Boston University
School of Education

The Third Annual Boston University Conference on Language Development

George Sherman Union
September 29 and 30, 1978

Meeting Handbook

Boston University
School of Education

The Third Annual Boston University Conference on Language Development

George Sherman Union
September 29 and 30, 1978
Meeting Handbook

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

Chaired by Mark E. Bernstein

George Sherman Union, 775 Commonwealth Avenue, Boston, Massachusetts

foreword

Well, here we are again - a third weekend devoted to what we hope will be a stimulating exchange among professionals who, like those of us in the Program in Applied Psycholinguistics, seek to gain a greater understanding of issues in language development.

By this time, some of the nail-biting and finger-crossing that accompanied our novice and second annual Conference efforts has dissipated, thanks in large part to the wisdom and continuity provided by past Conference coordinators Elizabeth K. Thomas, Nancy Hoar, and Mavis Donahue.

The success of the first two Conferences has been gratifying. This year we are pleased to have Professor Bever continue the provocative series of keynote lectures begun by Professors Lila Gleitman and Roger Brown. We have also experimented with a slightly different format this year, one which we hope will maximaize opportunities for the development and exchange of ideas and information. We are grateful to John Dore, Deborah Keller-Cohen, Paula Tallal, and Sean Walmsely for their efforts in developing what we feel will be rewarding special-interest sessions on Saturday afternoon.

The Language Development Conference originated as, and continues to be, an entirely student-run endeavor. This year, thanks go to the following program members whose hectic days and late nights made this Third Annual Conference possible: Kristine Strand, Program; Blanche Korngold, Treasurer; Rebecca Kantor Martin, Publicity; Nan Bernstein, Handbook and Advertising; Michele Banker, Exhibits; Frank Flynn, Facilities; Roberta Greene, Registration; Ellen Rintell, assorted invaluable efforts. Special thanks go to Linda Watson for her invaluable help.

The Conference staff also wishes to acknowledge the faculty and administrative support which continues to ease rough spots along the way: Professors Paula Menyuk, James Flood, Bruce Fraser, Jean Berko Gleason, Ronnie Wilbur and Maria Brisk; Joan Dee, Assistant Dean of Communications; and Barry Weiss, Assistant Dean of Finance. Special thanks are extended to Robert Dentler, Dean of the School of Education, and to Paul Warren, Associate Dean of Research and Development, whose continued interest and support have continued to make a real difference in the organization and management of Conference affairs.

Choosing the papers which will be presented this year was an especially difficult task, as an extraordinary number of papers was submitted for review. Thanks go to the following members of the selection committee; they have, in large part, determined the flavor of this conference: Nancy Backman, Nick Bankson, Leslie Berg, Nan Bernstein, George Branigan, Esther Greif, Kurt Kohn, Blanche Korngold, Carol Levy, Jackie Liebergott, Lise Menn, JoAnne Miller, Loraine Obler, Ellen Rintell, Judy Schickedanz, Bill Stokes, Sandy Thomas, Linda Watson, Ronnie Wilbur and Lee Williams.

To all of you attending the Conference this weekend - Welcome! We hope you enjoy our forum.

Mark E. Bernstein,
Third Conference Coordinator

contents

information & program

GENERAL INFORMATION

Location

All sessions will be held in the George Sherman Union Building at 775 Commonwealth Avenue. Registration will be held on the second floor, in the Stone Lobby.

Keynote Address

Professor Thomas G. Bever, Columbia University, will deliver the keynote address at 8:00 p.m., Friday, September 29, in the Ballroom on the second floor.

Reception

A wine and cheese reception will be held in the Ballroom following Professor Bever's address.

Book Exhibits

There will be a publishers' exhibit of books during both days of the conference in the Ziskind Lounge on the second floor of the Union.

Sign Language Interpreters

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

New England Child Language Association

NECLA will hold a business meeting at 1:00 on Saturday in the Terrace Lounge.

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 Handbook are also available for $1 each.

Checkroom

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

Lost and Found

Lost items can be turned in to the information desk adjoining the cloakroom in the Stone Lobby. Please do not leave them at the Registration desk.

CONFERENCE PROGRAM

Friday, September 29, 1978

12:00 - 4:00 p.m. 7:00 - 8:00 p.m.	Registration	Stone Lobby
1:00 p.m.	Welcoming Addresses Dean Dentler, Professor James Flood	Ballroom
2:00 - 5:30 p.m.	Friday Afternoon Sessions	
8:00 p.m.	Keynote Address Professor Thomas G. Bever (Columbia University)	Ballroom

---

Sociolinguistics/Classroom Interaction — Ballroom
Chair: Sandra Weintraub, Beth Israel Hospital, Boston

2:00 Peggy Miller (Columbia University). "Early Language Development of Three Children from a White, Working-Class Community"

2:30 R. Jones and M.C. Pouder (Centre National de la Recherche Scientifique and University of Paris, France). "Classroom Language in Children of Contrasted Social Backgrounds"

3:00 Gale Hilary Nigrosh (Clark University). "Bad Language in 3- and 4-Year-Olds: Children's Use of Profanity from the Perspective of Developmental Sociolinguistics"

3:30 BREAK

4:00 Edythe R. Shapiro (SUNY, Albany). "Structural Relations among Teacher Directives, Child Comprehension Behaviors, and Teacher Reactions"

4:30 Margaret Bruck and Susan Ruckenstein (McGill-MCH Learning Center) "Teacher Speech to the Language-Disabled Child"

5:00 Reaction by Session Chairperson

Phonological Development — Conference Auditorium
Chair: Victor Zue, Massachusetts Institute of Technology

2:00 Anne Fernald (University of Oregon). "Rhythm and Intonation in Mothers' Speech to Newborns"

2:30 Nan Bernstein and Saeeda Jeje (Boston University). "Higher Pitch in Baby Talk...Are These Trix just for Kids?"

3:00 William Stokes (Lesley College) and George Branigan (Stonehill College). "On the Definition of Two-Word Utterances: Or when does 1+1=2?"

3:30 BREAK

4:00 Peter A. de Villiers and Jill G. de Villiers (Harvard University), "Simplifying Phonological Processes in the One- and Two-Word Stage."

4:30 Mary Louise Edwards (Stanford University). "Word-Position in Fricative Acquisition"

5:00 Reaction by Session Chairperson

Bilingualism/Second Language Acquisition — Room 314
Chair: Lucy Briggs, Boston University

2:00 Uriel Meshoulam (Merrimack College). "Language Skills, Egocentrism, and Referential Communication"

2:30 Frances Joyce Shapiro (Ramapo College of New Jersey). "The Nature of Code-Switching in Spanish-English Bilingual Elementary School Classes"

3:00 BREAK

3:30 Ellen M. Rintell (Boston University). "The Pragmatic Ability of Second Language Learners: The Effect of Context on Variation"

4:00 Judith Chun (Stanford University). "Making a Good Impression: Native Speaker Tolerance of Language Learners' Errors"

4:30 Steven Pinker and David Birdsong (Harvard University). "Knowing What Sounds Right: Sensitivity of Speakers to Rules of 'Freezing' in First and Second Languages"

NOTE: This paper should be cited as Birdsong, David, and Pinker, Steven; not as listed.

5:00 Reaction by Session Chairperson

Psycholinguistics: Selected Papers — Terrace Lounge
Chair: Ronnie Wilbur, Boston University

2:00 Robert Hoffmeister (Temple University). "Word Order in the Acquisition of ASL"

2:30 Thomas N. Kluwin (Gallaudet College). "The Development of Preposition Usage in the Written English of Deaf Adolescents"

3:00 BREAK

3:30 Mark E. Bernstein (Boston University). "What Is a Chair? Prototype Structure in the Acquisition of a Basic Category"

4:00 Sean Walmsely and Peter Mosenthal (SUNY Albany). "Children's Acquisition of Natural Inferences"

4:30 Charles Suhor (National Council of Teachers of English). "Sentence Manipulation and Cognitive Operations"

5:00 Reaction by Session Chairperson

Friday Evening Session

8:00 KEYNOTE ADDRESS — Ballroom

What if Language Is Discovered Instead of Learned?

Professor Thomas G. Bever
Columbia University

RECEPTION: A wine and cheese reception will be held in the Ballroom following Professor Bever's address.

Saturday, September 30, 1978

8:30 - 11:00 a.m. Registration — Stone Lobby

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

1:00 - 2:00 p.m. NECLA Annual Meeting — Terrace Lounge

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

Language and Reading — Terrace Lounge
Chair: Jeanne Chall, Harvard University

9:00 Susan Ehrlich (University of Rochester). "Context and Visual Sensitivity in Reading"

9:30 Stephanie H. McConaughy (University of Vermont). "A Developmental Model for Story Comprehension in Reading or Listening"

10:00 BREAK

10:30 Peter Mosenthal (SUNY Albany). "The Effects of Children-Teacher's Discourse Interactions on Children's Comprehension of Written Discourse Structures"

11:00 Judith W. Gourley (University of Massachusetts, Amherst). "The Role of Discourse Regularities in Beginning Reading"

11:30 Patrick J. Finn, Mary E. Finn, and Ellen Friedland (SUNY Buffalo) "Oral Language Complexity, Reading Achievement and Social Class"

12:00 Reaction by Session Chairperson

Language and Cognition — Ballroom

Chair: Jean Berko Gleason, Boston University

9:00 Jon F. Miller, Robin S. Chapman, Mary Beth Branston and Joe Reichle (University of Wisconsin-Madison). "Language Comprehension in Sensorimotor Stages 5 and 6"

9:30 Sharon L. Oviatt (University of Toronto). "Three Stages in the Emergence of Communication Skill"

10:00 Roy D. Pea (The Rockefeller University). "Early Negation: The Development from Relating Inner States to Comments on the External World"

10:30 BREAK

11:00 Deborah Knapp (Hampshire College). "Automatization and Language Acquisition"

11:30 Susan Curtiss and Jeni Yamada (U.C.L.A.). "Language ≠ Cognition"

12:00 Reaction by Session Chairperson

Syntax — Room 314

Chair: Samuel J. Kayser, Massachusetts Institute of Technology

9:00 Lawrence Solan (University of Massachusetts, Amherst). "Children's Use of Contrastive Stress in Interpreting Pronouns"

9:30 Joel Katz (Stanford University). "Structural Versus Presuppositional Redundancy in Child Second Language Acquisition"

10:00 BREAK

10:30 Barbara Lust and Cindy Mervis (Cornell University). "The Development of Coordination in the Natural Speech of Two- and Three-Year-Olds"

11:00 Henry Hamburger (University of California, Irvine). "Emergence of Relativization from Phrase-Structure to Transformation"

11:30 Kenji Hakuta (Harvard University). "One Word at a Time, in a Rather Different Sense"

12:00 Reaction by Session Chairperson

Language Disorders — Conference Auditorium
Chair: Anthony S. Bashir, Children's Hospital Medical Center, Boston

9:00 Marc E. Fey, Laurence B. Leonard, Sandra H. Fey and Cathy A. O'Connor (Memphis State University). "The Intent to Communicate in Language Impaired Children"

9:30 Philip Prinz (University of Colorado, Denver). Linda J. Ferrier (Emerson College). "The Comprehension and Production of Requests in Language Disordered Children"

10:00 D.K. Oller, Terril S. Tharp and Diane Coleman (University of Miami). "A Natural Logic of Pragmatic Functions of Language: An Application to Differentiation of Normal and Abnormal Language Development"

10:30 BREAK

11:00 Lyn Haber (University of Rochester). "The Difference Between Language Delay and Language Impairment: Evidence from Acquisition in Mentally Retarded Children"

11:30 Barry M. Prizant (SUNY Buffalo). "An Analysis of the Functions of Immediate Echolalia of Autistic Children"

12:00 Reaction by Session Chairperson

Special Sessions

Saturday 2:00-4:00

First Language Acquisition — Ballroom

Featured Speaker - John Dore (The Rockefeller University)

"Cognition and Communication in Language Acquisition and Development"

Discussant to be announced.

Second Language Acquisition — Room 314

Featured Speaker - Deborah Keller-Cohen (University of Michigan)

"A View of Child Second Language Learning: Using Linguistic Knowledge to Learn Language"

Discussants: Bruce Fraser (Boston University)
Loraine Obler (Boston Veteran's Administration Hospital)

Language Disorders — Conference Auditorium

Featured Speaker - Paula Tallal (Johns Hopkins University)

"The Study of Speech and Language Disorders Yields Insight into Normal Perceptual Processes"

Discussants: Jill de Villiers (Harvard University)
Sheila Blumstein (Brown University)

Reading — Terrace Lounge

Featured Speaker - Sean Walmsely (SUNY Albany)

"Perspective on Reading and Language Disorders"

Discussants: James Flood (Boston University)
Sandra Stodsky (Curry College)

The Conference wishes to thank

NEWBURY HOUSE PUBLISHERS, INC.,

for their generous contribution

See you at The MIT Press booth

We have on display several titles published since our visit to the Conference last year, including:

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

Speech and Language in the Laboratory, School, and Clinic
edited by James F. Kavanagh and Winifred Strange
$22.50

On Human Communication:
A Review, a Survey, and a Criticism
Third Edition
by Colin Cherry
$17.50

In October, we will publish

Six Lectures on Sound and Meaning
by Roman Jakobson
Preface by Claude Levi-Strauss
translated from the French by John Mepham

This short book is a fine introduction to the ideas of Roman Jakobson, one of this century's most important and influential linguists.

With remarkable clarity and vigor Jakobson charts the domain of phonetic studies and makes clear the inadequacy of traditional approaches to the subject. He proceeds to lay the foundations for a science of language considered from the point of view of sound in its relation to meaning.
$13.95

We continue to publish one of the most important journals in the field:

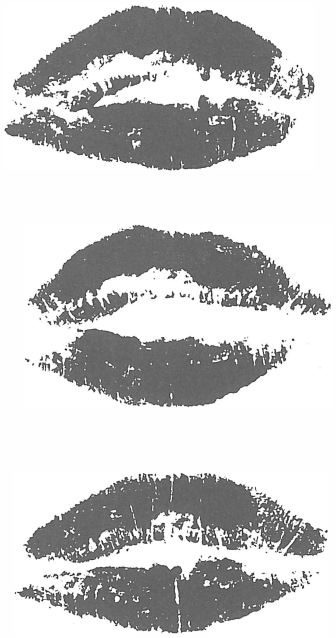
Linguistic Inquiry

annual subscriptions:
individuals, $16.50
institutions, $25.00
students, $14.00

And finally, you are invited to browse through our active backlist titles.

The MIT Press

Massachusetts Institute of Technology
Cambridge, Massachusetts
02142



BERNSTEIN, Nan, and JEJE, Saeeda (Boston University)

Higher Pitch in Baby Talk...are these trix just for kids?

A number of investigators have noted that speech addressed to young children differs from speech addressed to adults in various ways. Specifically, baby talk is characterized by a higher overall pitch (fundamental frequency). Although the motivation for this adjustment in pitch is not well understood, it has been suggested that a possible function it serves in BT is to cue the child to attend to and to segment adult verbal input directed to him, thus facilitating his learning of language (Garnica, 1977).

Gleason (1978) has proposed that pitch variations in speech interaction may occur as a more general pitch-matching mechanism whereby a speaker varies his/her characteristic pitch range to correspond with that anticipated for the addressee, regardless of his/her age. Such a notion predicts such pitch differences may also be expected to occur in a male-female speech interaction context, where the average fundamental frequency (F_0) of the female is typically higher relative to that of the male.

The present study tested such a hypothesis by examining the pitch adjustments made by 15 college students (8 M and 7 F) to interviewers of both sexes. Subjects were recruited to participate in a study reportedly analyzing dialectal variation, and were interviewed twice, once by a female, and once by a male. Each subject performed three verbal tasks at each session: (1) an interview consisting of questions about the subject's general background, (2) reading aloud some written materials, and (3) giving travel directions to the experimenter using a simple, hand-drawn map. Following taping, identical utterances made by subjects in similar contexts to the two interviewers were excised, transcribed, and analyzed, using a computer program for pitch extraction which permitted a visual mapping of the subject's fundamental pitch level and contour for a given utterance. By superimposing the two displays onto a transparency, it was then possible to compare the utterances for possible fundamental frequency differences conditioned by the F_0 of the addressee and/or the nature of the task.

Preliminary analysis of the data suggests that, although differences in F_0 level to the two interviewers may indeed have differed, that such differences lie in an opposite direction to those predicted by the hypothesis; that is, that men lowered pitch when addressing the woman, and vice versa. Should such findings continue to be observed in the data, they would not support a hypothesis that pitch variations seen in BT are simply an extreme form of a more wide-spread communicative strategy. Additionally, it appears that pitch variations observed in our adult population differed both from subject to subject and from task to task, although the precise nature of such variation has not yet been fully explored or described.

At this point, it does appear that adults do not alter pitch when addressing each other in ways comparable to alterations made when addressing young children. The differences observed, however, appear as complex as BT pitch variation, though serving a different communicative function.

BERNSTEIN, Mark (Boston University)

What is a Chair? prototype structure in the acquisition of a basic category

Most studies of prototypical structure in natural language categories have focused on superordinate-level categories such as vehicles or fruit (Rosch, et.al. 1973;1975a,b,c; 1976). There is evidence that this type of structure also characterizes these categories in children as young as three years (Mulford, 1977; Saltz, Soller & Sigel, 1972). It has often been suggested that prototype structure is pervasive in psychological category formation and function, as in memory and acquisition of lexical concepts (Nelson, 1975; Rosch, et.al. 1976). We might expect, therefore, to find evidence of prototype structure at the level of the basic category, i.e. a category composed of physical objects to which a basic lexical term (e.g. chair, pencil, house) is applied. This paper reports the results of a pilot investigation of the internal structure of one familiar basic category, chair, in adults and preschool children.

The questions under study are the following:

(1) Can we demonstrate that a lexical category of physical objects has prototype structure, for adult speakers of English?
(2) Can we demonstrate this type of structure in preschool children? How does the children's structure compare to the adults?
(3) For both groups: Does the explicit inclusion of functional information about the objects alter subjects' judgements? Nelson (1975) suggests that the interaction between functional and perceptual information is central to concept acquisition in young children.

Subjects were 80 English-speaking adults and 50 normal, English-speaking children from 3½ to 5½ years. Half the subjects participated in the first task; the other half in the second. The first task had subjects sorting a group of line drawings depicting a range of objects a person could sit on. Attributes of the objects were systematically varied across such dimensions as length, height, presence of a back, legs, etc. Analysis of the data obtained in the first task resulted in a subset of objects which subjects in each group agreed could be labelled chairs. In the second task, subjects were shown all possible pairings of these objects. They were given instructions to select the one picture of each pair they would choose if they were illustrating a dictionary of English for a visitor from outer space. These instructions were designed to avoid possible ambiguities of instructions of the type "Pick the 'better' chair". The instructions were appropriately adapted for use with the children in order to obtain the same type of judgements. These judgements were analyzed using the method of rank-order scaling by paired comparisons to establish a scale of best-example (most prototypical) to worst example (peripheral category members) for the subset of objects. In each task, half of the subjects judged drawings which contained only the object, while the other half was given functional information; each drawing showed a person sitting on the object.

The results provide clear evidence of prototypical structure for this category. The ways in which functional information affects subjects' judgements, and the resultant different rank-orders will be discussed. Comparisons between the structures obtained from the children and the adults will be discussed in relation to the children's developing ability to coordinate and separate both perceptual and functional attributes of objects.

* * * * *

BRUCK, Margaret, and RUCKENSTEIN, Susan (McGill-MCH Learning Center)

Teacher Speech to the Language Disabled Child

The purpose of the study was to investigate whether and in what ways classroom teachers modify their speech when interacting with language disabled children. Nine children of average intelligence with diagnosed language disabilities were identified in three regular kindergarten classes. In all cases, the teacher was aware of and confirmed the diagnosis. These children were matched with classmates of normal language development. Each teacher was asked to teach each subject in her classroom a language-lotto type task so that the child could subsequently teach this game and play it with a classmate. Each session, approximately six minutes, was audio-taped. Nonverbal behaviors were noted.

Measures described in the "motherese" literature (Snow & Ferguson, 1977) were used to analyze the teacher speech (MLU, type-token ratios, repetitions). As well to describe specific aspects of teacher-child interaction (feedback, correction of errors) a sequential-multidimensional coding system similar to others used in classroom research (Mehan et al., 1976; Sinclair & Coulthard, 1975) was devised. After preliminary data analysis the teachers were informed of the purpose of the project. Their reaction and suggestions were solicited.

Results indicated that the teachers' linguistic input to the language disabled child differed to that of the normal child in terms of functional-communicative strategies (different procedures for repeating rules, correcting mistakes) but not in the use of structural strategies (sentence complexity, lexical diversity). The results are discussed in terms of the function of the differing speech styles; and, the cues that might be necessary, but missing in the present context, to elicit a simplified structural register such as that commonly reported in the "motherese" literature.

References

Mehan, H., C. Cazden, L. Coles, S. Fisher, N. Maroules. The Social Organization of Classroom Lessons. CHIP Report, Department of Psychology, UCSD, 1976.

Sinclair, J., and R. Coulthard. Towards an Analysis of Discourse: the English used by teachers and pupils. London: Oxford University Press, 1975.

Snow, C., and C. Ferguson (eds.) Talking to Children: language input and acquisition. Cambridge: Cambridge University Press, 1977.

* * * * *

MILLER, Jon F., CHAPMAN, Robin S., BRANSTON, Mary Beth, and REICHLE, Joe
(University of Wisconsin-Madison)

Language Comprehension in Sensorimotor Stages 5 and 6

PROBLEM: A general claim that representational thought is necessary to language development has been discussed by many theorists. Here we evaluate that claim for the development of language comprehension in 10- to 21-month-old children by sampling a number of Piagetian sensorimotor tasks and comprehension indices in a cross-sectional study. The factors varied in the comprehension tasks include a number shown to affect performance in the age range studied: number of lexical items; the presence or absence of the referent in the child's visual field; the form class of referent; the semantic relations among lexical items; and the comprehension strategies which the child brings to the task.

NATURE OF DATA: Forty-eight children aged 10 to 21 months, 4 at each month, participated in the study.

SENSORIMOTOR TASKS: Two items assessing sensorimotor stage level at each of Piaget's stages 3 through 6 were constructed for 4 different content areas: object permanence, mean-ends relations, causality, and space. These items were administered twice in two 30 minute test sessions within a week of each other by testing down and up the subscale items ordered by stage to establish floor and ceiling performance. A 10-minute play session with objects was scored for the stage levels of actions observed.

LANGUAGE COMPREHENSION TASKS: The experimenter asked questions and gave commands during two 10-minute test sessions that attempted to establish the child's comprehension for (1) at least two words designating present people (mother, child), (2) present objects. (3) absent people or objects,

and (4) action verbs. For vocabulary understood by child, reported by mother, or reported in other studies, the experimenter tested for comprehension of two and three word constructions of (5) possessor-possession, (6) action-object, (7) agent-action, and (8) agent-action-object.

NATURE OF RESULTS AND DISCUSSION: The factors varied in the comprehension task contributed significantly to task difficulty (2% to 96% passed an item). Changes in comprehension were significantly correlated with age and sensorimotor stage. However, patterns in which a cognitive achievement appeared necessary for a linguistic one emerged only for particular item pairs sharing task content or widely discrepant in difficulty level. Implications for a correlational version of the Cognition Hypothesis are discussed.

* * * * *

CHUN, Judith (Stanford University)

Making a Good Impression: native speaker tolerance of language learners' errors

In an earlier study of second language acquisition in a natural setting involving the acquisition of French by English speakers living in France who received no formal language instruction, I found that language learners, after one year's contact with the second language, performed on a story-telling task very similarly to a group of native speakers in terms of fluency (utterance length and complexity, richness of vocabulary), but not in terms of accuracy (number of grammatical errors). Native speakers, however, rated the spoken French of these language learners very close to that of the "average" native. These findings prompted me to investigate further the reactions of native speakers to language learners' errors in an attempt to identify factors influencing native speakers' perceptions of language learners' speech.

A pilot study was conducted in which thirty short excerpts were rerecorded from the storytelling passages of twenty subjects ages 6-36 who had participated in the earlier study. Correct as well as incorrect passages were included from natives as well as non-natives. The "incorrect" passages included a wide variety of syntactic, morphonlogical and phonological errors. The passages were then played to native speaker children and adults and they were asked to: (1) judge each speaker as native/non-native, (2) rate the overall proficiency of each speaker, (3) identify any errors which occured in pronunciation or grammar, and (4) identify the errors which should definitely be corrected.

A preliminary analysis of the results of the study indicates that:

(1) On the whole, native speakers were quite tolerant of language learners' errors.
(2) Native speaker judges often had difficulty distinguishing between natives and non-natives.
(3) Judges seemed to be evaluating the speakers along two separate dimensions: accent and grammaticality.
(4) When accent and grammaticality were at odds (e.g., good accent, poor grammar), accent seemed to have primacy over grammaticality.

These findings suggest that in this particular language learning situation the learners were making a good impression on native speakers because of their fluency in the second language, and not their accuracy. Future research in this area might clarify the interaction of factors such as accent and grammaticality in "making a good impression" in a second language.

* * * * *

CURTISS, Susan, YAMADA, Jeni (UCLA Department of Linguistics)

Language ≠ Cognition

It has been claimed that language is not a unique cognitive system in itself, but is instead based on general cognitive structures which account for non-language as well as language abilities. We argue against the above claim.

The evidence comes from our research with (a) "Genie", a 20-year old learning her first language after the "critical period" and (b) 6 mentally retarded children, aged 6-9. In addition to in-depth analysis of their productive and receptive language, we examined several non-language abilities, including abilities which have been claimed to be governed by a common cognitive mechanism with language: embedding, disembedding, sequencing, hierarchical construction.

The paper details our research -- methodology, testing, subject population, results, implications.

Our findings show that both of the following patterns were possible for each of the abilities we examined:

(1) the ability to perform linguistic operations coupled with the inability to perform allegedly related non-language tasks
(2) the ability to perform non-language tasks coupled with the inability to perform allegedly related linguistic operations.

If these non-language cognitive functions are governed by the same underlying principles as grammatical operations as is suggested in the literature, both of these patterns should not appear.

Of particular interest is the ability to perform at a high linguistic level along with a low cognitive performance. This profile strongly argues for the independence of grammar from cognitive development.

Since one's theoretical conception of the relationship of language and mind affects the assumptions we bring to linguistic inquiry, our findings have important implications for how we view the acquisition process and for child language research in general.

* * * * *

EDWARDS, Mary Louise (Stanford University)

Word-Position in Fricative Acquisition

Recently many claims, most of which need further substantiation, have been made about fricative acquisition. For example, (1) Ferguson (1975) claimed that substitutions of tighter closure are most prevalent in initial position; (2) Farwell (1977) argued that final position is 'favored' for fricatives (e.g., they are acquired there first); and Ingram (1975) proposed five stages in the acquisition of word-initial fricatives, but he did not discuss other positions. The purpose of the present study is to investigate each of these claims and thereby to clarify the role of word-position in the acquisition of fricatives and affricates.

The subjects were six English-learning children between 1;5 and 2;8 who met the following criteria: both parents native English speakers; no foreign languages spoken at home; no family members with speech problems; Caucasian. Each subject was seen between 8 and 12 times over a seven-month period. During each session the child was encouraged to name a set of stimulus items chosen to elicit the ten "target" sounds (/θ,ð,f,v,s,z, ʃ,ʒ,ʧ,ʤ/) in various word-positions (final, intervocalic, etc.). The narrow transcriptions of all words containing target sounds in their adult form comprise the data for this study.

Preliminary results indicate that (a) final position is 'favored' only for certain fricatives and certain children; (b) substitutions of tighter closure tend to be more prevalent in initial position, but there is variation; (c) the 'stage' a child is in depends on which word-position is investigated. These results show clearly that word-position is a crucial factor in fricative acquisition and one that must be considered in any discussion of substitution types or order and stages of acquisition.

EHRLICH, Susan (University of Rochester)

Context and Visual Sensitivity in Reading

The nature of the effect of context on linguistic processing has been a central concern in recent models. The present research was aimed at examining the effects of context on visual processing of words in text. It was hypothesized that visual sensitivity to words would be lower when those words were highly constrained by context. This was tested by developing paragraphs which were either highly constraining for particular words or neutral with respect to those words. Different sets of paragraphs were presented to second, fourth, and sixth grade children. Words were substituted in the position of the constrained words. The substituted words differed from the originals in terms of a single letter (ie. night-right, horse-house, chair-chain). The subjects were not informed that the substitutions were made. The children read the paragraphs aloud and were tape recorded. It was expected that children would be more likely to misread the substituted words as the originals in highly constraining context. The results supported this hypothesis. It was found, however, that misreadings were rare for words which contained substitutions in the first letter position or for words in which the substitutions altered the overall shape of the word. It is hypothesized that information from peripheral vision is compared to contextual expectations and that the extent of subsequent analysis is based on that comparison. All age groups showed the same pattern of misreadings but subtle behavior differences suggested that the effects may be based on different mechanisms for the younger children.

* * * * *

FERNALD, Anne (University of Oregon)

Rhythm and Intonation in Mothers' Speech to Newborns

The intonation contours, stress patterns, and temporal organization of adult speech are radically altered in speech addressed to neonates. A study of the prosodic patterns of 24 German mothers speaking to their newborns shows that the earliest linguistic input to the infant is highly structured acoustically. Maternal speech samples in 3 experimental conditions were processed on a digital computer with a new real-time pitch extraction technique which allows precise analysis of the critical acoustic parameters of intonation: fundamental frequency, amplitude, and segmental duration. Additional phonological information was obtained spectographically. It was found that 80% of the 1000 maternal utterances analysed conformed to one of six protypical intonation contours. These six basic contours, which differ significantly from the typical intonation

contours of German addressed to adults, are characterised by expanded frequency range, long, smooth, unidirectional pitch excursions, vowel and consonant lengthening, and extensive use of simple harmonic (musical) intervals and rhythmic repetition. Occurence of these prototypical contours is correlated with both linguistic content and structure and the behavioral context. The results suggest that these highly characteristic prosodic patterns serve to enhance the perceptual salience of speech to the pre-linguistic infant. While considerable research has been done on syntactic and semantic aspects of speech addressed to children, this study represents the first systematic acoustic analysis of speech to newborns, an important contribution to the assessment of the earliest linguistic experience of the child.

* * * * *

FEY, Marc E., LEONARD, Laurence B., FEY, Sandra H. and O'CONNOR, Cathy A.
(Memphis State University)

The Intent to Communicate in Language Impaired Children

It is becoming increasingly apparent that the present practice of describing deviant language in terms of phonology, syntax and semantics is inadequate (e.g. Hoar, 1977; Watson, 1977; Gallagher and Darnton, 1978). The purpose of this investigation was to provide a preliminary description of the communicative intentions used by children diagnosed as having language impairments. The speech of ten language impaired children (ages 4 to 7) was sampled in each of two play interactions, one with a normal, age-matched subject and one with a normal, MLU-matched subject. Each videotaped interaction was transcribed and coded using a modified version of Dore's (1977) system for coding communicative intentions.

The data will be discussed in terms of: (1) an overall comparison of the communicative intentions of normal and language impaired children; (2) the relationships, if any exist, between the use of a variety of communicative intentions and MLU/age; and (3) any similarities or differences in the language impaired children in the two experimental conditions.

Preliminary results indicate that the communicative intention repertoires of at least some language impaired children are less varied than those of their normal counterparts. It will be argued that awareness of such deficits is critical and that use of this information may aid in the development of more effective strategies for remediating language problems.

FINN, Patrick J., FINN, Mary E. and FRIEDLAND, Ellen
(State University of New York at Buffalo)

Oral Language Complexity, Reading Achievement and Social Class

PURPOSE: To study the relationship between oral language complexity, reading achievement and social class.

DATA: We are in the third year of a longitudinal study focusing on the relationship between linguistic and cognitive development, social class and school success as measured by reading scores. The data reported in this paper consists of speech samples of 60 first graders (randomly chosen from the total population of approximately 200 children in urban and suburban schools). The oral discourse was elicited by the use of two stimuli: (1) "picture stories" following Hawkins' model (Hawkins, 1969) and (2) Duso pictures (American Guidance Service, 1973).

The discourse was transcribed and analyzed with Laura Lee Developmental Sentence Scoring method (Lee, 1974). The pronouns in the discourse elicited by the "picture stories" were analyzed in light of the anaphoric/exophoric distinction.

ARGUMENTS: (a) We expect the data to show a positive relationship between social status, language complexity, use of anaphoric pronouns and reading achievement. We also propose to test the reliability of the Lee measure by comparing these first grade results to the results obtained the previous year.

(b) Other data obtained from the longitudinal study reveal that social class, language development (as measured by the Northwestern Syntax Screening Test) and cognitive development (as measured by Piagetian classification tasks) each accounts for significant independent variance in reading success (as measured by the Gates-McGinitie Reading Test of Vocabulary and Comprehension). We expect pronoun usage and linguistic complexity will also account for significant independent variance.

(c) The longitudinal study data also indicate that correlations are considerably stronger in the urban than the suburban population. Therefore, we argue, the same differences will exist in these measures of oral language between urban and suburban groups.

IMPLICATIONS: All of the variables in the longitudinal study: linguistic, cognitive, and environmental, are thought to be related to the reading process. However, no previously reported research measures the interrelationships and the relative importance of each over a period of time with a large population. By assessing the role of each type of variable (as well as the instruments used to measure them), it is hoped that a model of the factors affecting the reading process can be developed.

GOURLEY, Judith W. (University of Massachusetts)

The Role of Discourse Regularities in Beginning Reading

Books written for beginning readers often bear the label "easy to read", but there is little empirical evidence to support the assumption that the forms of language typically used in these books make reading easy for children. In fact, because texts for beginning reading instruction generally treat the word or the sentence as the basic unit in language, they frequently violate discourse regularities which may facilitate the processing of natural language. The purpose of the research reported in this paper was to investigate the effects of specific features of discourse structure on children's oral reading and comprehension of texts.

An earlier examination of basal reading programs by this author revealed violations of discourse regularities governing the appropriate use of anaphoric pronouns, definite and indefinite articles, and active and passive sentence structures. Texts including such violations were selected from basal readers and these texts were systematically modified to form a set of alternate texts in which the discourse regularities were honored. Eight beginning readers each read two or three stories aloud, orally recounted the stories, and answered specific questions designed to assess comprehension and recall of the features under investigation.

Analysis of the data is incomplete at this time, but preliminary results indicate that the original texts, which violated discourse regularities, were not easier for beginning readers than the more natural altered texts. Miscues, retelling scores and protocols, and responses to questions will be compared across the two versions of the texts to suggest hypotheses for future research. This study represents a preliminary extension of recent psycholinguistic research on discourse processing into the domain of beginning reading and has practical implications for the development of instructional materials.

* * * * *

HABER, Lyn (University of Rochester)

The Difference between Language Delay and Language Impairment: evidence from acquisition in mentally retarded children

Ingram (1976) and Haber (1977) make a distinction between language delay and language impairment which has two components: (a) manner of acquisition -- delay is normal-but-slow, impairment is deviant; and (b) time-delayed children will eventually achieve adult competence, impaired children will never do so.

To explicate "deviance" and test the time component, I administered the Kypriotaki (1974) Aux repetition test to 86 mentally retarded children (I.Q.'s 20-81), aged 6 - 19, who had no known hearing or neurological deficits. The test contains 48 sentences seven words in length, corresponding to each of the eight Aux frames realized from the Chomsky (1964) formula, each in six transformations.

Results on the three criteria scored (% correctly rendered transformations [independent of the grammaticality of the Aux], % grammatical Auxes, % Nonstatements [repetitions lacking a subject NP and/or a main verb]) were bimodal and virtually perfectly correlated. The combined bimodal distribution confirmed the distinction between two types of children, labeled "delayed" and "impaired."

As predicted, the "impaired" children's responses were asystematic, so that no linguistic strategy could account for them; the responses of the "delayed" group resembled those collected and reported previously from normal but younger children.

As predicted, older impaired children were indistinguishable from younger ones on all criteria, whereas all the older delayed children performed better on all criteria than the younger delayed children. This indicates that the delayed group improves over time and the impaired group does not.

Researchers have disagreed as to whether the language of mentally retarded children is delayed or deviant (e.g., Lackner, 1968, and Menyuk, 1964). This study shows that retardates are not a homogeneous group. Rather, some retardates' language was normal but typical of younger children; others produced utterances unlike those of normal children at any stage of acquisition. Furthermore, impaired children do not improve over time on the criteria tested whereas delayed children do. These findings confirmed the theoretical distinction between delay and impairment.

* * * * *

HAKUTA, Kenji (Harvard University)

One Word at a Time, in a Rather Different Sense

Studies of children's use of word order in comprehension of simple sentences in non-English languages have recently been reported, and within English, there are studies investigating the extent to which generalizations from comprehension of simple sentences can be extended to more complex sentences containing relative clauses. This paper is on the comprehension of complex sentences by Japanese children, and argues that comprehension biases found for simple sentences cannot be directly extended to complex sentences, but

that given a key assumption that children are not good at assigning a given noun appearing in the surface structure to multiple verbs in the sentence, the relationship turns out to be quite straightforward. It has been previously demonstrated that Japanese children prefer the SOV order over OSV for simple active sentences. In the present experiment, 3-5 year-olds were tested for comprehension of complex sentences where the first noun (N1) of the sentence was a complex phrase (CNP) with an intransitive verb (Vi). The Japanese configuration was [Vi N]-particle N-particle Vt. Superior performance on OSV was found. Simple sentences and two additional conditions (N1 was marked by various pragmatic means) all showed superior performance on SOV. The critical assumption to explain the OSV superiority for the complex sentences is that, once N1 is assigned to Vi, N2 receives high priority to be agent of the transitive verb (Vt). This would lead automatically to a correct interpretation for OSV. Additional experiments show that (1) the effect is reversed as predicted when using passives; (2) the predictions hold also when N2 is a CNP; and (3) the effect holds when the CNP contains a Vt, but not for the structurally identical adjectival phrase. The discussion relates these conclusions to some theoretical linguistic considerations and what its learning presupposes.

* * * * *

HAMBURGER, Henry (University of California, Irvine School of Social Science)

Emergence of Relativization from Phrase-Structure to Transformation

Syntactic development remains of central importance in the search for explanatory adequacy of linguistic models. Recent advances have focused on the hypothesization by the child of transformations (Hurford, 1975; Erreich, Valian and Mayer, 1977; Fay, 1978). But dispute inevitably arises about the specifics of the base phrase-marker upon which the transformations are defined.

Using intensive longitudinal data, this paper shows significant developmental interaction between the base grammar and transformations. The specific syntactic construction analyzed here is the relative clause. I will claim that relativization, though ultimately transformational in nature, has its roots in phrase structure. Use of rich data (70 sessions in the third year) for a single child makes it possible to write grammars which show that certain early apparently anomalous utterances are a systematic part of the child's language.

I will trace the persistence and development over a four-month period of this class of 'errors' and show how they can be accounted for by a phrase-structural rule which is modified over time. In X-bar notation, the modification can be expressed as a simple generalization. [Data from

other children suggest that some generalized form of this phenomenon may be widespread (E. Clark, pers. comm.)].

The original anomalous utterance is That my didit, where didit refers to the child's own drawing. The possibility that didit might simply be a lexical peculiarity is ruled out by continued use and elaboration of the relevant construct. There is also a development in the class of referent concepts from just concrete objects to include events as well. This expanded role leads in a natural way to a generalization of the rule and the ultimate emergence of relativization from it. In fact, the first true relative appears as a self-correction of a didit-type construction.

* * * * *

HOFFMEISTER, Robert (Temple University)

Word Order in the Acquisition of ASL

Word order is used to indicate the subject and object in sentences which have no other means of indicating these roles. Hearing children use word order to convey the relationships of elements within their sentences very early in the acquisition period. As they learn the more sophisticated and complex uses of language they begin to vary their word order. A preferred word order has been argued by many investigators of child language (Brown, 197d; Bowerman, 1973; Braine, 1976 and others). Deaf children of deaf parents between 18 months and five years learning American Sign Language were observed in a longitudinal investigation. Word order usage was computed for these children to determine patterns during each stage of their development. It will be argued that deaf children of deaf parents who are in the process of acquiring American Sign Language follow the same strategies of word order as those followed by hearing children. That is, they begin with a preferred order for particular constructions, they then vary this order in a predetermined way. The deaf child will vary the word order but will reinforce the new pattern with an old pattern. The deaf child will redundantly specify word order using both the old and new patterns. Finally, word order will vary systemically only when the new pattern becomes productive.

In ASL, sentential relationships may be indicated by word order or by very sophisticated marking systems. Sentential relationships may be indicated by modulating certain classes of verbs. Most of the modulation is produced by varying the physical production or direction of movement when producing ASL verbs. These modulations allow for either the manipulation of a basic word order and/or the deletion of sentential elements. When deletion occurs the marking of the verb is required to indicate the sentential relationships. Deaf children of deaf parents appear to recognize the word order properties and its potential manipulations in ASL by six years of age.

JONES, R., and POUDER, M.C. (Centre National de la Recherche Scientifique, and University of Paris, France)

Classroom Language in Children of Contrasted Social Backgrounds

The hypothesis that important differences exist between the language of middle and working class children was examined with reference to the spoken discourse of 111 nine-year old native french pupils in a classroom context.

Of the two course types studied, the grammar lesson was characterised by a uniformity of syntactic pattern in the responses of all children irrespective of social class background. Complex sentence patterns were not a feature of this situation, and such social group differences that were identified were not located at the lexical or syntactic levels. The vocabulary lesson produced a greater variety of sentence patterns, with notable syntactic variations between the two social groups.

Our results led us to identify two separate situations within the classroom context. It is suggested in part that, for any given situation, the similarities in verbal behaviour of the social groups may be as important as the differences. The variables conditioning children's linguistic performance were found to be the person they are addressing and the content they wish to express, rather than the social group to which they belong.

It is argued that, beyond a certain age, statements on children's language should be supported by systematic empirical investigation of their behaviour in identifiable situations. Social group comparisons are valid only if due consideration is given to the situational variables significantly determing linguistic performance. Since discourse features vary considerably from situation to situation, assessment expressed in terms of, for example, syntactic complexity or sentence length, irrespective of the situation in hand, become questionable. Evaluation can only be on the basis of criteria shown to be characteristic of, and relevant to, the particular situation in which the child is observed to perform.

* * * * *

KATZ, Joel (Stanford University)

Structural versus Presuppositional Redundancy in Child Second Language Acquisition: a Case Study of Possessive 's

The purpose of this paper is to provide evidence for the claim that presuppositional redundancy plays a distinct role in children's language acquisition.

For the period preceding the 90% accuracy criterion, Cazden (1968) found that Adam, Eve and Sarah were more likely to supply the nominal possessive morpheme in elliptic contexts (no overt Object Possessed: "that is Daddy's") than in full contexts (overt Object Possessed: "that is Daddy's") even though the children heard the latter 7-20 times as often as the former in parental speech. Cazden suggested that the children were omitting Possessive 's in just those contexts where the semantic relation is redundant:

"I want { Daddy's / Daddy } coat." versus "I want { Daddy's / Daddy. } "

(structurally redundant)

(structurally non-redundant: potentially different meanings)

To determine whether a similar pattern of structural redundancy exists in children informally acquiring English as a second language, I examined biweekly longitudinal data over 11-15 months time from three five-year-old girls: one native Japanese (Hakuta 1976: Uguisu) and two native Hebrew speakers (Katz 1978). Contrary to Cazden's findings, both of the Israeli children performed significantly better on full possessives ($p < 0.02$), while Uguisu performed equally well on full and elliptic forms. Native-language transfer does not fully account for these results: besides the observed acquisition patterns, Contrastive Analysis predicts an alternative but non-occurring pattern for the Israeli children.

Because presuppositional status turned out to bias the distribution of 's obligatory contexts in one Israeli child--if the Object Possessed could be presupposed from previous discourse or ongoing context, the elliptic possessive tended to be used ($p < 0.01$)--I examined whether presupposition affected 's usage itself. Result: whether an obligatory context occurred in a full or elliptic possessive, 's tended to be supplied only if the Object Possessed was not presupposed ($p=0.01$). I refer to this pattern as "avoidance of presuppositional (rather than structural) redundancy."

The above results have important implications for language development research. Had the present investigation been limited to local conditioning factors in surface structure (e.g. phonological nature of adjacent segments, degree of tautosyllabic stress), the more global pragmatic factors affecting 's usage would not have come to light.

Further research is needed to determine whether presuppositional redundancy is an idiosyncratic aspect of child language development or part of a general acquisition strategy.

KLUWIN, Thomas N. (Gallaudet College)

The Development of Preposition Usage in the Written English of Deaf Adolescents

This study sought to account for the difficulties that deaf adolescents have with the English prepositional system. The study presents a grammatical rather than a chronological developmental model for prepositional usage.

Written compositions were collected from 128 deaf adolescents using the same stimulus for writing. The compositions were coded for preposition usage as syntactically correct, semantically correct, redundant, or omitted. The prepositions used were then grouped by error rate and frequency.

By crossing error rate (high/low) with frequency (high/low), four groups of prepositions are initially described. High error/high frequency prepositions are for used in temporal expressions, and at, to, and in as locatives. Low error/high frequency are those prepositions dealing with manner, or partitives such as with, for, of. High error/low frequency prepositions were the temporal uses of at and in as well as on used both as a temporal or a locative. Low error/low frequency prepositions seemed to be idiosyncratic to the more competent writers. A contrastive analysis of English and American Sign Language (ASL) suggests that the locative prepositions will present the most difficulties to deaf adolescents since most locative references are contained within the verbs in ASL. Like Taylor (1969) and Charrow (1974), this study found that redundant prepositions were tied to specific sets of verbs.

As users of prepositions, the sample is divisable into three groups. Those who have no concept of preposition usage and still use a topic-comment grammar for English; those who have the concept of the English preposition but overgeneralize a small set of prepositions; and those who have a relatively good command of the system but exhibit usages similar to foreign speakers not familiar with the selectional restrictions of certain prepositions.

The implications are that teachers and curriculum designers must realize that preposition usage for deaf adolescents is not a simple phenomenon and that various levels of competency will have to be considered when designing instruction. Further research is being done on the special selectional restrictions of the prepositional system.

* * * * *

KNAPP, Deborah (Hampshire College)

Automatization and Language Acquisition

In recent years researchers have argued that there are constraints on the child's use of language over and above those caused by an incomplete knowledge of adult grammar. At any given time, a child does not always use structures which he is capable of using on occasion. Another way of looking at this is that as a device enters the child's repertoire, there is a transition period during which the child gradually uses it more often in obligatory contexts.

Theories about the causes of such shortened sentences have ranged from a length constraint, to a limit on the number of phrase structure rules in a sentence, to a "reduction transformation" which deletes elements from surface structure.

In this paper it is suggested that the child's constraint can best be explained by viewing language acquisition as a special case of the cognitive process of skill acquisition. Attentional capacity is limited. Executing a new skill requires a great deal of attention. With practice, components of the skill become automatized, and they can be executed with less attention, freeing the limited capacity to attend to other aspects of the skill, or to different things.

Shortened or "reduced" sentences in child language can be seen as instances of competition between two or more aspects of sentence production each of which requires attention. Such competition effects should be present in the first uses of a new structure, but should gradually disappear as the structure is practiced and becomes automatized. Capacity limits exist throughout development, but the locus of competition depends on which structures are new.

To test the theory, spontaneous speech was collected from five children, ranging from 2 to 5 years old, over a period of four months. The children were visited once a week in their homes for about two hours. Their spontaneous productions of auxiliary verbs in declaratives and questions (negative and affirmative) were examined to see whether the initial uses of an element of auxiliary structure would be accompanied by a reduction in the complexity of the rest of the sentence. Measures of complexity included MLU and more specific tabulations of structure co-occurrences, such as the co-occurrence of auxiliaries with certain verbs, with sentence negation, with noun subjects, etc.

For the youngest children, the first uses of modal and semi-modal auxiliaries (e.g. "gonna") were associated with competition. For the older children, modals were not a problem, but competition was seen instead in the first uses of aux-subj inversion in yes/no questions. Still later, around 3½ to 4, competition was associated with later learned auxiliaries (e.g., "do") and with inversion in wh-questions (though no longer in yes/no questions).

Competition effects gradually disappeared, appearing to last for weeks or months, depending on the child and on the device.

In addition, it was found that a device tends first to be used in a given context, later generalizing to other sentence contexts. For instance, wh-inversion for one child was at first largely limited to sentences in which the main verb was "do," "say," or "have."

This view of language development emphasizes the similarities between language learning and general cognitive processes, and provides a framework for detailed study of transitional states in development.

* * * * *

LUST, Barbara and MERVIS, Cindy (Cornell University)

Development of Coordination in the Natural Speech of Two- and Three-Year-Olds

This study reports the results of a developmental analysis of coordination in the recorded natural speech (English) of 32 children between 2;0 and 3;1 years of age (mean age 2;6). Several structural changes and consistencies are identified in types of coordination used (both well-formed and non-well-formed) in four levels of language development measured by MLU (ranging from 1,97 - 6.38) where number of coordinations rises from 1 to 17% of total number of utterances. We find conjunction in MLU levels as low as 1.97. Among well-formed coordinations we find a shift in relations between sentential and phrasal coordinations over development, and a developmentally related increase in recursive coordination. Among non-well-formed coordinations we find a shift from lexical to phrasal coordination errors. A transitional level (MLU mean 3.39) is identified wherein well-formed coordination almost totally disappears and frequent and various types of non-well-formed coordination appear, e.g., "Can't get out and the piggy can't." We find certain consistencies over development in position of redundancy and in direction of redundancy reduction in coordinate structures.

The data are interpreted in terms of a proposed developmental model for acquisition of coordination; and in terms of previous proposals for constraint on redundancy reduction in child language. They are also interpreted in terms of a comparison of coordination in natural speech to that in an elicited imitation task, such as studied for these same children in previous research.

The study qualifies previous findings regarding a developmental primacy of sentential coordination in child language (Lust, 1977; Slobin, 1973; deVilliers, et al., 1977; Limber, 1973; Menyuk, 1969) and regarding level of onset of coordination (Bowerman, M., to appear; Brown, 1970). It supports previous analyses which found a constraint on redundancy reduction in a forward direction in phrasal coordinations (Lust, deVilliers, et al., Tavakolian, 1977). In addition, it provides new data on types of errors on coordination made by children in natural speech and on the nature of its development.

REFERENCES

Bowerman, M. The Acquisition of Complex Sentences. In Fletcher, P. and Garman, M. (Eds.), Studies in Language Acquisition. To appear.

Brown, R. Psycholinguistics. New York: The Free Press, 1970.

de Villiers, J., Flusberg, H.T., and Hakuta, K. Deciding among Theories of Development of Coordination in Child Speech. In Papers and Reports on Child Language Development. Stanford University, August, 1977.

Limber, J. The Genesis of Complex Sentences. In E. Moore (Ed.), Cognitive Development and the Acquisition of Language. New York: Academic Press, 1973.

Lust, B. Conjunction Reduction in Child Language. Journal of Child Language 4(2), 1977, 257.

* * * * *

McCONAUGHY, Stephanie H. (University of Vermont)

A Developmental Model for Story Comprehension in Reading or Listening

Researchers in semantic memory (Bartlett, 1932; Kintasch, 1975; Rumelhart, 1975;, 1976; Schank, 1975) have proposed that both encoding and recall of stories involves use of an internal story "schema". The schema takes the form of a hierarchical tree structure, which the reader or listener employs to reconstruct the original imput on the basis of expectations for a logical sequence of events. Most of the research to date has focused on ideal adult story schemas and deficits in children's approximations of adult schemas.

This paper goes beyond previous research to suggest a developmental model for story comprehension. The model describes an interaction between different types of story trees and different levels of inferential reasoning, depending on the age of the story perceiver. It is proposed that story trees used at different age levels vary in both syntactic categories defining nodes in the tree and semantic rules for connecting nodes.

Based on current literature (e.g., Flapan, 1968; Mandler & Johnson, 1977; Stein & Glenn, 1977; Thorndyke, 1977), the model describes three basic types of recall statements reflecting different levels of comprehension: (1) descriptive statements, which reiterate explicit information for temporal sequence of actions and events and supply AND and THEN relations between nodes in trees; (2) information processing inferences, which supply implicit information and add CAUSE relations between nodes for actions and events; and (3) social inferences, which supply explicit or implicit internal responses, goals and dispositions of characters and add MOTIVATE relations for actions and events. Preliminary data is presented on the types of categories and individual words in story trees judged to be most important for encoding and recall. Differences between six nine-year-old subjects and adults tend to support the model.

The model presented offers a basis for expanding Rumelhart's original grammar to account for a developmental progression in semantic memory structures and information processing skills for story comprehension. Implications can be derived for improving design of educational curriculum and diagnostic reading tests to accommodate the reader's level of reasoning ability.

* * * * *

MESHOULAM, Uriel (Merrimack College)

Language Skills, Egocentrism, and Referential Communication

Research studies (Alby, 1968; Glucksberg, Krauss, and Higgins, 1975) have indicated that referential communication ability, the ability to describe a referent so that the listener can identify it, increases with age. This has frequently been related to a decrease in egocentrism or an increase in cooperative ability (Piaget, 1926; Alvy, 1968). However, studies have not controlled for the fact that older children are also more fluent in their language, which may account for this developmental trend (Flavell, 1977).

The purpose of this study was to separate fluency from age by studying children of one age group (12) who speak two languages at different levels of skill: English (their mother tongue) and Hebrew (a second language they study in school). It was hypothesized that children's communication will be "cooperative" when they use their mother tongue to describe a referent, and "egocentric" when they use Hebrew.

Twenty children, two at a time, were seated facing each other separated by a screen. Each had before him an identical set of pictures. The task required one child (the listener) to choose the pictures described by the other child (the speaker). This task was performed once in English and once in Hebrew.

The analysis of the protocols followed Alvy's (1968) method. The subjects' performance in English clearly demonstrated an ability to shift mental perspective (cooperation). However, their performance in Hebrew resembled egocentric communication typical of younger children. The latter result must be attributed to poor language skills in Hebrew.

This study suggests that poor language skills, at least in part, are responsible for the younger child's poorer performance on referential communication tasks. In order to assess the interaction between the language and the cognitive factors, further research is suggested in which bi-lingual children at different ages will be studied.

REFERENCES

Alvy, T.A. Relation of age to children's egocentric and cooperative communication. Journal of Genetic Psychology, 1968, 112, 275-286.

Flavell, J.H. Cognitive Development, Englewood Cliffs, N.J.: Prentice-Hall, 1977.

Glucksberg, S., Krauss, R.M., & Higgins, T., The Development of Communication Skills in Children. In F. Horowitz (Ed.) Review of Child Development Research (Vol. 4) Chicago: University of Chicago Press, 1975.

Piaget, J. The Language and Thought of the Child. New York: Harcourt, Brace, 1926.

* * * * *

MILLER, Peggy (Teachers College, Columbia University)

Early Language Development of Three Children from a White, Working-Class Community

The purpose of this study was to (1) provide the first description of early language development among white children from an urban, working-class community; (2) illustrate some ways by which knowledge can be more fairly assessed across social class.

The subjects were three 2-year-old girls whose families lived on $5000 or less per year. In contrast to the vast majority of studies on the language abilities of poor children, this study used a naturalistic, observational, longitudinal paradigm that, until now, has been applied only to the study of middle-class children. A get-acquainted period was followed by a succession of video taping sessions in which the child's speech and nonverbal behavior were recorded in her home as she interacted with her family. The taping sessions were spaced at regular intervals over a period of eight months. In transcribing the video tapes, a special effort was made to obtain an accurate written record of child speech. It was discovered that this goal could best be achieved through a process of collaboration between the investigator and the people who decipher child speech everyday, namely the child's family. The first major result of this study indicates that the meanings that these children encode in their early word combinations (MLU 1.5 - 2.5) are the same as those that have been identified in studies of middle-class American children and children of a variety of other languages and cultures. This result is clearly at odds with past claims that poor children are linguistically impoverished.

MOSENTHAL, Peter (State University of New York, Albany)

The Effects of Children-Teacher's Discourse Interactions on Children's Comprehension of Written Discourse Structures

Most studies of children's reading comprehension have either defined comprehension in terms of text variables or mind variables (cf. Olson), or in terms of some combination of text and mind variables (Clark & Haviland, 1977; Haviland & Clark, 1976). The purpose of this paper was to demonstrate that in addition to these variables, another significant variable affecting comprehension is the constitutive dimension (Mehan & Woods, 1976) of the of the child-teacher discourse interaction patterns. Bloom's discourse taxonomy (Bloom, Rocissano, & Hood, 1976) was modified as a classification scheme of child-teacher discourse interaction. Children were equated for reading ability, socioeconomic status, and reading method. Child-teacher responses were tape recorded for two six-week sessions during the onset and close of the instruction part of daily reading lessons. During the second six-week session, a new teacher instructed the eighteen fourth graders. Children's comprehension was assessed by the teacher, each week, having the children read and write their recall of stories written by the experimenter (discourse variables were carefully controlled for across passages). It was found that children tended to comprehend, i.e. reproduce, reconstruct, embellish, use script intrusion, restructure text, in a manner consistent with the type of discourse interaction pattern they maintained with the teacher. For example, those children that most often gave noncontingent responses, most often embellished text; those children that most often used imitative discourse, reproduced the text most frequently; the group that most frequently used expansions, reconstructed the text most often (and also most closely preserved the text's thematic organization). It was further found that as children's interaction patterns changed under the second teacher condition, children would comprehend text in the manner consonant with their new type of interaction pattern. For example, children who most often used imitative discourse and reproduced text most frequently, if they adopted an expansion interaction with the new teacher, they would reconstruct the text, thereby significantly changing the manner in which they had organized and processed the text previously. These results suggest an important needed revision in present practices which assume that text grammars (especially discourse and story grammars, cf. Stein & Glenn, 1978) can be adequately described by considering only linguistic variables.

NIGROSH, Gale Hilary (Clark University, Brown University)

Bad Language in 3- and 4-Year-Olds: Childrens' use of profanity from the perspective of developmental sociolinguistics

The child's acquisition of "bad" language poses interesting metalinguistic and sociolinguistic problems: How do children learn that some words are "not nice," permitted only in certain situations and only to certain speakers? From whom do they learn these words? What is their function for the child in different contexts? What responses do they provoke in adults and other children?

These questions are addressed in a preliminary study conducted with 3- and 4-year-olds from middle-class families in the Worcester, Massachusetts, area. To see whether children used "bad" language differently in the family context than among their peers, data were collected through interviews with individual children and their families and from several months' observation at a nursery school.

"Bad" language at home consisted mainly of expressions the children heard parents or other older speakers say in anger, frustration or excitement. The children used these words spontaneously and appropriately in like situations, although often they were not conscious of the semantic content. In nursery school, however, "bad" language was almost always name-calling, and the meanings were clearly intentional.

Piaget's (1959) theory of egocentric vs. socialized speech suggests that until age 7 children direct their speech less toward the hearer's point of view in discourse with adults than with other children. Yet, ironically, adults scold children for saying offensive things the child may not intend to communicate, while they find innocuous those words which most offend the child.

This study recognizes that children speak differently to adults than to other children, that adult-child interaction can reveal only part of the child's linguistic abilities. The implications are important for the child in school, where linguistic abilities may be assessed on the basis of insufficient appreciation of the domains in which they operate.

REFERENCE

Piaget, Jean. 1959. The Language and Thought of the Child. 3rd ed. Trans. by Marjorie Gabain. N.Y.: The Humanities Press, Inc.

OLLER, D.K., THARP, Terril S., and COLEMAN, Diane (University of Miami, Mailman Center for Child Development)

A Natural Logic of Pragmatic Functions of Language: An Application to Differentiation of Normal and Abnormal Language Development

Although a number of pragmatic functional schemes have been proposed for the description of child language data, the categories invoked in such schemes are usually presented in a mere list. Possible hierarchical (logical) relationships among members of the list are usually not considered. This paper presents a scheme of pragmatic functional categories in which a logical hierarchy of categories is specified. The hierarchy has potential developmental significance since there is a straightforward complexity metric implied in the description. Another potentially significant feature of the framework is that it might offer a more powerful method of differentiating between normal and abnormal language development than has been available in syntactic and semantic descriptions.

Data are provided from a study in which videotaped language samples were taken from six normal children (in addition to two normal subjects who were followed longitudinally over a ten month period with 25 samples) and three retarded children (all three were followed longitudinally for a total of 23 samples). The samples from both the normal and retarded children were characterized by primarily one and two-word utterances. The resulting utterances were transcribed and categorized in three ways: (1) syntactically, employing the "parts of speech" of a simple generative grammar (N, V, Adj, etc.), (2) semantically, according to categories of Chafian and Fillmorean systems, and (3) pragmatically, utilizing the system described in this paper.

Results suggested that normal and retarded children employed syntactic categories in similar ways, i.e., about the same proportion of words were nouns, verbs, adjectives, etc. in both groups of children. Furthermore, the usage of semantic categories was also largely alike in the normal and retarded children. The pragmatic description however, revealed that normal children used a considerably higher proportion of relatively complex pragmatic functions than the retarded children did. The results are interpreted to mean that language abnormality in these retarded speakers is not reflected so clearly in the form (syntax) or content (semantics) of linguistic utterances as in the kinds of uses to which forms and contents are put.

OVIATT, Sharon L. (University of Toronto)

Three Stages in the Emergence of Communication Skill

The present research describes infants' changing pattern of response to language, after they begin to respond systematically and appropriately to the language spoken to them. Twenty-four infants from 9-17 months of age were asked "Where's the X?" type questions, where X was the name of an in-view object. The responses of infants who correctly designated the object were then videoanalyzed to determine how their mode of expression develops with respect to the use of patterned gaze, gesture and vocalization. Trends in the resulting data reflect infants' changing repertoire of available communication skills.

During stage one (9-11months), infants' responses to questioning predominantly involve looking at the named object or physically moving closer to it, without gazing in acknowledgement at the communication partner. Language is essentially directing attention and mobilizing activity at this point, responses that are organized at a presymbolic, motoric level with no clear entailment of intentional communication.

By stage two (12-14 months), infants' pointing at the object in response to questioning peaks in frequency, and normally comprises part of an integrated gesticulatory sequence. Infants now frequently gaze at the communication partner as an answer is conveyed, signalling increased awareness of their communicative role. During the heighth of gestural flourish, babbling also peaks in preparation for eventual linguistic replacement. This gesturally-based expressive phase suggests the emergence of symbolism.

Stage three (15-17 months) finds infants vocalizing intelligibly and gazing at the adult partner more than ever before, at a time when pointing and babbling decrease. The relatively cumbersome, context-dependent gestural system is gradually supplanted by more efficient linguistic means of symbolically dealing with communication demands.

This shifting of expressive forms relative to one another suggest a stage-like sequence of developing communicative skills, in which the predominant skills during any given stage are first refined and then inevitably replaced by new forms. The present theoretical viewpoint, based on elicited communications, is corroborated by patterns observed in spontaneous communications.

PEA, Roy D. (The Rockefeller University)

Early Negation: the development from relating inner states to comments on the external world

A central distinction in communication theory is between iconic and abstract modes of linguistic representation. Negation is one language domain where this distinction has great cognitive significance. There are different types of negation corresponding to these two representational modes which are available as possible meanings of negation for the young child. The prototypic form of iconic negation involves the direct expression of affective internal states such as rejection or refusal toward external stimuli. An important form of abstract negation involves the expression of judgements about language, such as denial. Discussions in semiotics, language evolution and Genevan genetic epistemology have stressed the development from iconic toward more abstract modes of communication and thought. Consonant with this approach to cognition is a prediction of the emergence of different meanings for negation in the ontogenesis of language and thought. Iconic negations of rejection should appear prior to abstract negations of denial. Furthermore, iconic negations of rejection should predate less-abstract negations than denial which involve comments on the world, such as observations of cessation, disappearance and nonexistence.

This prediction was tested in a longitudinal study of negation development with four children: two from 8-20 months of age, two from 12-24 months of age. All children were visited monthly, videotaped for ½ hour in natural play settings with their mothers, and observed for an additional hour. Gestural negation and verbal negation was the focus of inquiry and detailed transcripts from the sessions and interviews with the mothers constituted the data base. General results supported the prediction. All four children first expressed gestural negation in rejecting either objects or actions directed toward them, and this was also the first meaning of verbal negation. Comments on the disappearance of objects, persons, and events and the use of negation in self-prohibition followed, but preceded the use of language to deny propositions expressed by others.

* * * * *

PINKER, Steven and BIRDSONG, David (Harvard University)

Knowing What Sounds Right: sensitivity of speakers to rules of "freezing" in first and second languages

Cooper and Ross have recently studied the rules that govern the linear order of words in "frozen" conjoined phrases such as "kit and caboodle." They have found a set of phonological rules, some universal, some not, that seem

to account for many existing freezes. They also suggest that conjoined phrases in day-to-day speech that conform to those rules are more likely to become frozen than phrases that violate those rules. A study in progress is investigating whether some of the principles that govern the freezes already existing in a language can be seen to operate in the minds of individual speakers confronting novel phrases, and whether the skill in applying these rules exists before learning a specific language or must be learned along with the language. In one experiment, native speakers of French, people learning French, and people ignorant of French judge which of two orders of a pair of nonsense French-sounding words sounds "better". In another experiment, English is used in place of French. It is expected that the pairs to which linguistically-universal phonological rules of freezing apply will be consistently and "correctly" rated by all subjects, but that the pairs to which only language-specific rules apply will be rated correctly to the extent that the subject is familiar with that language. Such findings would suggest the existence of a psychological mechanism responsible for the creation and maintenance of phrases frozen in a language.

NOTE: THIS PAPER SHOULD BE CITED AS Birdsong, David, and Pinker, Steven, RATHER THAN AS PRESENTED HERE AND IN THE CONFERENCE SCHEDULE.

* * * * *

PRINZ, Philip (University of Colorado, Denver)
FERRIER, Linda J. (Emerson College, Boston)

The Comprehension and Production of Requests in Language Disordered Children

This research is an investigation of pragmatic abilities, focusing on requesting, in thirty language disordered children between the ages of 3½ and 8½ years. The subjects' requesting ability was examined in three situations: (1) operating in dyads in a free-play situation in both a doctor/patient and a home/shop setting, (2) production of requests in an experimental procedure, and (3) perception of requests in that situation. The experimental test of production of requests involved the differential use of requesting devices to achieve politeness when addressing an old lady puppet and a little girl puppet. The comprehension test of requests involved the judgement of six pairs of requests, produced by two identical duck puppets as to their politeness and the formulation of a metapragmatic explanation for the choice.

Transcriptions made of the naturalistic data were analyzed using a speech act model along the three dimensions of purpose, directness, and surface form. Contrary to previous findings in normal children (Bates 1976; Garvey, 1975; Ervin-Tripp, 1977) that indirect request forms increase with age, in this population there was an increase in direct forms. We suggest that these children have only a minimal amount of structure available and rely on the most frequently occurring and direct forms.

In the experimental assessment, this population, although restricted in the range of linguistic devices at their disposal, appear to compensate by reproducing the structures they have already acquired.

It is hoped that these results will provide an initial description of the pragmatic abilities of this population, outlining both developmental trends and individual differences.

* * * * *

PRIZANT, Barry M. (State University of New York at Buffalo)

An Analysis of the Functions of Immediate Echolalia of Autistic Children

Autism, a subcategory of early childhood psychosis, is traditionally characterized by severe deficiencies in social interaction, and in both v verbal and nonverbal communication. The autistic child is not only delayed in the acquisition of communicative skills, but typically displays deviancies in verbal and nonverbal behavior. One of these deviancies is immediate echolalia, which is most often regarded as a meaningless repetition or parrotting of a word or utterance just spoken by another person. Echolalia has also been referred to as the most striking characteristic of the speech of autistic children.

The purpose of this research was to attempt to discover how echolalic autistic children used echolalia in relation to a variety of interactional settings. Four echolalic children were videotaped at school, and at home, in both group and one-to-one naturalistic situations. After conducting a multi-level analysis (of over 1000 utterances) including verbal and nonverbal factors, intonation, and response latency, it was discovered that immediate echolalia is far more than a meaningless behavior. Seven functional categories of echolalia were discovered and will be discussed in reference to behavioral and linguistic features of each category.

It will be argued that those researchers who propose intervention programs of echo-abatement may be overlooking the important communicative and cognitive functions echolalia may serve for the autistic child. Immediate echolalia will also be discussed in reference to a theory of language development in autistic dhildren.

This research was supported in full by a grant to the author from the Bureau of Education for the Handicapped.

RINTELL, Ellen M. (Boston University)

The Pragmatic Ability of Second Language Learners: the effect of context on variation

Learning a second language involves acquiring knowledge of how to use the syntax, semantics, and phonology already acquired in order to communicate effectively and appropriately. Much recent child language research has emphasized such pragmatic development, but we find very little research, to date, which focuses on how the adult second language learner develops pragmatic skills.

In our investigation, we focus on the English language learner's use of the speech acts to request and to suggest. When performing these acts, numerous linguistic strategies may be available to the speaker. His or her choice depends on such sociolinguistic variables as the age, sex, status, and race of the speaker and hearer, the situational context, and the setting of the conversation. The variation among strategies for uttering directives may be viewed as shifting levels of deference.

Eight male and eight female native Spanish speakers were presented with four role playing situations designed to elicit requests, and four for suggestions. At a second session, the age or sex of the addressee is changed in each situation. The entire procedure is carried out in English and Spanish.

Three groups of judges rated the utterances for deference on a five point scale. They were native English speakers, native Spanish speakers, and Spanish speaking learners of English.

Thus, we will report on the affects of the age and sex of addressee, and the sex of speaker on the degree of deference in the utterances, and on the difference between native speaker's and learner's perceptions of deference conveyed by learner's utterances.

The implications of the use of a role playing procedure to elicit linguistic data and of the results of this study for language assessment and teaching will be discussed.

SHAPIRO, Edythe R. (State University of New York at Albany)

Structural Relations among Teacher Directives, Child Comprehension Behaviors, and Teacher Reactions

Behavioristic notions of language acquisition credited environmental input as the principal inciting mechanism in the development of language. The nativist view, on the other hand, held that the child requires little data from the environment to help the language acquisition process since the syntactic rule system is assumed to be implicit in the human mind. More recently the process of language development has been seen as an outgrowth of child-caretaker cognitive and social interactions. Study of this process has mainly concentrated on early childhood.

The present study was designed to extend knowledge of child-adult language interactions into the classroom. In particular it is suggested that certain teacher utterances, namely indirect directives, present the child with a contradiction to be resolved. The child's attempts to clarify the teacher's intentions are reflected in certain child responses. These in turn elicit teacher attempts to resolve the ambiguity.

One hour observations in each of six elementary classrooms at three grade levels were conducted. Teacher directives were counted and categorized as to type and clarity level. Eighty-five directives were recorded verbatim. A twenty variable system including grade level, directive type, directive clarity, varying child responses and teacher reactions was factor analyzed. Stable structural relations among certain directive types, clarity levels, child responses and teacher reactions were found. A cognitive model of teacher-child reciprocal interactions is used to explain the factors which emerged. Speculations regarding the role of such interactions in the development of language in later childhood are offered.

* * * * *

SHAPIRO, Frances Joyce (Ramapo College of New Jersey)

The Nature of Code-Switching in Spanish-English Bilingual Elementary School Classes

Exactly how "bilingual" is a bilingual classroom during an English lesson? How, when, and for what purposes do teachers and students use each language? Can teachers be successfully influenced to increase their use of Spanish for comparative/contrastive purposes during English language lessons?

In this descriptive study, videotapes of 30-minute English reading lessons of seven bilingual teachers in a New York inner-city public school were made at the beginning and end of a school year. These tapes were systematically coded and analyzed to reveal the time, frequency and pattern of occurrence, source and target, pedagogical purpose, and content of each communication made in Spanish and English during the English lesson.

The second set of videotapes was made after the teachers had participated in a short term in-service training program, one of whose goals was to increase the teachers' use of Spanish for comparative/contrastive purposes during the English lessons. These were then compared with the first videotapes for each teacher.

It is hoped that if we understand how and why code-switching (or the alternate use of two languages) occurs in a bilingual classroom, teachers might develop strategies to best utilize the native language to enhance student acquisition of a target language and the development of all language skills.

* * * * *

SOLAN, Lawrence (University of Massachusetts, Amherst)

Children's Use of Contrastive Stress in Interpreting Pronouns

Thirty-three children (equal numbers of five-, six- and seven-year olds) were presented with four tape recorded tokens of each of the following six sentence types, in a toy-moving task.

(1) The lion hit the camel, and then he hit the elephant.
(2) The lion hit the camel, and then HE hit the elephant.

(3) The lion hit the camel, and then the elephant hit him.
(4) The lion hit the camel, and then the elephant hit HIM.

(5) The lion hit the camel, and then he kicked him.
(6) The lion hit the camel, and then HE hit HIM.

Capital letters mark contrastive stress. The preferred reading for adults for the unstressed pronouns is the parallel reading, in which the pronoun is matched with the first clause noun phrase occupying the same position in the clause. Contrastively stressing the pronouns signals that the preferred reading should be replaced by another, in these cases making the reciprocal reading preferred.

Surprisingly, the children performed significantly better on the stressed sentences (80%) than on the unstressed ones (60%) ($p < .001$). In particular, the younger children tended to assign reciprocal readings to many

of the unstressed pronouns, while all groups maintained a high level of performance on the stressed ones. The position of the pronoun (subject, object, both) was not a significant factor, although there were some interesting trends.

It is argued that in spite of apparent competence on the contrastively stressed cases, children have not mastered the adult system. Adult interpretations rely on replacing a normal (parallel) reading by a reciprocal one, whereas children must develop the unmarked strategy. It seems, then, that children have developed a heuristic strategy which says that contrastive stress signals a reversal of roles independent of the interpretation of unstressed pronouns. These results are only partly consistent with those of C. Chomsky's (1971) and M. Maratsos's (1973) studies on contrastively stressed pronouns.

That children might posit a strategy based on a prosodic feature accords well with the literature which shows children sensitive to the intonation patterns of language at a very early age (e.g., P. Menyuk, 1969). Other work by P. Hornby (1973) and K. Atkinson-King (1973) has demonstrated that children can both produce and understand utterances with contrastive stress at a young age. Thus, the fact that the contrastively stressed pronouns were easier for the children to interpret than the unstressed ones fits into a framework which allows prosodic features of language to aid the child in interpreting sentences. The results also indicate that the interaction of prosodic features and general interpretive strategies (parallel function) takes time to develop.

* * * * *

STOKES, William, and BRANIGAN, George (Boston University)

On the Definition of Two Word Utterances: or when does 1+1=2

This paper reports two investigations which challange certain assumptions underlying the notion "utterance" in child language. The investigations focus upon the problem of describing children's earliest utterances by examining features of temporal proximity and terminal contour as determents of utterance.

The first investigation examined adults' judgements of stimuli two words long as either two separate words or as a simple two-word utterance. Stimuli were of two types. A child uttered selected words both singly and as a two-word utterance. The singly uttered words were altered (by computer) to form a "created" two-word utterance. The words in both stimulus types were then temporally separated by the introduction of 50 msec increments of silence up to an interval of 700 msec. Intact and created utterances at each pause duration differed only on one dimension - terminal

or non-terminal contour on the first word. Stimuli were randomized, and adults listened to each stimulus four times. It was found that adults disregarded terminal contour on first words in judging stimuli relying solely upon pause interval between words.

The second investigation examined children's spontaneous utterances over the one-word period. Spectrographic analysis revealed that children's successive single word utterances which appear to consist of single words because of the temporal separation between the words, are, in fact, words produced in construction. This is apparent from the application of terminal contour only on the final word in the sequence.

We argue that these investigations reveal difficulties with the common descriptive category "utterance." These findings are significant in part because of the common use of perceptual judgements to define analytic categories. These categories, in turn, are employed in such metrics as MLU to assess progress over the period of language development. The major issue, however, is whether or not the fundamental analytic category, utterance, can be more objectively defined than it has been to date.

* * * * *

SUHOR, Charles (Deputy Executive Director, National Council of Teachers of English

Sentence Manipulation and Cognitive Operations

A growing body of research in sentence-combining suggests that sentence manipulation activities can be a powerful tool for increasing students' syntactic maturity in oral and written language. Although this research has pointed to some important directions in the teaching of oral language and composition, it has dealt little with important questions like the following:

> What is the relationship of the cognitive content of sentences-to-be-combined to the student's ability to effect various embeddings? Do certain cognitive operations (comparing, contrasting, classifying, serializing, expressing cause/effect, expressing contingency, analogizing, equating, etc.) function mainly within particular syntactic structures in students' and adults' speech and writing? Does a given syntactic structure have a definable range of cognitive structures that function within it? If so, what is the frequency with which mature speakers and writers place a particular cognitive structure within a given syntactic setting?

My paper will pose these questions, then delineate some of the possible relationships among specific syntactic and cognitive structures--e.g., five syntactic environments for the notion of causality; a single syntactic structure that hosts several cognitive structures; identical syntactic structures with radically different cognitive density. The paper will then suggest approaches to research that might provide normative data and a taxonomy of cognitive/syntactic pairings. The results of this research could have significant effects on our understanding of language development at various age levels, and it could have important implications for educators developing curriculum materials in language arts.

de VILLIERS, Peter A., and de VILLIERS, Jill G. (Harvard University)

Simplifying Phonological Processes in the One-and Two-Word Stage

The focus of the study is a detailed examination of the appearance, use, and disappearance of several simplifying phonological rules or processes common in early child speech. Substitution and deletion rules that were studied included voicing of initial consonants (e.g. [bi] for [pi]), devoicing of final consonants ([mʌt] for [mʌd]), assimilation of the place of articulation of the initial consonant to the final consonant ([gʌk] for [dʌk]), and reduction of consonant clusters ([no] for [sno]). Extensive protocols were taken from the speech of a boy at 19, 20.5, 23.5, and 25 months. The subject had a prolonged single-word stage of speech, stretching from 11 to 22 months, and the first two samples contain approximately 175 and 300 different words, uncontaminated by attempts at combination. Extensive use of several simplifying processes is evident at 19 months, and the sample 6 weeks later reveals the loss of the two processes involving voicing and the progressive narrowing of the use of the place of articulation assimilation rule. A detailed analysis is provided of the way in which the range of application of a rule becomes more limited as the child masters the production of particular phonemes in initial and final position and in different phonetic contexts.

Two-word combinations appear by the third sample, and questions currently being investigated include: (1) How is the pronunciation of a word affected by attempts at word combination? (2) In view of the hypothesized processing limitations on early child speech, are old or new simplifying phonological processes adopted in early word combinations? (3) When do processes like assimilation cross word boundaries? Finally, comparisons are made with extant longitudinal studies of phonological development.

WALMSELY, Sean, and MOSENTHAL, Peter (State University of New York, Albany)

Children's Acquisition of Natural Inferences

Although an important ability underlying language comprehension and production is the ability to comprehend and generate natural inferences (cf. Crothers, 1978; Frederiksen, 1977, 1978; Thorndyke, 1976), little is known how children acquire this ability. This paper addresses this question of how inferences are acquired. In this study, inference acquisition was investigated as a function of four consequent proposition connectives--but, until, because, and for example -- and three types of inference statements: empirical, value, and analytical (cf. Wilson, 1969). The findings of this study demonstrate that second graders will invariably generate empirical inferences, independent of the type of consequent proposition connective and independent of the nature of the preceding inference statement (i.e., independent of whether the preceding inference statement is empirical, value, or analytical). On the other hand, the type of inferences fourth graders generate is a function of the type of consequent proposition connective. For instance, fourth graders tend to generate analytical inferences following "for example" connectives and empirical inferences following "but" connectives. Finally, sixth graders tend to generate inferences both as a function of connective type and inference statement type. These findings suggest that with increasing age, children generate inferences first on the basis of a nontext metamemory strategy (Flavell & Wellman, 1977), then on the basis of a relevant lexical item closest to the to-be-generated inference (Chomsky, 1969), and finally on the basis of overall text-base considerations (Paris & Lindauer, 1977). These findings are discussed relative to children's constructive production skills on semantic tasks in general (cf. Barclay & Reid, 1974; Brown, 1977, 1978; Paris & Upton, 1976; Paris & Lindauer, 1976, 1977).

DIRECTORY OF CONFERENCE SPEAKERS

This directory has been compiled to assist those wishing to contact conference speakers. In cases of multiple authors, only the primary author has been listed here.

BERNSTEIN, Nan
Program in Applied Psycholinguistics
Boston University
232 Bay State Road
Boston, MA 02215

BERNSTEIN, Mark E.
Program in Applied Psycholinguistics
Boston University
232 Bay State Road
Boston, MA 02215

BIRDSONG, David
Dept. of Psychology & Social Relations
Harvard University
Cambridge, MA 02138

BRUCK, Margaret
McGill-MCH Learning Center
3640 Mountain Street
Montreal, Quebec
CANADA

CHAPMAN, R. S.
Dept. of Communicative Disorders
1975 Willow Drive
University of Wisconsin
Madison, WI 53706

CHUN, Judith
Stanford University
Box 2651
Stanford, CA 94305

CURTISS, Susan
Dept. of Linguistics
Stanford University
Stanford, CA 94305

DORE, John
Psychology Laboratory
The Rockefeller University
New York, NY 10021

EDWARDS, Mary Louise
Dept. of Linguistics
Stanford University
Stanford, CA 94305

EHRLICH, Susan
University of Rochester
Rochester, NY 14627

FERNALD, Anne
Dept. of Psychology
University of Oregon
Eugene, OR 97403

FEY, Marc E.
Memphis Speech and Hearing Center
807 Jefferson Avenue
Memphis, TN 38105

FINN, Patrick J.
State University of New York
591 Baldy Hall
Amherst, NY 14260

GOURLEY, Judith W.
School of Education
University of Massachusetts
Amherst, MA 01003

HABER, Lyn
Dept. of Psychology
University of Rochester
Rochester, NY 14627

HAKUTA, Kenji
Dept. of Psychology & Social Relations
William James Hall
Harvard University
Cambridge, MA 02138

HAMBURGER, Henry
School of Social Science
University of California
Irvine, CA 92717

HOFFMEISTER, Robert
Dept. of Special Education
College of Education
Temple University
Philadelphia, PA 19122

JONES, R.
76 Walton Street
London SW3 2HH
ENGLAND

KATZ, Joel
Dept. of Linguistics
Stanford University
Palo Alto, CA 94301

KELLER-COHEN, Deborah
Linguistics Dept.
University of Michigan
Ann Arbor, MI 48104

KLUWIN, Thomas N.
DORE/MSSD
Gallaudet College
Kendall Green
Washington, DC 20002

KNAPP, Deborah
School of Language and Communication
Hampshire College
Amherst, MA 01002

LUST, Barbara
Cornell University
HDFS, MVR, G-6
Ithaca, NY 14853

McCONAUGHY, Stephanie H.
University of Vermont
Burlington, VT 05401

MESHOULAM, Uriel
Merrimack College
North Andover, MA 01845

MILLER, Peggy
Teachers College
Columbia University
New York, NY 10027

MOSENTHAL, Peter
EDU B8
State University of New York
1400 Washington Avenue
Albany, NY 12222

NIGROSH, Gale Hilary
Clark University
Worcester, MA 01610

OLLER, D. K.
University of Miami
Mailman Center for Child Development
P.O. Box 520006
Miami, FL 33152

OVIATT, Sharon L.
Dept. of Psychology
University of Toronto
Toronto, Ontario M5S 1A1
CANADA

PEA, Roy D.
Experimental Psychology Laboratory
The Rockefeller University
1230 York Avenue
New York, NY 10021

PINKER, Steven
Dept. of Psychology & Social Relations
Harvard University
Cambridge, MA 02138

PRINZ, Philip
Communication Disorders & Speech Science
University of Colorado at Denver
Box 88
Auraria Communication Disorders Clinic
1006 Eleventh Street
Denver, CO 80204

PRIZANT, Barry M.
Dept. of Communicative Disorders and Sciences
State University of New York
Buffalo, NY 14260

RINTELL, Ellen M.
Program in Applied Psycholinguistics
Boston University
232 Bay State Road
Boston, MA 02215

SHAPIRO, Edythe R.
Dept. of Educational Psychology and Statistics
ED 236
State University of New York
1400 Washington Avenue
Albany, NY 12222

SHAPIRO, Frances Joyce
Ramapo College of New Jersey
Mahwah, NJ 07430

SOLAN, Lawrence
Dept. of Linguistics
University of Massachusetts
Amherst, MA 01003

STOKES, William
Dept. of Education and Communication
Lesley College
Cambridge, MA 02138

SUHOR, Charles
National Council of Teachers of English
1111 Kenyon Road
Urbana, IL 61801

TALLAL, Paula
John F. Kennedy Institute
The Johns Hopkins University
School of Medicine
Baltimore, MD 21200

de VILLIERS, Peter A.
Dept. of Psychology and Social Relations
Harvard University
Cambridge, MA 02138

WALMSELY, Sean
EDU B8
State University of New York/Albany
1400 Washington Avenue
Albany, NY 12222