition from first words into syntax"

9:30 Lorraine Nicolich and Roberta Dihoff (Douglass College). "Early Word Combinations: Syntax, Semantics or Something Special"

10:00 Linda Bauer Sibley (Massachusetts Institute of Technology). "The Development of the Use of Case and Word-Order Information in the Comprehension of Reversible SVO and OVS Active Russian Sentences"

10:30 BREAK

11:00 Roger Wales (University of Melbourne) and Meryl Solberg (Massachusetts Institute of Technology). "A Re-examination of Two Universals"

11:30 Jeffrey M. Seibert (University of Miami). "A Model for Analyzing the Development of Early Communication Skills, Based on Levels of Cognitive Organization"

12:00 Reaction by Session Chairperson

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**Language Disorders** Barristers Hall

Chair: Helen Tager-Flusberg (University of Massachusetts-Boston)

9:00 Sharon L. James, Denise W. Levine (Syracuse University), and Judith Leitner (State University of New York-Upstate Medical Center). "Comprehension of Wh Questions by Normal and Language-Disordered Children."

9:30 Elizabeth Skarakis (University of California-Santa Barbara and Children's Hospital of Los Angeles) and Patricia M. Greenfield (University of California-Los Angeles). "The Role of Old and New Information in the Linguistic Expression of Language-Disabled Children"

10:00 Thomas N. Kluwin (Gallaudet College). "The Ability of Hearing-Impaired Children to Comprehend the Semantics of English Prepositions"

10:30 BREAK

11:00 Jeanne Paccia Cooper and Frank Curcio (Boston University). "Language Processing and Forms of Echolalia in Autistic Children"

11:30 Andrea Cousins (Harvard University). "Grammatical morpheme development in an aphasic child: Longitudinal findings and implications"

12:00 Reaction by Session Chairperson

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**Language and Hearing-Impairment** Room 570

Chair: Robert Hoffmeister (Boston University)

9:00 Kathy Hirsh-Pasek and Rebecca Treiman (University of Pennsylvania) "Reading in the Congenitally Deaf"

9:30 Julia Maestas y Moores (University of Minnesota). "Communication Strategies of Deaf Parents with Children from Birth to 18 Months: An Ethological Study.

10:00 BREAK

10:30 Philip M. Prinz and Elisabeth A. Prinz (Univeristy of Colorado at Denver). "Acquisition of ASL and Spoken English in a Hearing Child of a Deaf Mother and Hearing Father: Phase II -- Early Combinatorial Patterns of Communication"

11:00 J.R. Dutton and L.R. Gleitman (University of Pennsylvania). "Language Development in Hearing-Impaired Children: Some effect of maternal speech style."

11:30 Mark E. Bernstein (Temple University). "How Iconicity Doesn't Help in the Acquisition of American Sign Language"

12:00 Reaction by Session Chairperson

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**Selected Papers on Reading and Writing** Room 520

Chair: Jim Flood (Boston University)

9:00 Larry Miller (Queen's University). "An Investigation into the Relationship of Anaphoric Reference and Reading Comprehension of Grade Two Pupils"

9:30 Stephanie H. McConaughy (University of Vermont). "Developmental Differences in Summarizing Short Stories"

10:00 BREAK

10:30 Susan Sowers (University of New Hampshire). "Young Writers' Preference for Non-narrative Modes of Composing."

11:00 Maryanne Wolf (Brandeis University). "The Relationship of Disorders of Word-finding and Reading"

11:30 Rae A. Moses (Northwestern University). "Developmental Issues in Written Language: And Now to Spelling"

12:00 Reaction by Session Chairperson

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## SPECIAL SESSIONS

Saturday 2:00-4:00

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**First-Language Acquisition** Auditorium

Featured Speaker - Marilyn Shatz (University of Michigan)

"Learning the rules of the game: Three views of the relation between language acquisition and social interaction"

Discussants: Courtney Cazden (Harvard University)
Ned Mueller (Boston University)

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## Second Language Acquisition

Room 520

Featured Speaker - James Cummins (Ontario Institute for Studies in Education)

"Global Language Proficiency, Linguistic Interdependence, and the Optimum Age Question"

Discussants: Bruce Fraser (Boston University)
Maria Brisk (Boston University)

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## Language Disorders

Barristers Hall

Panel Discussion: Macalyne Fristoe (Purdue University)
Howard Shane (Children's Hospital of Boston)
Ronnie B. Wilbur (Boston University)

"Issues in the Use of Non-Verbal Communication Systems for Language-Disordered Children"

Moderator: Don Moores (Pennsylvania State University)

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## Reading

Room 570

Featured Speaker - David Pearson (University of Illinois)

"Schema Theory and Teaching Reading Comprehension"

Discussants: Phyllis Weaver (Harvard University)
Lee Indrisano (Boston University)

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**The Conference wishes to thank**

**NEWBURY HOUSE PUBLISHERS, INC.,**

**for their generous contribution**

*** NOTE: This program may reflect some scheduling changes made since ** preliminary programs were mailed during the month of August.

# ABSTRACTS

**Phonological Development**

Chair: Peter Salus (Scarborough College)

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Reaction by Session Chairperson

6:00 R

5:00 Rae A. Moses (Northwestern University). "Learn
Can Stretch"

5:30 Reaction by Session Chairperson

**Issues in Second Language Acquisition**

Chair: François Grosjean (Northeastern University)

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"Acquisition of Communicative Competence: Children's Communi
Strategies in Conversations with a Speaker of a Second Langu

[illegible]sson (Saint Louis University). "Monolingual
[illegible]

[illegible]niversity).
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ABBRUZZESE, Sr. Carmela and BANKER, Michele S. (Boston University)

Phonological acquisition in language disordered and normal children: Duration as a productive strategy

The acquisition of the productive use of consonant clusters in normal children progresses through the following stages: production of the individual consonants, deletion of one consonant of the cluster, splitting of the cluster with an epenthetic vowel, elongation of the cluster, and finally, adult-like production. These phenomena have been documented by Allerton (1976), Greenlee (1973, 1974), Ingram (1976), Menyuk and Klatt (1975), Kornfeld (1971), Smith (1973), and others. Gilbert and Purves (1977) suggest that the production of consonant clusters is controlled by a timing-dominant mechanism, as described by Ohala (1970), which is not well developed in children. This immature timing system may account for the deletion, splitting, and elongation processes found in normal children.

Observational studies by Oller (1973, 1974) and Panagos (1974) suggest that the phonological development of language disordered children follows that of normally developing, but younger children. While there have been studies examining the perceptual capacities of language disordered children (Tallal and Piercy, 1973; Tallal, 1978), no studies have examined the articulatory capacities of this population as they relate to the demands of the timing-dominant system.

This study examines the production of initial consonant clusters with /l/ using spectrographic analysis in order to verify the Oller hypothesis of normal phonological development in language disordered children, albeit at a later chronological age, and to demonstrate that language disordered children use increased duration as an additional production strategy in their phonological development. This strategy is hypothesized to be present at all stages in the acquisition of consonant clusters.

The experimental subjects were ten language disordered children, ages 6 to 9 years. The control subjects were ten normally developing children, ages 3 to 6 years, who are in the process of acquiring consonantal clusters productively. Measurements were made of the durations of /pl/, /bl/, /kl/, /gl/, and /sl/ consonant clusters in the initial position of monosyllabic words spoken in a sentential context, each singleton within each of these clusters, and the singleton consonants, /p/, /b/, /k/, /g/, /s/, and /l/, in the initial position of non-cluster monosyllabic words spoken in a sentential context.

Preliminary analysis of the data suggests that language disordered children use substantially increased duration to overcome peripheral and/or central factors in their phonological acquisition process. That is, they systematically violate normal timing demands as a compensatory strategy at all stages in their acquisition of the productive use of consonant clusters. Spectrographic measurement can provide external evidence of the extent of use of this strategy, and is a potential tool for the clinician. The information from this study points to a further clarification of the notions of developmental delay and deviance, and suggests further investigations into other impaired populations.

BERNSTEIN, Mark E. (Boston University)

## How Iconicity Doesn't Help in the Acquisition of American Sign Language

If any lexical domain of American Sign Language (ASL) is highly iconic, it should be that of spatial location. The use of space in ASL is a unique visual device unavailable to oral languages. It has often been asserted that this property allows signs in this domain to be learned quite easily and rapidly by deaf children learning ASL as a native language. The visual information contained in the sign itself should provide a valuable clue to its meaning. Therefore, the child's task of working out the meanings of these signs might be less complex, and easier, than the hearing child's learning of the more arbitrary sound patterns of oral language.

In an effort to explore this question, a group of 30 deaf children of deaf parents were tested for their comprehension of the sign equivalents of the prepositions in, on, and under. The children, distributed over the age range 1;5 to 6;2, were congenitally deaf but normal in other respects. In all cases ASL is the language used in the home. The tasks employed are adapted from those of Clark (1974). To avoid possible effects of context and experience stemming from the use of toys, a set of neutral-context boxes and wooden blocks was used. Children were given three tasks: 1. To place blocks in, on, or under particular boxes which allowed only certain options, in response to signed instructions; 2. A non-linguistic task in which the child copied configurations modelled by the experimenter; 3. A comprehension task which asked the child simply to identify blocks that were in, on, or under boxes when shown arrays of all three choices. This last task was added to overcome what is seen as a deficiency in the ways comprehension has been tested by Clark and others.

The results indicate that deaf children exhibit the same pattern of development of comprehension as the hearing children Clark studied. They employed the non-linguistic placement strategies Clark discussed, even with the neutral objects used here. However, the time span for development in the deaf children was surprisingly long. Clark's children appeared to reach full adult understanding by the age of 3;0 (a finding confirmed in this study with a control group of 30 hearing children tested in English with the same materials as the deaf children). The deaf children in this study as old as 4;6 to 5;5 were still very much in the process of development.

It appears that in this lexical domain the visual information in the formation of these signs is not of much help to young deaf children learning ASL. Learning the meanings of these signs does not seem to be easier or more rapid. These findings are discussed in the larger context of the relation between iconicity and linguistic complexity in ASL, and the cognitive prerequisites to the use of the visual properties of sign language in the process of lexical acquisition.

* * * * *

COOPER, Jeanne Paccia and CURCIO, Frank (Boston University)

## Language Processing and Forms of Echolalia in Autistic Children

The speech and language functioning of 5 echolalic autistic children was studied to determine whether the incidence and specific characteristics of

echolalia are related to a difficulty in speech comprehension. The children were administered a picture selection task designed to test their comprehension of a variety of semantic/syntactic categories and were required to reach a minimum criterion of 20 consistently passed and 20 consistently failed items. These 40+ items were then used as the basis of an audiotaped production task: the items were presented to the children in each of 3 different interrogative forms (WH question, Yes/No question and sentence completion) in reference to an appropriate picture, thereby yielding a total of over 160 verbal responses for each child. The principle features of echolalic responses examined were (1) absence vs. presence of semantic and/or syntactic modification of the model utterance, (2) imitative vs. contrastive use of prosody and (3) response latency. Comparison of each child's performance on the 2 tasks indicates that the incidence of echolalia is related to the child's understanding of the eliciting utterance. Further, preliminary analyses suggest that the form of echolalia (i.e., whether the model utterance is altered prosodically, semantically and/or syntactically) is systematically related to the child's comprehension and response latency. These findings imply that there are several different forms of echolalia and that these reflect different levels of processing. From this, it is argued that these distinct forms serve different functions for the echolalic child.

* * * * *

COUSINS, Andrea (Harvard University)

Grammatical morpheme development in an aphasic child: Longitudinal findings and implications

Major findings are reported here of a longitudinal, naturalistic study of grammatical morpheme development in an aphasic child (c.a. 5,5 to 6,1). The results are inconsistent with previous cross-sectional findings that aphasic children acquire grammatical morphemes in the same order and at the same MLU levels as reported for younger, normal children. The aphasic order of development was predicted neither by the normal acquisition sequence, MLU level, nor by the theory of cumulative grammatical complexity. As an alternative to the current normal and clinical models of grammatical morpheme development, it is proposed that the forms did not evolve in order of the complexity of the rules governing their use, but rather in order of their semantic and phonological salience, as determined by syntactic, semantic and phonological context. Longitudinal patterns suggest that morphological production was differentially constrained by temporal sequencing difficulties, and that both the MLU index and level of morphological usage were abnormally lowered by a strategic tendency to reduce the length and phonological complexity of the sound string or phrase. The more redundant and less sonorant items were found to be particularly susceptible to these performance constraints; and their omission did not appear in itself to constitute reliable evidence of a syntactic or cognitive deficit. The study questions the validity of current remedial procedures based on previous cross-sectional findings. As regards both the ordering and MLU staging of the morphemes, it appears that these findings do not provide a secure basis for normative generalization.

* * * * *

de JOHNSON, Teresa H. (Saint Louis University)

Monolingual and Bilingual Development, III

Ideographic study of three young females (monolingual, English; monolingual, Spanish; bilingual, English-Spanish) to assess similarities and differences in language acquisition and variation in patterns of language dominance in the bilingual child. Several measures used: auditory comprehension, syntax and morphology, and temporal analysis (speech rate, pauses, hesitation phenomena). Formal testing supplemented observation of children's speech in natural settings. Testing sessions are conducted approximately every six months and when bilingual child has had extended exposure to either language. Data is collected both in the United States and in Mexico.

In general, findings to date indicate, as hypothesized, certain similarities in monolingual and bilingual development. However, bilingual development is both enriched and affected negatively by the constant exposure to two languages: enrichment takes place in vocabulary and facility with language, while morphology and syntax seem to be affected negatively (in both languages) by the interference of one language system with the other.

A basic concern of this research is the complexity of the phenomenon under study: the fact that a speaker/hearer is involved in the communicative effort, and that it is the integration of many factors that make communication possible. Hence the necessity for a variety of evidence used in the research. Report of study through July, 1979.

* * * * *

DUTTON, J.R. and GLEITMAN, L.R. (University of Pennsylvania)

Language Development in Hearing-Impaired Children: Some Effects of Maternal Speech Style.

The extent to which maternal speech registers influence the course of development is an important issue in child language studies. A "fine-tuning" hypothesis is that mothers adjust their speech to the child's language stage; an alternative is that mothers "merely" monitor to the child's age (cognitive stage). Hearing-impaired children and their mothers offer a special opportunity to investigate this issue: these children show great delays in manifest language knowledge relatively independent of age. Thus, we can study maternal adjustments in a situation where the age/language-knowledge variables show diminished overlap.

Our subjects were children between 2 and 5 years with severe hearing losses whose mothers used only oral communication to them, expecting that - however slowly - their children would acquire oral language. Results reveal qualitative and quantitative differences in maternal speech style (compared with that to hearing children of similar ages). Overall language output is reduced; grammaticality is higher and MLU lower. The mothers' speech shows some similarities

to that addressed to much younger children in its explicitness, emphasis on the here-and-now and a great reliance on gesture.

Additional factors of maternal speech to this population complicate the picture and add to its interest. Mothers of these children strongly perceive themselves as language teachers: they explicitly correct the child's phonology and syntax. These effects are studied against the child-subjects' actual language learning. The finding, most broadly put, is that the mothers' emphasis on overt performance ("good speech") by these children does not accelerate language growth. We hypothesize that the emphasis on speech performance skills, rather than the growth of comprehension, is a factor that exaggerates the delay in language growth for this population.

FALLOWS, Deborah (Georgetown University-Center for Applied Linguistics)

Development of Word-Final Consonants

The purpose of this study is to examine the development of word-final consonants in an English-speaking child.

Absence of final consonants is a common phenomenon in children's early words, and it persists in some children. Renfrew (1966) has documented development of final consonants in children with language disabilities. In this paper, I have documented the development of final consonants in a child with normally-developing language during a six-month period - from the appearance of the first final consonant at 1:9 (vocabulary totalled 130 words at that time) to 2:3. The study will continue until the development is complete.

Daily records with transcriptions were kept of the child's vocabulary. Results so far show acquisition of final consonants in this order: nasals, voiceless velar and dental stops, voiceless labial stops, voiced stops, /s/, clusters of /Cs/ and /Cz/. This conflicts with Renfrew at several points.

Additional features of development include: 1) articulatory assimilation of final nasals to the closest consonant. This lasted two months and disappeared gradually, in more recently-acquired words first; 2) the "fronting" process, as described in Ingram (1974). This lasted about two months; and, 3) lexical selectivity. In expanding his vocabulary, the child favored words containing the final consonant being mastered. These were words he had obviously understood before but avoided saying.

These findings contribute new evidence on the development of word-final consonants in normally-developing language. It provides supporting evidence for Ingram's "fronting" and for lexical selectivity as a strategy in language acquisition.

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* * * * *

FEAGANS, Lynne (University of North Carolina)

Babbling in Discourse: A Way to Skip the Two Word Utterance Stage in Language Development

The early language development of children has generally been studied by observing a restricted sample of children. These children speak clearly and with little of no unintelligible speech. Yet there may be a group of children who acquire language in quite a different way.

A middle class boy was videotaped for one hour each month from the age of 13 months to 25 months. He was videotaped with his mother and with one other familiar adult in a homelike environment. The tapes were transcribed for both speech and the context of the speech.

Babbling constituted over one third of all verbal output in the first months of the study. This babbling was characterized by distinct sentence intonation patterns in different contexts of two very reliable types. When the child was playing alone with a toy, his babbling was characterized by falling intonation. When the child was engaged in interaction with another person, the babbling was characterized by a rising intonation pattern. Another one third of the utterances were meaningful idiosyncratic phrases and another one third were words.

The babbling remained at a high level until about 18 months when words began to be interspersed within the babbling and speech markers were noted within the babbling for subject, verb and object. There was never a characteristic two word stage and by the time this child was 25 months of age, his MLU was over 3.0.

The results suggest that there are a group of children who may have learned early about the formal and functional aspects of dialogue and sentences and they use babbling to mimic those characteristics of language. By approaching the acquisition of their language in this way, they tend to use language for social interaction and not as much to comment about relationships among objects and people. Because most of the formal characteristics of the sentence are learned early, although not the actual words, babbling mimics the structure and function of dialogue in various settings. This has implications for the different kinds of knowledge the young child has about language and the different functions the child appears to emphasize as he acquires his native language.

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GUILLORY, Andrea and AKIYAMA, M. Michael (University of Oklahoma)

How Do Children Acquire the Verification System?

Three hypotheses have been proposed to explain the acquisition of the verification system and the answering system. The equivalence hypothesis states that the two systems are acquired at the same time. The verification-primary hypothesis states that the verification system is acquired earlier than the answering system. The question-simpler hypothesis states that the question-answering system is acquired earlier than the verification system. To test these hypotheses 32 children (16 of age 4 and 16 of age 5) were given two tasks. One task was to respond right or wrong to statements and the other task was to respond yes or no to questions. The 40 statements and 40 questions were comprised of 10 of each of the following: affirmative true, affirmative false, negative true and negative false. An analysis of variance revealed a significant main effect for task; the answering task was much easier than the verification task. Thus, the question-simpler hypothesis was supported. The main effect for polarity and the polarity by task interaction were also significant; negative statements were of far greater difficulty than the corresponding negative questions (error rates 64% vs. 5%) while affirmative statements and questions were of comparable difficulty (error rates 5% vs. 5%).

The question-simpler hypothesis takes advantage of the fact that, in English, one can ignore a negative in a yes-no question. Since children acquire the answering system earlier than the verification system they are likely to use the answering strategy to deal with the new but similar task of verification. This strategy would result in very high error rates for negative statements and very low error rates for negative questions. The present research results suggest that the verification system emerges from the answering system and calls into question the assumptions of current sentence verification models (cf. Carpenter and Just, 1975) that the verification process is primary or independent of answering questions.

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HILLENBRAND, James (University of Washington-Seattle)

Perceptual Organization of Speech Sounds by Young Infants

Previous studies by Kuhl and her associates (Kuhl, 1976, 1977; Holmberg, Morgan & Kuhl, 1977) sought to determine the extent to which young infants recognize the similarity of speech sounds sharing a common phonetic label. For example, experiments by Kuhl (1976, 1977) demonstrated that six-month-old infants could detect a vowel-color change when the tokens varied randomly in talker and pitch contour. The present study used an operant head-turn procedure to test six-month-old infants on their ability to organize speech sounds at a more abstract level. One group of infants was reinforced for head turns when a change occurred from a series of background syllables containing nasal consonants (/m,n,ŋ/) to a series comparison stimuli containing voiced stop consonants (/b,d,g/. The speech sounds were produced by both male and female voices. The performance of infants in

this "phonetic" group was compated to the performance of infants in a "non-phonetic" control group. Using the same procedures, these infants were reinforced for head turns to a group of phonetically unrelated speech sounds.

Results indicate that the performance of infants in the group trained on phonetically related speech sounds is far superior to that of infants in the non-phonetic control group. The findings suggest that pre-linguistic infanct are capable of forming perceptual categories for speech sounds based on rather abstract acoustic properties.

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HIRSH-PASEK, Kathy and TREIMAN, Rebecca (University of Pennsylvania)

Reading in the Congenitally Deaf

We are investigating the reading process in congenitally deaf adults whose native language is American Sign Language. Survival in the hearing community is crucially dependent on the ability to read and write English, yet most deaf individuals read at levels far below normal. Theoretical explanation for this problem is not hard to find: extensive evidence supports the view that fluent alphabetic reading requires sensitivity to the mapping between sound units (or phonological units) and alphabetic units (or letters and letter sequences). This phonological route seems to be closed to the deaf reader. Hence her difficulties are predictable. The real difficulty is understanding how a few congenitally deaf people do manage to acquire full reading competence. Our project is designed to address this question.

In particular, do deaf individuals attempt to recode the print in some way that facilitates access to meaning? Recent work on short term memory in the deaf suggests three alternatives: recoding into sign (utilizing their native language), recoding into articulatory gestures (providing an articulation-letter correspondence), and recoding into fingerspelling (which might provide for a manual "phonics"). If no recoding takes place, we expect attempted memorization of the visual configurations in the print.

We intend to extensively study 15 congenitally deaf adults whose native language is sign language. Each of the subjects will be presented with a list of sentences which are potentially confusable for those who recode into sign, articulation, or fingerspelling, respectively. We have developed three paradigms, based on work with hearing people. These involve presenting the confusable sentences and looking for a pattern of errors indicative of recoding in any of the three areas. These results should allow us to address the following two questions: 1) Do deaf people attempt to recode the printed word when faced with an English text? and 2) Do better readers, as measured through proficiency tests, favor one type of recoding over the others?

We hypothesize, given anecdotal evidence, that better readers do indeed recode. Further, we hypothesize that better readers do gain access to the

phonological substrate through the manual "phonics" of fingerspelling.

Success in this venture has great theoretical importance for the psychology of reading in hearing populations as it would add overwhelming evidence to the view that an organized phonological substrate is accessed in the acquisition of literacy. Such findings could be influential in the future design of reading curricula for hearing children as well as for deaf children.

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JAMES, Sharon L., LEVINE, Denise W. (Syracuse University), and LEITNER, Judith (State University of New York-Upstate Medical Center)

Comprehension of Wh Questions by Normal and Language-Disordered Children

There is some evidence that language disordered children are considerably less proficient than normal children at producing questions (Menyuk, 1969; Lee and Canter, 1971), even when the disordered and the normal children are matched on mean-length-of-utterance (Morehead and Ingram, 1973). However, there is no information available about language disordered children's ability to comprehend questions. The purpose of the present study was to compare the Wh question comprehension performance of language disordered and normal children at the same MLU stages.

METHOD

Subjects

Subjects were 20 normal children, between 2;2 and 5;1 years, and 20 language disordered children, between 4;7 and 7;0 years of age. There were five normal and five disordered children in each of Brown's (1973) MLU stages II through V. All subjects had normal intelligence, hearing, and vision. The language disordered children had been tested and identified by certified Speech/Language Pathologists.

Procedure

Comprehension of Wh questions was tested by having each child respond to a set of 32 questions about four different photographed action scenes. There were eight questions, including what, what-do, who (subject), who (object), how, why and when, for each photograph. Children were encouraged to respond verbally; however, pointing responses were recorded for analysis. All sessions were tape recorded.

Responses were scored as correct or incorrect according to criteria similar to those used by Tyack and Ingram (1977). For example, a correct response to a what question was an inanimate noun, while who questions required an animate noun response.

Results

Although data collection is completed, data analysis is not. The

performance of the language disordered and the normal children will be compared across and within MLU stages, and implications for language intervention will be discussed. The developmental sequence of Wh questions found for the two groups of children will be discussed in relation to the sequence reported in previous studies of normal children (Chapman, 1973; Ervin-Tripp, 1970; Tyack and Ingram, 1977).

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KLUWIN, Thomas N. (Gallaudet College)

The Ability of Hearing Impaired Children to Comprehend the Semantics of English Prepositions

The purpose of this study was to investigate the acquisition of specific preposition meanings by hearing impaired children while controlling for the selectional restrictions placed on preposition meanings by the syntax of the sentence or the semantics of the verb phrase.

Comprehension tests of English preposition usage were given to 200 students from two secondary schools for the hearing impaired. The tests were constructed by generating 60 sets of prepositional meanings in simple prepositional phrases. The use of prepositions as adverbs in verb + particle constructions was not considered. Three items were randomly divided and given to the 200 students in groups of 45 items. Each individual student responded to only 45 randomly selected items.

Previous research with preposition production had shown that locatives were acquired before prepositions involving manner relations. This general finding was true within individual preposition meanings. For example, half of the meanings of "on" used in a locative sense were prior to any meanings of "on" expressing manner relations. However, the other half of the locative uses of "on" were acquired after the manner usage of the same preposition. The controlling factor was the environment that the specific prepositional usage occurred in. The comprehension of "on" as a locative progressed from the comprehension of the relationship of being above and in contact with a surface through contact with a non-horizional surface to indicating a relative position. The acquisition of manner usages followed a similar pattern. A second example would be the comprehension of "of" which proceeded from meanings involving relatively concrete notions of possesion or kinship through more abstract relationships involving representation or participation to similar kinds of semantic relationships that required specific morphological structures such as noun possessives or comparatives of adjectives as objects of the preposition.

The results of the study suggest that there is a clear developmental sequence in the acquisition of English prepositions by hearing impaired adolescents. The sequence of principles cannot be defined simply but several operational rules seem to apply. First, acquisition can be defined in terms of the general relationship to be acquired. Defined this way, prepositions are acquired as locatives, then temporals, then manner relationships. Specialized prepositions are acquired within this

framework, but no principle is described for their acquisition. Second, preposition meanings are acquired from their most generalized meaning within a category to their most specialized meanings. Third, increasing syntactic or morphological complexity within the simple prepositional phrase delays the acquisition of a prepositional meaning.

The implication of the study is that a "spiral" occurs in the acquisition of the meanings of a preposition. The spiral turns upward through the addition of various kinds of rules. Language training programs must take cognizance of the spiral, its principles, and the resulting sequence.

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LEAP, William L. (American University)

Semilingualism as a form of linguistic proficiency

The term "semilingualism" is being used by some educators to describe a set of linguistic consequences arising when students from economically disadvantaged, first-language minority backgrounds encounter an unfamiliar second-language within the schooling context. In such situations, students may be found to retain only partial control over their home language grammar, just as they appear to develop only partial control over the language of the school domain. In effect, they do not possess a complete grammar in either instance and for this reason may be judged "similingual".

Clearly such a concept can serve broad-ranging purposes, especially given its explicit endorsement of the need for bilingual instruction in these cases. But it must be recognized that the claims of the theory have been drawn from standardized test scores and from the anecdotal comments about student verbal behavior as observed by teachers and other outside authorities. To date, descriptions of the make-up of a semilingual's grammar (or of any other component of semilingual speech for that matter) have yet to be systematically formulated. A closer look at the linguistic reality alluded to by this term and its associated claims seems appropriate for those very reasons.

This paper will review and raise questions about the face-validity of the analyses offered by the European proponents of "semilingualism" and by their American counterparts. Then the paper will describe the linguistic "completeness" of semilingual speech, drawing on data collected from bilingual, elementary-aged American Indian students from several locations in the US Southwest. The paper will use both lines of argument to claim that semilingualism is a situationally specific form of "limited English proficiency", and as such makes greater comment on the speaker's performance skills within a particular educational domain than it does on the linguistic competence the speaker may actually possess.

LINDHOLM, Kathryn J. (University of California-Los Angeles)

Acquisition of Communicative Competence: Children's Communicative Strategies in Conversations with a Speaker of a Second Language

By four years of age, children possess a rich communicative competence based on the integration of social, cultural, metalinguistic and linguistic information and norms. The present paper explores the communicative strategies employed by children when shared linguistic norms are partially or totally missing in a communicative exchange. In order to create such a situation in a "naturalistic" environment, female "monolingual" research assistants visited four first-generation immigrant and two third-generation Mexican American families who are participating in an ongoing longitudinal study. These "monolinguals" accompanied the researcher responsible for each particular family and spoke only the nondominant language of the home (i.e., English in first-generation homes and Spanish in third-generation homes). The "monolinguals" conversed with firstborn four- to five-year-old children, who have from zero to some knowledge of the second language.

Interactions were analyzed to address the following questions: (1) What type of communicative competence information does the mother and researcher relay to the children to prepare them for the interaction with the monolingual? (2) Does the amount or type of communicative competence information relayed by the mother or researcher affect the children's communicative strategies? (3) What types of communicative strategies do the children employ in their conversations? (4) How does knowledge of the second language modify these strategies? (5) How are conversational topics initiated and maintained? (6) What does an examination of children's communicative strategies indicate about children's acquisition of social, linguistic and metalinguistic norms and information?

In addition, communicative strategies used with the "monolingual" were compared with the normal communicative strategies that the children used in conversing with the researcher or mother.

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LUST, Barbara, LOVELAND, Kate and KORNET, Renée (Cornell University)

Development of Pronominal Anaphora: Syntactic and Pragmatic Constraints

This paper reports a study of differences in child language between the production of well-formed pronominalization and the interpretation of reference and co-reference allowed by this pronominalization. The paper argues that different developmental constraints hold for these two processes. A constraint previously observed in the literature requiring that pronouns follow their antecedents (Solan, 1978; Lust, 1977; Tavakolian, 1976) is hypothesized to hold principally on the production of pronominalization, not on the interpretation of pronoun reference or co-reference. Pragmatic constraints such as imposed by discourse context

are hypothesized to hold principally on co-reference interpretation, not on pronoun production.

The data for this paper result from 80 children from 3;5 to 7;5 (years; months) who were asked both to imitate and to act out (in separate counterbalanced tasks) a set of sentences such as 1 and 2 where pronoun direction and co-reference options vary in a factorial design, and a pragmatic discourse-context lead was provided in 1/2 the cases.

1. Forward pronominalization
   a) + co-reference
      Bert kissed the penny when he rolled on the floor
   b) - co-reference
      In front of Snuffles, he put the candy-bar

2. Backward pronominalization
   a) + co-reference
      When he ate the candy, Bert sat on the box
   b) - co-reference
      He opened the box when Ernie held the penny

Factorial and error analyses confirm that in imitation, children reversed backward pronoun direction to forward (as if the pronoun were co-referential with the name), e.g., they convert 2a to a form with forward pronominalization like 1a; while in interpretation they optionally act out this backward pronoun as non-co-referential. Backward pronominalization is more difficult to imitate whether or not it may be co-referential. Similar types of imitation errors occur with or without a pragmatic lead. Pragmatic context significantly affects amount of co-reference judgments in the interpretation tasks but does not significantly affect amount of error on pronominalization direction in the imitation task. Children continue to make co-reference interpretation errors long after their imitation is correct.

Results are interpreted (1) to provide a developmental sketch of the acquisition of anaphoric pronominalization (begun by Chomsky, 1969); (2) to qualify previous research on developmental constraints on pronominalization (Solan, Lust, Tavakolian); (3) to suggest that pragmatic and grammatical factors may both be involved in acquisition of pronominalization (Garvey, et al., 1974, 1975; Grober, et al., 1978; Stenning, 1978), (4) but that these appear to be independent to a degree. The first affects pronoun interpretation, the second pronoun production. Results are further interpreted to have general implications for a theory of the role of grammatical and pragmatic (or cognitive) factors in first language acquisition, as well as for a theory of anaphora.

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McCONAUGHY, Stephanie H. (University of Vermont)

Developmental Differences in Summarizing Short Stories

Recent research has examined discourse processing in terms of story comprehension (e.g., Mandler & Johnson, 1977; Rumelhart, 1975, 1977; Stein & Glenn, 1977; Thorndyke, 1977). These authors propose that both the encoding and recall of stories involves use of an internal "schema" which can be described by a text grammar. Based on this literature, the present author has previously presented a developmental model describing qualitative differences in the types of story schemas employed by adults and children. The differences center around the hierarchical organization of the importance of different syntactic components and the semantic relations connecting components.

The present paper presents evidence in support of the developmental model. A study of 80 fifth grade children and 80 college students examined developmental differences in levels of story comprehension. Subjects were presented one of four different short stories of equal length. After reading the story silently, subjects were asked to summarize the story from memory including only the most important parts and then to list seven key words which they considered most important for the meaning of the story. After the memory tasks, subjects were asked to rank order the importance of the individual propositions in the story and to list seven key words from the text which were most important for the meaning of the story.

Preliminary data analysis shows significant differences between adults and fifth graders on the types of information considered most important and the use of inference. Adults' summaries include significantly more major goal statements than did children's summaries. Many adult summaries also added inferred dispositional traits and occasional morals to the story. Fifth grade summaries emphasized initiating events, main actions and final consequences, but not goals or inferred traits. Rank order judgments on propositions in the text also showed that adults placed greater importance on the major goal than did fifth graders. Finally, adults included significantly more key words for dispositional traits of characters which were not explicitly stated in the text. The results suggest important differences in the way story information is organized and condensed by children and adults. Implications can be derived for methods for teaching and testing reading comprehension in order to take such differences into account.

MILLER, Larry (Queen's University)

An Investigation into the Relationship of Anaphoric Reference and Reading Comprehension of Grade Two Pupils

The major purpose of this study was to investigate the ability of High and Low Readers at the grade two level to comprehend the antecedent/anaphora relationship in written discourse. Specific focus was on three possible variables which may influence this relationship. These variables were: (1) the number of antecedents interacting in a discourse; (2) the distance between antecedent and anaphora; (3) the anaphoric category. An ancillary purpose of the study was to examine the effects of these variables on all groups of readers in the sample.

To examine the children's ability to comprehend the antecedent/anaphoric relationship the investigator constructed the Tests of Anaphoric Reference (TAR). All dependent variables were built into the passages used in the TAR and thus were reflected in the children's scores on these tests.

The statistical design of the study was basically a 2x2 factorial with three dependent variables. Analyses of covariance, with grouping by reader level and sex, were the principal statistical procedures used in the study with the covariate being the children's word identification scores.

The results of the study indicated that the High Reader's scores were significantly superior to those of Low Reader's on all dependent variables, even when the effects of word identification were partialled out.

For all groups of readers in the sample the addition of antecedents to a discourse caused difficulty in resolving the antecedent/anaphora relationship. An increase in the distance between antecedent and anaphora was found to be an interfering factor primarily for the Low Reader group. The effects of anaphoric category were mixed. However, it was clear that some cases, especially the genitive, are more difficult than others.

The implications of this research lie in increasing our understanding of the variables which affect the reader's comprehension of this particular discourse phenomenon.

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MOORES, Julia Maestas y (University of Minnesota)

Communication Strategies of Deaf Parents with Children from Birth to 18 Months: An Ethological Study

With the increased acceptance of manual communication with deaf children there has developed a growing interest in the linguistic environment provided by deaf parents, with particular emphasis on the use of American

Sign Language. Most investigations have concentrated on the language acquisition of deaf children of deaf parents and, as a result, little information has been obtained concerning the first year of life. This is because identification of a hearing loss may not be made prior to 12 - 18 months of age.

The present paper deals with children of deaf parents from birth to two years of age. This group consists of children where the existence of a hearing loss has not been established. Communication strategies of the deaf mothers with young children will be described and illustrated via audio-video tape. In addition to oral, manual and simultaneous oral/manual communication, deaf mothers utilize physical contact for orienting purposes, turn taking, and physical guidance of signs. The child's body frequently is used as a referent for a sign, i.e. the sign is made on the child's body.

Information will be presented on the development of the children relative to the acquisition of skills concerned with some of the parameters of a visual-motor system. These include the use of three dimensional space and the ability to generate simultaneous utterances. The expression of abstract ideas will also be considered. Finally, implications for the application of findings with hearing parents of deaf children will be discussed.

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MOSES, Rae A. (Northwestern University)

Developmental Issues in the Study of Children's Written Language: And Now To Spelling

Charles Read and Carol Chomsky have described in a very complete way the natural development of the preschool orthographer's writing skill. In spite of the rather large amount of effort that is devoted to teaching children to spell in schools, we know little about the development of orthographic abilities of the school aged child. This study is based upon an extensive research project in which we are studying the free writing of children five through ten years old. The project, now in its fourth year, involves the collection of 'naturalistic data' -- the compositions children write in the normal course of school work -- from more than forty children. From these pieces, we have extracted the unconventional spellings for those children for whom we have three or four years of writing. From these data we propose an explanation for the patterns of development of orthographic skill which incorporates the various aspects of spelling available to the child (i.e. phonological/auditory, morphological, visual and mnemonic clues). It is argued that the development of each child's spelling patterns are the sum of her privately inferred rules (what Gregory Bateson has called deutero learning) plus those aspects of spelling that are explicitly taught. In a second shorter section, I suggest the implications of our study for the teaching of spelling and the place of spelling in a writing program.

MOSES, Rae A. (Northwestern)

Learning That Language Can Stretch

This paper investigates an aspect of the development of metalinguistic awareness. Punning relies on a speakers ability to recognize the relationship between two underlying meanings of a sentence and the similarity or identity of two surface representations. A pun uses the underlying ambiguities made possible in language by speakers' and hearers' ability to allow the stretching of the rules of language in order to provide for two meanings. The interpretation and explanation of a pun requires that the hearer have very specific knowledge about his or her language. For example, the phonologic pun, "A Cheyenne girl wanted to marry someone from another tribe and her mother moaned, 'Say it isn't Sioux.'" has, in part, the following requirements for two auditory understandings.

a) Sioux is 'another tribe' from Cheyenne.
b) 'Say it isn't so' is an appropriate fixed phrase in this situation.
c) A phonologic stretching rule (+high) (-high)

Similar kinds of understandings are required for comprehension and explanation of all puns. Fowles and Glanz in their article "Competence and Talent in Verbal Riddle Comprehension," (JChL IV:3, p.433) suggest that while there are no age correlates, development appears to be related to reading ability and does seem to progress in distinct stages. In the present paper I characterize the nature of each stage in terms of what children say is funny about puns. Twenty-two puns were selected from children's books which used different kinds of ambiguity. Twenty-four children ranging from 6 to 15 were asked why the puns were funny.

In the first section of the paper, I propose a typology of the pun which is an extension of that proposed by Kathy Hirsh-Pasek, Lila Gleitman and Henry Gleitman. ("What Did the Brain Say to the Mind," The Child's Conception of Language, A. Sinclair, R.J. Jarvella and W.J.M. Levelt, eds., Springer-Verlag, 1978.) In the second section, the verbatim responses are used to construct a developmental explanation of 'language stretching rules'. It is argued that these rules must be based upon certain kinds of metalinguistic knowledge.

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MULFORD, Randa and HECHT, Barbara F. (Stanford University)

Learning to Speak Without an Accent: Acquisition of a Second-Language Phonology

Despite ever-increasing interest in parallels between $L_1$ and $L_2$ learning of the same language, acquisition of an $L_2$ phonology has been generally neglected. This study examines the mastery of English fricative consonants in the spontaneous speech of a six-year old Icelandic child. Fricatives were chosen for detailed analysis because 1) their acquisition by English

$L_1$ learners has been studied in relatively great detail and 2) the fricative systems in English and Icelandic contrast in several interesting ways. There are segments that occur in English but not in Icelandic (i.e., /z/, /ʃ/, /ʒ/, /tʃ/ and /dʒ/) and also differences in phonemic status (i.e., /ð/ and /θ/ are phonemically distinct in English, but not in Icelandic). The data consist of phonetically transcribed weekly samples of the child's conversations with an adult native speaker of English.

These data have been analyzed with respect to two extreme models of $L_2$ phonological acquisition:

A) $L_2$ acquisition = $L_1$ acquisition model: Acquisition of English $L_2$ phonology resembles acquisition of English $L_1$ phonology. The order of difficulty of segments, role of word position, and segment substitutions are similar for first and second language learners.

B) $L_2$ interference model: The order of difficulty for children in $L_2$ reflects their $L_1$ system, i.e., where the same segments occur with the same distribution in both $L_1$ and $L_2$, the $L_2$ learner has no difficulty. Difficult phonemes and allophones are predictable from the differences between the $L_1$ and $L_2$ systems. Word position is important to the extent that it determines allophonic variation in $L_1$. Substitutions for phonemes or allophones unique to $L_2$ come from the $L_1$ phonological inventory.

As has been found in other areas of second language acquisition, such extreme models are overly simplistic. In our data interference is a factor in the following ways: 1) fricative segments common to Icelandic and English are learned first and 2) the more troublesome sounds are those that are novel or have different distributions. However, $L_2$ acquisition resembles $L_1$ acquisition in that many of the substitutions for difficult segments parallel those of English $L_1$ learners and do not reflect the Icelandic system.

In addition, two factors possibly unique to learning an $L_2$ phonology were observed:

1) "$L_2$ distractors": Novel $L_2$ segments which are so difficult that they disrupt production of segments otherwise produced with ease. (For example, syllabic English /r/ interferes with the production of intervocalic /ð/, which occurs in both Icelandic and English).

2) Negative influence of cognates: Segments which have otherwise been mastered in English are influenced by their pronunciation in an Icelandic cognate. (For example, /z/ in thousand is pronounced with [s]as in the Icelandic þúsund [θusœnt].)

This study is a first step in extending our knowledge of children's second language acquisition into the domain of phonology.

NICOLICH, Lorraine and DIHOFF, Roberta (Douglass College)

Early Word Combinations: Syntax, Semantics or Something Special

The present investigation concerns the child's first two word utterances, representative of Brown's early Stage I (MLU 1.0 - 1.5). Issues include: Are the first two word phrases partially or entirely imitative? Do these initial combinations or any portion of them appear in more than one session? Do the initial combinations include words that already existed within the child's productive single word vocabulary? Is there evidence for a generative system?

In order to examine these issues five children were followed longitudinally for a 6-10 month period. When children entered the study they had a 3-5 single word productive vocabulary. Children ranged in age from 14-18 months. Each child was videotaped once a month for 40 minutes. During the session they were engaged in play with their mother with a selected set of toys. The situation remained constant across the sessions. Children's play was scored for level of sophistication. Transcriptions of the sessions included mother and child utterances as well as context. Videotaping was terminated when more than 50% of the child's utterances were multi-word. Children ranged in age from 20-28 months when they met this criteria. At the point when children began to combine words they were sensorimotor stage VI as measured by the Escalona object permanency scales.

Data analysis has not been completed. Initial results indicated that the majority of the initial two word combinations were unstable. Children often combined words not previously found in their vocabulary which were imitative of earlier maternal input or used earlier in the session as single words. These two word combinations were not usually repeated in subsequent sessions. No apparent rule system was evident in the initial utterances although as the children demonstrated an MLU of 1.5 - 2.0 and two word combinations became more frequent, rule generated combinations could be observed.

Representation of these earliest combinations as rule governed can be misleading. There appears to be a period between the single word period and the point at which multiword utterances became frequent during which the child's strategies for combining words appear as instances of deferred imitation rather than reflecting a generative system for combining words.

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PEARL, Ruth, DONAHUE, Mavis and BRYAN, Tanis (University of Illinois at Chicago)

Learning Disabled and Normal Children's Responses to Requests for Clarification Which Vary in Explicitness

Normal and language-impaired children's responses to requests for clarification have recently been considered a fertile site for investigating both the ability to paraphrase and the understanding of conversational rules

for repairing communicative breakdowns (Gallagher & Darnton, 1977; Garvey, 1977; Stoel-Gammon & Coggins, 1977). Peterson, Danner & Flavell (1972) found that even four-year-olds in a referential communication task were able to re-formulate their messages in response to explicit requests; however, they failed to respond to implicit requests or non-verbal signals of misunderstanding. Learning disabled children have been found to exhibit syntactic-semantic deficits (Wiig & Semel, 1976), to be less skilled at understanding non-verbal behaviors than normally achieving children, and to be socially rejected by peers (Bryan & Bryan, 1978). Thus, it was hypothesized that one source of their social deficits may be an inability to interpret non-explicit requests for more information and to understand what response is appropriate.

Subjects in this study were 69 learning disabled children in grades 1 through 8 and an equal number of non-disabled children matched on sex and grade. Each subject was asked to describe abstract shapes to an experimenter whose task was to select the correct referent from an array of shapes. After each of the child's messages, the experimenter either selected the correct referent or requested more information by producing one of three kinds of feedback: (1) a puzzled facial expression; (2) an implicit request like "I don't understand"; or (3) an explicit request like "Tell me something else about it." To insure a child's failure to respond was not attributable to syntactic-semantic deficits, a pre-test using a subset of the stimuli required each child to be able to offer at least two descriptions of each shape.

The data are currently being analyzed for sex, grade and group effects. Results may have implications for (1) understanding teacher-child and peer interaction in classrooms and (2) facilitating instructional strategies.

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PLATT, Carole and MacWHINNEY, Brian (University of Denver)

Solving a Problem Versus Remembering a Solution: Error Assimilation as a Mechanism in Language Learning

Jacoby (1978) has used the distinction between solving a problem and remembering a solution to explain a wide variety of phenomena in verbal learning and language processing. In recent articles dealing with error monitoring, Clark (1978), Marshall and Morton (1978) and Slobin (1978) suggest that children may at times latch on to their own speech errors and learn them as if they were forms that had been modeled by adults. MacWhinney (1978) and Nelson (1978) argue that, in such cases, the child is in effect remembering an (incorrect) combinatorial solution, rather than solving the problem anew.

In order to test this hypothesis, a free-speech corpus of 30 grammatically incorrect sentences was gathered from each of 4 four-year-old child subjects. These 30 erroneous productions constitute Type 1. Type 2 sentences were 30 grammatically incorrect sentences matched in structure to those of Type 1 but new to the child. Type 3 sentences included 30 sentences with errors typically made by two-year-olds; Type 4 sentences

included 30 correct sentences. The children were asked to accept or correct each of the 120 sentences. The results were as follows:

1. Type 2 sentences were corrected twice as often as Type 1 sentences ($p < .01$), although Type 3 sentences were corrected more than Type 2 sentences.
2. Test/retest reliability was astoundingly high. When retested with a sentence they had corrected earlier, the children made an identical correction 75% of the time.
3. In situations of strong response competition, children evidenced three escape strategies: avoidance, problem reformulation, and problem reduction.

These results are taken to constitute strong support for the hypothesized learning of solutions by rote. Although this study has examined the maladaptive aspects of this strategy, its adaptive role in item acquisition is perhaps of even greater importance to the theory of first and second language acquisition.

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PRINZ, Philip M. and PRINZ, Elisabeth A. (University of Colorado at Denver)

Acquisition of ASL and Spoken English in a Hearing Child of a Deaf Mother and Hearing Father: Phase II--Early Combinatorial Patterns of Communication

This research describes the second phase of a longitudinal study of the linguistic development of a hearing child whose mother is profoundly deaf and father is hearing. The female child, Anya, was consistently exposed to both American Sign Language (ASL) and spoken Standard American English since birth. The research is unique in that previous studies in

this area involve cases where the parents are either both deaf or hearing. The data on Anya were collected from the age of 7 months, 6 days, when the first sign (MAMA) emerged, to the age of 19 months, 8 days, when Anya began combining signifiers (i.e., signs, words, and words plus signs). Monthly video-tape recordings of 30 minutes each were completed in addition to detailed written notes of all new words and signs. The results confirm findings of previous studies that the child's first sign appears several months before the first spoken words. Also, early lexical acquisition in ASL and English progress through similar stages as reported by Bellugi and Klima, 1972 and McIntire, 1974. In the first stage of bilingual development, the child seems to develop one lexical system with separate entri-s from both languages (Stokes and Menyuk, 1975; Volterra and Taeschner, 1978). Data from the period between 14 and 19 months demonstrate the child is beginning to differentiate more systematically between two lexical systems in that the same object or event is expressed with two different signifiers. However, the child does not appear to distinguish between two syntactic systems: Anya applies similar syntactic rules to both languages in combining signifiers. Data collected between 17;3 and 19;8, support Brannigan's (1976) hypothesis of "replacement sequences" prior to the emergence of combinatorial language. By 19;8 Anya uses individual signifiers in combination with gestures and intonation to serve a variety of pragmatic goals (e.g., requesting and demanding). The "mean length of signifier" (MLS) parallels the MLU of hearing children of the same chronological age who are acquiring spoken English (Brown, 1973). Similarly, Anya's use of word order to signal contrastive meanings parallels that of children learning other languages (Bloom, 1970; Brown, 1973; Bowerman, 1973). A limited number of semantic relations (e.g. agent-action; possessor-possessed; agent-object) accounts for the majority of Anya's linguistic productions during the early combinatorial stage. The findings from this study imply that manual and spoken languages may be learned concurrently without interference with the conceptualization of and memory for perceptually significant events or objects. Also, the simultaneous acquisition of ASL and English does not appear to retard the child's ability to express a variety of semantic relations. Further study will provide information regarding bilingualism and the development of syntax in two distinct linguistic systems.

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SCHWARTZ, Richard G. (University of Pittsburgh) and LEONARD, Laurence B. (Purdue University)

Do Children Pick and Choose? An Examination of Phonological Selection and Avoidance in Early Lexical Acquisition

Child phonologists (e.g., Ferguson, 1976) have observed that young children are selective in the phonological characteristics of the adult words they attempt; selecting words with certain characteristics and avoiding words with other characteristics. However, these observations have been without the benefit of controls upon the input received by the child and have not considered the relaxation of this apparent selectivity. Furthermore, while of interest to child phonologists, phonological selectivity has not been considered a possible determining factor in early lexical acquisition. This investigation involved a further examination of phonological selection and avoidance and its role in lexical acquisition.

Six males and six females ages 1;0.21 - 1;3.15 at the outset, who had not evidenced usage of more than five "true" words, served as subjects. During 10 bi-weekly sessions the children were presented with 16 experimental lexical concepts each consisting of a nonsense word (constructed individually for each child) and four unfamiliar exemplars which served as the referents for that word. Half the concepts involved words with phonological characteristics (consonants and syllabic structures) which had been attempted or produced and half had characteristics that had not been evidenced in the child's phonology. Other aspects of the concepts (e.g., type of exemplar - objects vs. actions, similarity between exemplars within a concept - functional vs. perceptual) were also controlled and counterbalanced. During each session all 64 concept exemplars were named and presented and a probe to determine the extent of experimental word acquisition was administered.

The children more readily acquired (i.e., elicited or spontaneous naming of one or more exemplars within a concept) words having characteristics that were consistent with their phonological system, experimentally confirming the occurrence of phonological selection and avoidance. The children's unsolicited imitations of these words will also be examined to determine whether, at this early point in development, selection and avoidance restrictions are relaxed in imitation as appears to be the case for older children (Leonard, Schwartz, Folger & Wilcox, 1978). Finally, the progressive relaxation of such restrictions over the course of this investigation and in the data of Leonard et al. will be examined.

The discussion of these results will focus upon: (1) the apparent role of selection and avoidance in early lexical acquisition; (2) the progressive relaxation of phonological selectivity in spontaneous and imitative speech; and (3) a proposed cognitively-based model of early lexical and phonological acquisition, which may explain the occurrence and disappearance of phonological selectivity.

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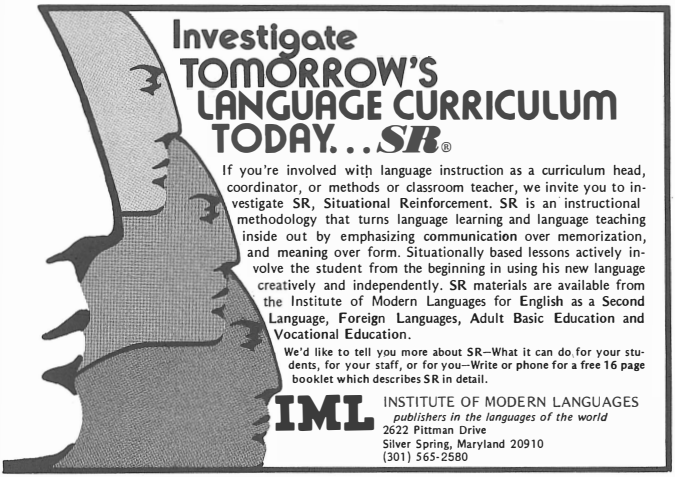


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SEIBERT, Jeffrey M. (Mailman Center for Child Development - University of Miami)

A Model for Analyzing the Development of Early Communication Skills, Based on Levels of Cognitive Organization

Recent , independent, empirical and theoretical work on cognitive development in infancy (Uzgiris, 1976; 1977; McCall, Eichorn & Hogarty, 1977; Fischer, 1977) has been converging on the conclusion that there exists a sequence of five distinct levels of cognitive organization between birth and about thirty months, each level characterized by a qualitatively different mode of interaction with and control of the physical and social environment. This paper will present a model that analyzes communication development in terms of parallel levels of organization that are derived directly from the criteria used to define the cognitive levels. In addition, preliminary data on thirty developmentally delayed children between six months and three years from a longitudinal study designed to test several predictions of the model will be reported.

The specific communicative skills incorporated into the model have been drawn from the child language and cardgiver-infant interaction literature and have been sequenced by levels and assigned to one of six communication scales or domains, which include developments related to initiating and maintaining social interaction; using social intermediaries; entity reference; joint attention; action under verbal and gestural control; and perception of causal agency.

Scales of cognitive development and communicative development which include items representative of each level are being administered to each child in order to determine his level of functioning in each domain sequence. Preliminary analysis of the data supports several predictions of the model which, in addition to predicting ordinality of skills within specific domains, suggests where correspondences across domains in terms of level of performance should exist and where such correspondences are not to be expected.

Besides clarifying aspects of the nature of the organization of communication skills and their relationship to levels of cognitive organization, the research based on this model has direct implications for assessment and intervention with communication delayed youngsters since it suggests what may be the important component skills at one level of communicative development that are necessary for progress to the higher levels of organization that underlie more effective communicative interactions.

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SIBLEY, Linda Bauer (Massachusetts Institute of Technology)

Development of the Use of Case and Word-Order Information in the Comprehension of Reversible SVO and OVS Active Russian Sentences

Thirty four children (ages 1 year, 10 months to 5 years, 5 months) learning Russian as a native language participated in a study of the

acquisition of Russian case and word-order rules. The present paper focuses on the results of the comprehension task.

The subjects were asked to act out with props their understanding of reversible SVO and OVS active sentences. The least linguistically advanced children (as measured by production data) performed at or below chance level in comprehension of both SVO and OVS sentences. The most advanced group performed with high accuracy on both types. There were two intermediate patterns. The "transitional" pattern was characterized by high accuracy on SVO sentences and chance level performance on OVS. The "reversal" pattern was characterized by high accuracy on SVO sentences and a systematic reversal of OVS sentences: the first noun was regularly interpreted as the agent.

In English language studies of the comprehension of reversible active and passive sentences, two similiar intermediate patterns are found. They appear as distinct, developmentally ordered stages, with the "transitional" stage preceding systematic reversal. The Russian data, however, do not support the interpretation of distinct stages. Possible explanations of the relationship of the transitional patterns in Russian are explored: that the measure of linguistic development used is not accurate enough to distinguish seperate stages; and that the two transitional patterns represent alternative developmental paths.

The Russian results are compared to information from other languages, especially Hakuta's study of Japanese.

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SKARAKIS, Elizabeth (University of California - Santa Barbara and Children's Hospital of Los Angeles) and GREENFIELD, Patricia M. (University of California at Los Angeles)

The Role of Old and New Information in the Linguistic Expression of Language-Disabled Children

Children, as early as the one-word stage, selectively verbalize the changing, or new, or uncertain element in a nonverbal situation (Greenfield and Smith, 1976; Greenfield, 1978; Greenfield and Zukow, 1978). However, the single-word utterances of language-disabled children do not show this sensitivity to patterns of change and redundancy (Snyder, 1975).

The purpose of this study was to investigate the differentiation of new and old information in language-disabled children beyond the single-word stage by comparing them with normal children matched for language level. Forty-eight normal and language-disabled children at two language levels were shown three paired sets of pictures, each depicting a different continuous event over a series of three pictures. Within a pair, sets contrasted on which element was presented as constant or old and which as changing or new in the final picture of each series. In each series, the experimenter described the first two pictures and the subject's task was to describe the final picture.

Statistical analysis revealed no significant difference between normal and language-disabled children in their tendency to verbalize new information or in the linguistic strategies used at a given language level. However, strategies for treating old information differed at the two language levels. Linguistically less advanced children often omitted old information, while more advanced children generally pronominalized it.

The results indicate that the speech of language-disabled children is sensitive to the distinction between old and new information under the condition of our experiment. Clinical implications include consideration of "information value" when presenting stimuli in language remediation activities.

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SNYDER, Lynn (University of Denver), BATES, Elizabeth, and BRETHERTON, Inge (University of Colorado)

The Transition from First Words into Syntax: Continuities from 13 to 20 Months

What is the relationship between first words and the passage into syntax several months later? Can we trace continuities in the level and style of analysis that children bring to bear on language learning, or is naming a discrete phenomenon unrelated to the acquisition of grammar? Our research on the emergence of naming has focused on the relationship between comprehension and production in early vocabularies, and the role played by the supporting context as symbols become "distanced" from their referents. For example, we have reported that the production of common names at 13 months is an excellent indicator of symbolic ability in general (including non-linguistic areas like symbolic play). This finding concerning common nouns is reminiscent of findings by other investigators concerning individual differences at later stages, e.g., the "referential" style of 18 month olds discussed by Nelson and by Ramer, and the "nominal" vs. the "pronominal" styles discussed by Bloom.

In a longitudinal study of 27 children, we have compared the structure of comprehension and production vocabularies at 13 months with performance in one and two word speech at 20 months. Our findings do suggest clear continuities between these two periods, both in level and style of performance. The 13 month data includes intensive interviews with the mothers concerning the contexts in which children used and understood object names, proper nouns, and a variety of functors and predicate terms. The resulting comprehension and production vocabularies were then classified according to the degree of contextual support involved in the child's usage (e.g. "ball" used to name at least two related objects in more than one context). These classifications were validated against the child's performance on a variety of home and laboratory tasks. At 20 months, the mothers were interviewed again, with lengthy vocabulary checklists and queries into the child's usage of single words and, where applicable, multiword speech. 20 month measures included temporal decontextualization (e.g. the ability to talk about absent objects or past events), aspects of dialogue (e.g. answering questions about locations or events), case relations, rates of imitation and labelling, and types of multiword speech.

Our results suggest that the continuities from 13 to 20 months are somewhat different for comprehension and production. Comprehension at the 13 month session correlated with temporal decontextualization, dialogue and single word case relations at 20 months--in short, with sophisticated uses of language even within the constraints of a small productive vocabulary and a single word limit. Production at 13 months correlated with these variables as well, but was also significantly related to rapid expansion of vocabulary and multiword speech at 20 months. Finally, we also find evidence for continuity in style. At 20 months, our children also varied along the dimension described by other investigators: noun phrase elaboration vs. heterogeneous and perhaps formulaic utterances with pronouns and scattered aspects of verb morphology. The apparent referential or noun phrase style in early grammar was correlated with high level production of common object names at 13 months, and in particular with context-flexible uses of early words.

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SOWERS, Susan (University of New Hampshire)

Young Writers' Preference for Non-Narrative Modes of Composing

Purpose (to show): First grade children, when allowed daily opportunities to write and a free choice of topic and mode, write other modes of discourse before they write narrative.

The data: The evidence comes from writing products and processes. Of the books chosen by twenty-one children for classroom publication, 40% (11 of 28) published in November, 55% in December, and 65% in January were narratives the children had written.

I counted a book as a narrative if at least half the pages (usually with only one or two sentences this early) told an event in sequence. A second kind of book I called a category book. Frequently titled "All About...", its author made a series of statements about the topic. A third kind I called an attribute book. The content is affective ("I like..., "I love..."), the assertions are global ("...is nice," "fun", "good"), and unsupported with information.

One case study child shows the difference in behavior between writing a narrative and a non-narrative. (1) Increased restlessness while composing narratives indicated a greater difficulty and a need for distance. (2) When she began to draw figures in profile and thus show action as part of prewriting, she drew more narrative pieces (29% narratives before profiles; 65% after drawing profiles.)

Implications: Since narrative does not appear first, it may not be a developmentally earlier form than categorization. Marie Clay found young writers write inventories, yet Moffett assigns narratives the lowest rung on the ladder of verbal abstraction and Britton believes narrative to be the earliest written form the writer internalizes. Children may not draw on written forms in earliest writing. Curriculum reflects narrative's low place in the hierarchy, but children's behavior may not.

STRAND, Kristine and FRASER, Bruce (Boston University)

That's the Way the Cookie Crumbles: The Development of Idiom Comprehension in Children

Recent studies in semantic development have emphasized children's acquisition of the meaning of single words. Little research has focused on children's acquisition of idiomatic expressions. A single study investigating children's comprehension of idioms (Lodge and Leech) found that the acquisition of idiomatic meanings increased significantly after nine years of age. Clark and Clark have suggested that an idiom must have a different lexical entry, one unrelated to the entries for each of the individual words. Carey has argued that specific information related to limited contextual use is included in children's developing lexical entries.

The purpose of the present study was to investigate the following questions: 1. Do children apply similar strategies in learning the meaning of idioms as they apply in acquiring the meaning of single

lexical items? 2. If the possibility of literal interpretation is controlled, do children show accurate comprehension of idioms earlier than nine years of age?

The subjects were 40 normal English-speaking children between 5-12 years. The stimuli were twenty common idiomatic expressions. Each subject completed the following tasks: Idiom comprehension and explanation - the subject pointed to the picture that best showed what the idiom meant and explained why that picture was the best choice. For each idiom, the subject was shown four pictures none of which represented the literal meaning. Literal meaning comprehension - the subject was shown a different set of pictures which depicted literal interpretations of the sentences. The subject pointed to the picture that showed the literal meaning.

The results showed that, contrary to the findings of Lodge and Leech, even the youngest children (5 years) pointed to and correctly explained some of the idiomatic meanings. Also, there was a steady increase in comprehension of idiomatic meanings from 5-12 years. All the children correctly identified all the literal meanings of the sentences. However, an error analysis of the idiom responses revealed that prior to mastering the adult meaning, the children often had a partial understanding of the idiom which involved specific limiting contexts.

These results have important implications for a theory of semantic development. They suggest that children employ similar strategies in the acquisition of meaning of both idiomatic expressions and single lexical items. Idioms appear to be separate lexical entries. The techniques used in this study form the basis for a current investigation of some of the strategies that language disordered children are using in their acquisition of language.

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THOMAS, Elizabeth K. (Boston University)

It's All Routine: A Redefinition of Routines as a Central Factor in Language Acquisition

A central argument in language acquisition research concerns the extent to which parental speech may facilitate the child's acquisition of formal linguistic structure and pragmatic ciscourse rules. Investigations like those of Berko-Gleason (1975) and Blount and Padgug (1976) which describe and contrast fathers' and mothers' syntactic preferences and speech features, do not however relate the parental language to their children's linguistic development. This paper describes one aspect of an extensive discourse analysis of parents' influence on children's conversational development. The findings reported here of parental use of syntactic routines to their Stage I children challenge the limited assumptions that have been made about the nature and learning of routines, and argue for a redefinition of routines as a central factor in any unified theory of language acquisition.

Procedure: The data consist of videotapes of 12 father-child and 12

mother-child dyads in 30-minute episodes of free play and structured interactions when the children were 16, 19, and 22 months of age. A five part discourse analysis based on the work of Donahue (1978) and Keenan, et al (1974-5-6) examines formal relations and structure, propositions, repairs, and intonation. Only the aspects of Prosody and Syntactic-Pragmatic Categories of Talk are discussed in this paper.

Results: Differences between children in amount of verbalization and the use of nominations vs. prosodic jargon correlate with the differential use of certain categories by the parent(s). The amount of parental verbalization was related to feedback from the child, and the correspondence of the discourse strategies of mother and father pairs was notable. But despite the differences in family styles, the majority of all parental utterances employed the same prosodic and syntactic prefabrications to serve the pragmatic functions of attention getting, encouraging, and eliciting and controlling non-verbal and verbal child behavior. This recombinable, routine phrase structure language of all parents appears to be a most powerful influence on the emergent communicative utterances of the children.

Implications: Investigations of routines have centered on openings, closings, and politeness and greeting rituals, and it has been assumed that learning routines is a different process from the learning of lexical items and syntax. I shall claim that the processes appear to be the same; that the input language to children under the age of two is so routinized that the ability to learn routines may be a critical (inate) factor in language acquisition; that the definition of routines must be expanded to include a large part of the phrase structure grammar that composes the earliest parent-child conversations. These findings have implications for the arguments against communicative and conceptual inputs as the sole bases of language acquisition.

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VerHOEVE, James, STEVENSON, M.B. and LEAVITT, L.A. (University of Wisconsin-Madison)

The Contexts of Infant Vocalization and the Beginnings of Conversation

Four-month-old infants were observed at home during one hour of interaction with their mothers. A keyboard recording system was used to record the behaviors and their time of occurrence. During the observation session, one observer recorded the mother's actions and another observer recorded the infant's behavior. The two records were then meshed in real-time, and checked for coding errors using a computer programmed editing system.

An event lagged analysis program (Sackett, 1978) was used to compute the conditional probabilities of infant vocalizations for five events following the occurrence of a criterion, or context, behavior from a total of 11,057 recorded behaviors.

It was found that the likelihood that an infant vocalizes was significantly greater than its expected, or chance, probability when the mother

initiated smiling. In general, maternal behaviors of gazing, touching, and vocalizing tended to depress infant vocalizing.

When the infant's own vocalization was used as a criterion behavior, it was found that the conditional probability of subsequent infant vocalization was above chance level for the entire five-event window. Additionally, infant gaze was a potent elictor of both maternal and infant vocalization.

The beginnings of 'conversation' were seen in an alternation of infant and maternal vocalizing under the context maternal smiling. Additional evidence of turn-taking in vocalizations was seen within the context of infant looking at the mother. By the use of lagged event analysis, we are able to demonstrate, in 4-month-olds, multiple sequences of vocal and visual signal interchange: the beginnings of conversation.

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WALES, Roger (University of Melbourne) and SOLBERG, Meryl (Massachusetts Institute of Technology)

A Re-examination of Two Universals

Many putative acquisition universals can be subjected to stronger tests than Western cultures afford. We examine two claims, using cross-linguistic/cultural evidence: I The same small set of semantic/grammatical relations are signalled in stage I speech in all languages. II "Since P-space (perceptual space) is a human universal, it should condition L-space (linguistic space) in every language." (Clark, 1973)

The possession relation appears in all available stage I data from various languages. Yet the cultures sampled are relatively homogeneous with respect to the possession parameter. Amerindian cultures provide a contrast with other groups in negatively valuing personal wealth and possessions. We examined longitudinal naturalistic data from four children growing up in on such Amerindian culture. We found developmental differences with previously studied groups in both production and comprehension.

Spatial expressions predominated over referential expressions in general in our naturalistic data. Clark hypothesizes that P-space (and thus L-space) has certain universal characteristics, leading to specific developmental predictions: 'In front' should develop before 'Behind' (and 'Before' before 'After'): 'There' should develop before 'Here' (and 'Then' before 'Now'). We first tested these claims in comprehension experiments using four age groups (4-6 years) of english speakers. While the spatial terms precede the temporal in the first quartet, they do not precede them developmentally in the case of the second quartet. We also fail to find developmental differences in the comprehension of 'front/before' versus 'behind/after', and, contrary to the predictions based on a universal structure of P-space, find that the proximal terms are favored over the distal terms. These specific disagreements with Clark's predictions are of interest because while Clark assumed that the moving ego metaphor of time universally took the form of future time

in front, past time in back of ego, in Kwaio, Aymara, and the Amerindian language we are investigating this direction is reversed. Distal terms are also phonologically more marked than proximal terms. We are in the process of examining the development of space/time semantics in that language with reference to the P/L-space universals proposed by Clark.

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WILCOX, M. Jeanne and WEBSTER, Elizabeth J. (Memphis State University-Tennessee)

Early Discourse Behavior: An Analysis of Children's Responses to Listener Feedback

This study explored strategies used by young children when listener feedback indicated that their communicative attempts were not accurately understood. Specifically the study investigated whether their strategies were related to 1) the type of listener feedback provided, and 2) the lexical and syntactic options available to the speaker.

Sixteen children in Stage I of language development who evidenced use of two-word constructions served as subjects. The children were selected so that there were differences in their vocabulary sizes and the number of productive syntactic coding rules they used. Four subject groups were designated as 1) low vocabulary (less than 70 words) and low syntax (one productive coding rule), 2) low vocabulary and high syntax (two or more coding rules), 3) high vocabulary (more than 90 words) and low syntax, and 4) high vocabulary and high syntax. Children ranged in age from 17 to 24 months and in MLU from 1.10 to 1.58 morphemes.

An investigator played with each child in his/her home for two or three visits and provided a standard set of common objects and toys. All visits were videotaped. During play the investigator created communicative failure by pretending to misunderstand every other spontaneous request (linguistic or nonlinguistic) produced by the child.

The investigator created failure by 1) indicating that the proposition as well as its intent were not accurately received by saying "What?" and 2) created failure with only the intent of the proposition by saying "Yes I see/have it." Thus in this second condition the investigator attended to the communicative referent but responded to the request as if it was a declarative statement.

From the videotapes the children's behaviors subsequent to the feedback creating failure were classified as either 1) a recoding of the original proposition, 2) a repetition of the original proposition, or 3) an abandonment of an attempt to recommunicate the message.

Statistical analyses of these data indicated significant effects with respect to feedback type. A larger number of repetitions were observed in response to feedback in the form of "What?". More recordings and

abandonments were observed in response to feedback directed toward the intent or performative aspect of the children's messages. The subject groups did not differ in their tendencies to recode or abandon messages. Children with low vocabularies employed repetitions to the greatest extent.

These results have important implications regarding the question of young children's knowledge of socially acceptable discourse behavior. Discussion will focus on the following issues: First, the two feedback types served different functions and provided different speaker options. The patterns of the children's responses suggests an awareness and use of socially appropriate speaker options. Second, children's level of linguistic functioning (in terms of lexicon and syntax) appeared to play a minimum role in their use of socially acceptable communicative behavior. This implies a partially independent course of development of social communicative and linguistic abilities.

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WOLF, Maryanne (Brandeis University)

The Relationship of Word-finding and Reading Disorders

In research with language and reading-impaired children (Bashir, 1978; Denckla, 1978) and with aphasics (Goodglass & Kaplan, 1972: Luria, 1970) there is reported a frequent, unexplained co-occurrence between dysnomia (word-finding or naming disorder) and reading failure. Based on this finding, the present study investigates the hypothesis that subtle word-finding disorders may disrupt the automatic functioning of particular subprocesses involved in reading. A multi-component process model of naming and reading, based primarily on neurolinguistic research, was constructed and depicts hypothesized intersections with reading. This study emerged from implications of the model and addresses three questions: 1) Is there a relationship between naming and reading? 2) Will a naming/reading battery differentiate reading level and age groups in children? 3) Will differences found between age and reading groups be developmental or qualitatively different?

A battery of 12 naming and reading measures (each tapping model components) was administered to 64 children (32 poor and 32 average readers) in three age groups. Tests included: Boston Naming Test (with "Tip of the Tongue" probes), PPVT, perceptual, phonological, semantic, rapid automatized naming tests, and oral and silent reading tests.

Results indicate a strong relationship between word-finding and reading. Naming measures are significantly correlated (.7385; $p < .00001$) with reading tests. Average readers were significantly different from poor readers on every test ($p < .001$), except less "linguistic" perceptual and number tests. Age groups differed ($p < .001$) on all tests. The pattern of development for average readers was developmentally orderly, while poor readers had radically different patterns of development and appeared to plateau at 8-9 years.

The first finding of this research is that there appear to exist qualitative differences in word-finding processes between poor and average readers. Second, the battery seems to be highly useful--particularly the Boston Naming Test, F Set Test, and RAN Letters test--for detecting subtle language and reading disorders and for uncovering tacit linguistic knowledge in children. Implications for reading include: 1) a neurolinguistic account of word-finding and reading; 2) support for a polyetiological view of reading disorders; and 3) evidence for unexpected motor area dysfunctioning in poor readers.

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