

**THE THIRD INTERNATIONAL
CONGRESS FOR THE STUDY OF
CHILD LANGUAGE**



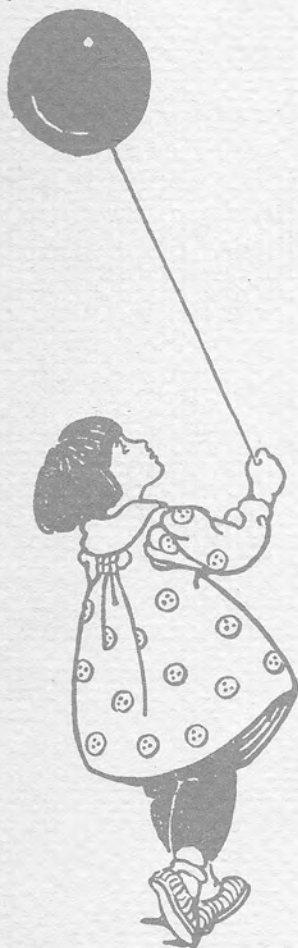
JULY 9-13, 1984

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THE UNIVERSITY OF TEXAS AT AUSTIN
and
INTERNATIONAL ASSOCIATION
FOR THE STUDY OF CHILD LANGUAGE**

**THE THIRD INTERNATIONAL
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CHILD LANGUAGE**

July 9th to 14th, 1984

Austin, Texas
United States of America



ABSTRACTS

ABSTRACTS AND INDEX

Abstracts are listed alphabetically according to the first author's surname.

The Index lists authors' surnames in alphabetical order and gives the page number(s) on which their abstracts may be located.

The Third International Congress for the Study of

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Sponsored by the International Association for the Study of Child Language and The University of Texas at Austin.

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Phonological or articulatory deviation. Barbaranne J. Benjamin, Special Education Department, Southwest Texas State University, San Marcos, Texas 78666.

The /r/ production of fifty-three children enrolled in a speech, language, and hearing clinic for unintelligible speech was assessed. Each child was administered at least one of three instruments designed to elicit speech production. Different productions of the /r/ phoneme in singleton and in cluster contexts are proposed as a method of identifying the underlying cause of the phonemic deviation as predominantly phonological or articulatory in nature. In the study, 45% of the children were identified as having a predominantly articulatory or phonological problem by this criterion. Determination of the basis of the deviation has implications for therapeutic intervention.

Semantic processing and the language disordered child. Katharine G. Butler, Director of Research, Syracuse University, Syracuse, New York 13215.

This paper will explicate the semantic processing approach currently being utilized by speech-language pathologists and teachers of reading within a semantic "weaving" or semantic "networking" model. The formal language of the classroom requires both normal and language disordered children to process and retrieve from long-term memory a variety of semantic schemas, scripts and the activation of semantic memories as well as episodic events. This presentation will review the current research in these intersecting areas of language comprehension in speaking and reading, and will provide exemplars of intervention strategies to assist language disordered children in storing and accessing semantic information within speeded response settings. Contrasting with this will be the information garnered from research which speaks to the preschool child's ability to formulate and express him/herself in the nonformal, peer, or family setting. The developmental trends within the "noun lovers" and "noun leavers" populations will be reviewed within the context of episodic and semantic memory.

Maternal speech to Down syndrome and normal children: Interaction styles. Claudia Cardoso-Martins, Department of Psychology, University of Illinois, Champaign, Illinois 61820 and Carolyn B. Mervis, Department of Psychology, University of Massachusetts, Amherst, Massachusetts 01003.

Mothers of normal children differ with regard to the frequency with which they engage in various conversational-eliciting and directive verbal behaviors when talking with their young children. McDonald and Pien have suggested that these differences reflect differences between mothers with regard to interactional intent. We hypothesized that mothers of young Down syndrome (DS) children would be significantly more likely to engage in directive verbal behaviors, and significantly less likely to engage in conversational-eliciting behaviors, than mothers of normal children. The results of a longitudinal study of 6 DS child-mother dyads and 6 matched normal child-mother dyads, beginning during the prelinguistic period and

extending through early referential production, supported our hypothesis. Mothers of DS children used a significantly greater proportion of commands for an action, attention-getting devices, action prompts, and spontaneous utterances than did mothers of normal children. Mothers of normal children, in contrast, used a significantly greater proportion of seek information questions, action reflective questions, and positive feedback for the child's action. These differences may reflect adaptive responses to differences between DS children and normal children as well as differences in maternal interactional intent. Implications of the style used by the mothers of the DS children for the acquisition of language by these children will be considered.

Consonant preferences at pause boundaries in babbling and early speech. Mary Schramm Coberly, Linguistics Department, University of Colorado, Boulder, Colorado 80309.

An investigation of the frequencies with which various sounds were babbled by 21 children revealed that stops, [h], and semi-vowels were significantly more initially distributed than nasals, fricatives, liquids, or the glottal stop. This pattern may in part reflect a preference for longer segments finally: non-syllabic nasals were not significantly different in distribution from stops. It may also reflect a preference for tighter oral closure initially, as also suggested by the tendency of older children's stop substitutions for fricatives, in three studies, to be much more frequent initially than finally. However, the extremely initial distribution of the orally open semivowels and [h], and the extremely final distribution of the brief glottal stop, invite additional explanations.

Context and the characteristics of mother-child conversations. Gina Conti-Ramsden, Child Development Center, Alder Hey Hospital, Eaton Road, Liverpool L12 2AP, England and Sandy Friel-Patti, Callier Center for Communication Disorders, University of Texas at Dallas, 1966 Inwood Road, Dallas, Texas 75235.

The present investigation examined situational variation in mother-child conversations. Ten mothers and their 2;3 to 2;9 year old children were audio- and video- recorded for fifteen minutes in three novel contexts (novel as opposed to routine, scripted contexts): a novel-no-toys context, a play context and a novel-with-toy context. The results revealed that mother-child conversational behaviors were significantly different across the three novel contexts and that no particular context exhibited a concentration of more advanced (or at least advanced) linguistic behavior. These findings will be discussed in terms of: 1) the importance of studying language across contexts; 2) the questionable unique status of scripted contexts; 3) the relative usefulness of the script as a conceptual unit which helps explain mother-child linguistic behavior; and 4) the application of script theory to the remediation of language-impaired children.

Issues in the analysis of peer discourse in the classroom. Catherine R. Cooper, Department of Home Economics, University of Texas, Austin, Texas 78711, and Robert G. Cooper, Jr., Department of Psychology, Southwest Texas State University, San Marcos, Texas 78766.

Among the basic changes in children's thinking between early and middle childhood is an increase in the capacity to be planful and selective in behavior. Whereas younger children are more likely to demonstrate or announce an answer to a problem for a peer, older children can discern that their friend might benefit from a more restrained hint. This paper considers how to examine peer learning discourse and its outcomes, and what levels and forms of integration might be appropriate among them. It draws upon current work in speech and conversational act analysis and ethnomethodology, which emphasize the function of statements in ongoing social interaction and the conversation itself as a collaborative interpersonal achievement. The empirical base of the paper are analyses of audiotapes of spontaneous peer learning interactions in an elementary school in which peer interaction is a means of accomplishing school tasks. Developmental patterns and individual differences are discussed.

Temporal and discourse properties in different styles of maternal speech to infants. Priscilla Roth Cowan, Department of Psychology, University of Massachusetts at Amherst, Amherst, Massachusetts 01003.

Several characteristics of mothers' speech to young children are known to differ from speech between adults. However, there have been few investigations of individual differences in these maternal speech characteristics, which could influence language acquisition. The present research examined the hypothesis that mothers differ in verbal responsiveness (i.e., in the frequency and latency of their responses) and in their ability to provide informative semantic encoding of the child's actions or focus of attention. A microcomputer with an internal clock was used to time-code actions and vocalizations from videotapes of two mother-infant dyads. A contingency analysis of all vocalizations was performed, and was compared with a discourse analysis of the mothers' responses. Two very different maternal styles were identified. In the more "responsive" style, the mother responded more frequently to infant vocalizations, responded more quickly, was more likely to semantically encode his actions, and was more likely to speak about a topic that was a continuation of his focus of attention. Thus, this research indicates that examining the relationship between temporal and discourse properties of maternal speech is a promising methodology for investigating individual differences in maternal style that might affect language development.

Language change with experience without feedback. Richard F. Cromer, Medical Research Council, Cognitive Development Unit, 17 Gordon Street, WC1H 0AH, Great Britain.

Two experiments were carried out that showed language growth due to exposure without feedback. In experiment 1, thirty, 7-, 9- and 11- year olds had to

construct sentences from scrambled words on two successive days. Some of the target sentences required the construction of relative clauses. Older children performed near ceiling, but younger children substantially improved in their ability to produce relative clause sentences on the second day, even though no feedback was given as to the structures required. To overcome the problem that this reflects task performance and not true linguistic growth, a second experiment studied language growth in children using a structure they had not yet mastered. Exposure to this structure at three month intervals over the course of one year, and without any feedback that children were interpreting this structure incorrectly, nevertheless led to accelerated acquisition as compared to the ages observed in children merely tested cross-sectionally. It is argued that language is a structured system, that children treat this system as a problem space, and that specific linguistic experience encourages the child to work on particular aspects of his grammar.

Metaphor comprehension in a perceptual context: The role of condensing unlike objects. Cathy H. Dent, Psychology Department, Davie 013A, University of North Carolina, Chapel Hill, Chapel Hill, North Carolina 27514.

Two studies were conducted on metaphor comprehension. In study one, 5, 7, 10, and adult, 32 at each age, chose miniature objects corresponding to the meaning of both literal sentences and metaphors. The metaphors (e.g., "The ballerina is a top.") corresponded to fused objects (e.g., ballerina that spins on a base). Literal sentences (e.g., "The ballerina is a dancer.") corresponded to simple objects (e.g., a miniature ballerina). Literal comprehension was high at all ages while metaphor comprehension increased steadily with age. In the second study twenty 4-year-olds were read short stories that ended with metaphors and given photographs of the metaphoric objects (e.g., ballerina and top) cut into pieces, but assembled. Each child was instructed to use the pictures to make a new picture that showed what the metaphor meant. In response to the metaphors most children fused the objects, i.e., used pieces from both objects to form a condensed object (e.g., top with a head and legs), to different degrees. Fusion of unlike objects was identified as an important aspect of metaphor comprehension for both children and adults.

Developmental trends in the acquisition of three consonant cluster classes. Carla Dunn, Department of Speech Communication, University of Texas at Austin, Austin, Texas 78712 and Nancy Bush, Austin, Texas.

Only a limited amount of research in the area of developmental phonology has been directed toward identifying developmental stages that occur in the normal acquisition of consonant clusters. In this study, two normal children's acquisition of three cluster classes (Stop + Liquid, /s/ + Stop, and Fricative + Liquid) was observed in an attempt to identify developmental stages that lead to accurate production. The study entailed visiting the two children in their homes at approximately two-week intervals over a period of three months. Words containing clusters were elicited in delayed imitation in response to pictures. A sample was also obtained of each child's

productions of clusters in spontaneous speech. Analysis of the data thus obtained indicates that 1) children do not always follow a similar sequence in their acquisition of consonant clusters, and 2) the specific course of development pursued by children in the acquisition of consonant clusters varies, at least to some extent, across cluster classes and individual cluster types within each cluster class. The implications of these findings for normal and disordered acquisition are discussed.

The use of genderlect in preschool males and females. Kathleen Ferrara, Linguistics Department, University of Texas at Austin, Austin, Texas 78712.

The study investigates pre-school children's use of sex-preferred modes of speaking and asks whether children show awareness of sex-role differentiation through speech even before elementary school. Presumed adult gender differences in degrees of assertiveness and directness are directly tested by the use of specified linguistic variables involving modal 'will,' substitute-modal, 'gonna,' Qualifier, 'I think,' and Colloquial one-word replies (e.g., 'Naah'). Children participating in a guessing game requiring them to predict whether or not a toy rabbit will fall demonstrate significant differences between male and female usage. Results from 20 children show that preschool females use twice as many Modals as males, eight times more Qualifiers, and that preschool males use 25 times more Colloquial one word replies than females. The frequencies imply that children as young as 3 or 4 are aware of stereo-typically sex-appropriate speech and employ genderlect appropriately for their sex. Reanalysis by age and sex (comparing 3 year old boys to girls and 4 year old boys to girls) showed apparent differences as predicted, but statistically significant results were obtained in only one instance, showing that males of both groups, 3 and 4, use more colloquial one-word replies than do females.

Auxiliaries in the speech of mothers and children. Paul Fletcher, Department of Linguistic Science, University of Reading, Reading, United Kingdom.

An earlier analysis of the speech of a British-English mother and child which paid detailed attention to the phonetic characteristics of individual auxiliaries suggested that the Gleitman, Newport and Gleitman (GNG) explanation of auxiliary development in terms of the interaction between clarified input forms and a principle of structure dependence be re-examined: there was no evidence in our data of either input clarification, or of extensive syntactic generalization by the child. This study examines the relationship between input variables and child language growth in a group of 14 British mother-child pairs. The children were between 1;11 and 2; 2 at the time of the first recording, and a second recording was made six months after the first. The analysis focuses on auxiliaries, and provides acoustic data on the characteristics of auxiliaries in both the mothers' and children's speech. In addition the distributional characteristics of individual auxiliaries are examined in the child's speech at Time 2 and the issue of syntactic generalization assessed. The implications of the absence of clarification in maternal speech, and of generalization in the child's for the GNG explanatory account, are discussed.

Sensitivity and language acquisition: distinguishing syntax and pragmatics.
Susan E. Foster, Freshman Writing Program, USC, Los Angeles, California
 1983.

Current work in language acquisition from a formal linguistic perspective is usually seen as directly in conflict with the more traditional approaches to language acquisition. While some of these conflicts are genuine, others are not. Taking a modular view of linguistic cognition, this paper suggests that making a clear distinction between syntax and pragmatics on the basis of the types of rules and principles involved makes it apparent that much of the conflict is illusory--different approaches are trying to account for a different set of facts. With specific illustration from a study of the development of discourse skills by very young children, it is argued that, unlike syntactic rules, pragmatic rules are optional, text not sentence based, and directly related to general rules of human functioning. On the basis of discussion of the distinction between the two types of rules, as well as discussion of research that appears to conflate the two types, it is argued that a componential approach is methodologically useful. It is also suggested that sensitivity to input might characterize a distinction between syntax and pragmatics.

Complementizers and markedness in children's comprehension of relatives and clefts. Anita Gallucci, Department of English, University of Wisconsin-Madison, 600 N. Park Street, Madison, Wisconsin 53706 and Helen Goodluck, Departments of Linguistics and English, University of Wisconsin-Madison, Madison, Wisconsin 53706.

We tested 4-7 year old children's comprehension of preposition-initial and preposition-final indirect object relatives and clefts, using an act-out task. Preposition-initial forms (e.g., "The pirate watches the dog to which the horse pushes the cow") represent a type of structure more common in the world's languages than the corresponding preposition-final forms ("The pirate watches the dog which the horse pushes the cow to"). Following a theory of acquisition in which the most normal, unmarked forms are first-acquired and/or easier to comprehend, we hypothesized that preposition-initial forms would be easier than preposition-final forms, despite the fact that the former are relatively infrequent in modern English speech. This prediction was not borne out. We suggest nonetheless that markedness values may have a role in accounting for our data. The primary error in general for less advanced children and for all children for clefts was to interpret the head NP as filling the subject rather than indirect object position in the embedded clause. We suggest this error type represents the child's readjustment of challenging material to conform with the least marked forms in Universal Grammar.

The emergence of intonational cohesion and paratones. Ester M.S. Gebara, Depto. de Linguística - I.E.L., Universidade Estadual de Campinas, Caixa Postal 6045, 13.100 - Campinas - S.P. - Brazil.

The intonational characteristics of the speech of a girl from 1;6 to 2;0 were analyzed and particular attention was given to the cohesive succession of

tone units across one-word utterances. Two kinds of intonational continuity were singled out: a) sequences of tones used in a row which are intonationally continuous; b) various tones combining to form units larger than the tone unit. The latter refers to proto-paratones namely intonational frames for the first attempts at the production of proto-narratives. Such proto-paratones evolve from the joint adult-child construction of texts produced in story-telling formats to the first intonational frames for narratives in the child's speech. The first proto-paratones do not correspond to narratives strictu sensu: there is no time succession of connected events nor is there any grammar of the story. The conclusion is that there is a gestaltic processing of wholes of the interlocutor's speech and that intonation functions as a holistic strategy for comprehension.

Young children's attention and comprehension of stories as a function of their sentence length. Barbara George and Michael Tomasello, Department of Psychology, Emory University, Atlanta, Georgia 30322.

This study investigated experimentally the effect of variations in a feature of adult speech on preschooler's attention to and comprehension of that speech. The feature which was manipulated was a general syntactic measure, mean length of utterance or MLU. Twenty-four 2 to 5 year olds were audiotaped during a freeplay situation (Session 1). They were then divided into two groups (Low and High), comparable in age and gender, on the basis of their productive MLUs. During Session 2, each child watched three stories being told on a TV screen. Each story had three MLU versions (Short, Medium, Long). All three versions of each story were identical in overall length, total number of words, and content. Two dependent measures were taken. First, the child's visual attention to the TV screen was recorded. Next, a/c/e was given eight comprehension questions after each story. Results indicated that the comprehension performance of the High group and the attention of the Low group were significantly affected by variation of the input MLU. These results imply that the process of language development is affected by variations in adult speech. Furthermore, these results support speculation that the most facilitative input for language learning is that which is optimally above the child's productive level.

Some specific relationships between semantic and conceptual developments in the one-word stage. Alison Gopnik, Department of Psychology and Linguistics, Scarborough College, University of Toronto, and Andrew Meltzoff, Child Development & Mental Retardation Center, University of Washington, Seattle, Washington 98195.

Two studies investigate the hypothesis that specific semantic developments are related to specific cognitive developments in the one-word period. In a longitudinal study, children's use of words encoding disappearance, success and failure was recorded and compared to their performance on object-concept and means-ends tasks. Children acquired disappearance words at about the same time they first solved serial invisible displacement tasks, and they acquired success/failure words at about the same time they first used insight

to solve means-ends tasks. Disappearance words were not related to means-ends tasks and success-failure words were not related to object-concept tasks. In a cross-sectional study, thirty 18-month-old children received the same tasks. Children who used disappearance words did better on the object-concept tasks than those who did not. There was no relationship between success/failure words and object-concept performance. Children who used success/failure words were more likely to use insight than those who did not. There was no relationship between disappearance words and means/ends tasks performance.

The contribution of cohesion to the coherence of narratives. Natalie L. Beiberg, University of Colorado, Boulder, Colorado 80309.

Cohesion, the tying together of linguistic components in the surface structure of texts, has been identified as an important contributor to coherence. Two ways of studying cohesion have been reported: cohesive tie analysis, which categorizes the cohesive devices in a text, and cohesive harmony, which focuses on the interactions among chains of cohesive ties. The contribution of these two aspects of cohesion to the coherence of narratives constructed by normal and mentally retarded children was the focus of the present study. Although the retarded children evidenced less coherence in their narratives than normal peers matched for mental age, they used similar numbers of cohesive devices. However, the patterns of usage differed for the groups: in the normal group, all five measures of cohesion - unweighted cohesive ties, weighted cohesive ties, attempts at cohesion, cohesive chains and cohesive harmony - correlated significantly with narrative level (while only cohesive harmony was correlated with narrative level) in the retarded. It can be concluded that the presence of cohesive chains is not sufficient for coherence to be created; rather, integration among the chains is required.

Structure and function in maternal speech: Their relation to child language development. Erika Hoff-Ginsberg, The University of Wisconsin-Parkside, Menasha, Wisconsin 53141.

Mothers modify their speech when talking to young children and some properties of mothers' speech are related to the rate of their children's syntax growth. The work reported here asked whether the basis of the modifications made in talk to children, i.e., mothers' communicative intentions, are related to children's language growth and whether the structural properties of mothers' speech with previously-observed relations to language growth are themselves associated with intentionally-based properties of mothers' speech. The subjects were 22 2½-year-old children and their mothers. The data-base consisted of 20 to 30 minute samples of mother-child conversation collected at two-month intervals over a six-month period. The pattern of correlations obtained among intentionally-based structural properties and structural properties of mothers' speech and measures of their children's syntax growth suggested that mothers' communicative intentions in talking to their children can influence language growth but that some relevant structural properties of mothers' speech are

independent of language function. These findings suggest that the relation of maternal speech to child language development is determined both by the mother who provides different sorts of input to her child depending on her communicative intentions and by the child who selects the information he needs from the variety of data his mother provides.

Oral and written persuasive strategies used by second graders. Rosalind Rowowitz, The University of Texas, College of Social and Behavioral Sciences, Division of Education, San Antonio, Texas 78285 and Rosemary Davis, Center Point Elementary School, Center Point, Texas 78010.

Little experimental research has been conducted on young children's ability to produce written language. Furthermore, little is known about how children make the transition from oral to written language production with select genres. This study was designed to compare and contrast oral and written persuasive strategies of English-speaking children at the second grade, was designed to consider strategies these children might use with different target-audiences, was designed to investigate and extend previous systems for classifying persuasive strategies. This research confirmed that some second graders are capable of controlling persuasive appeals under the written mode and appropriately adjust these appeals to target-audiences. Many need guidance. This study suggests that the emergence of persuasive writing is worthy of further research and presents a system for classifying persuasive strategies of emergent writers.

The origins of semantic universals: further evidence from the emergence of status constraints on request forms. Christine Howe, Department of Psychology, Strathclyde University, 155 George Street, Glasgow G1 1RO, Scotland.

Researchers have assumed that language development will be more readily explained if semantic categories which are universal across languages have an extra-communicative origin. However, investigations into the foundations of semantic universals have proved inconclusive, perhaps because they have addressed rather opaque categories. Arguing that status concepts like sex are both clearcut and semantically universal, the paper will report research into their emergence as constraints on language. To date, the research involves an experiment where children aged 3 to 5 years could use age, sex and familiarity as criteria for classifying persons and as constraints on request forms. None of the variables were used in classification by the youngest children. However, all three had emerged by 5 years, with age and familiarity preceding sex. By contrast, age was a constraint on request forms at all ages, with neither sex nor familiarity being employed. These results are incompatible with the view that semantic universals have extra-communicative origins. However, the paper will argue that, far from being problematic, this conclusion is a prerequisite for incorporating language in a general cognitive model.

Is "casa" house or home: bilingual development age 4 to 9. Teresa Johnson, Saint Louis University, Saint Louis, Missouri 63103.

Longitudinal study of bilingual females from age 4 to 9 to assess patterns of language acquisition and variations of language dominance in bilingual children. Several measures were used: auditory comprehension, syntax, morphology and temporal analysis (speech rate and hesitation phenomena). Formal testing was supplemented by observations in naturalistic settings. Testing sessions were conducted every six months and/or after prolonged exposure to Spanish. Data was collected in the United States and in Mexico. Findings indicate similarities in the acquisition of English and Spanish, with an enriching effect in vocabulary and a general facility with language, while morphology and syntax (in both languages) were affected negatively. This latter effect was less marked after age 6 when both systems were sufficiently internalized to be less influenced by exposure alone. A basic concern of this research was the complexity of the phenomenon under study: the fact that a speaker/hearer was involved in the communicative effort, and that it is the integration of many factors that make communication possible. Hence the necessity for a variety of evidence.

The importance of specific linguistic knowledge for the acquisition of genuine reference. Alan G. Kamhi, Department of Audiology and Speech Pathology, Memphis Speech and Hearing Center, Memphis State University, 807 Jefferson Avenue, Memphis, Tennessee 38105.

This paper provides evidence in support of Dore's (1976) claim that the acquisition of genuine reference requires a level of representation beyond the pragmatic and conceptual. Using diary data from my daughter Alison, I argue that her somewhat protracted period of preverbalizations was caused by a lack of some specific knowledge about language, namely, its referential autonomy. Alison did not realize that an utterance could represent a concept independently of her communicative experiences with that concept. Once she acquired this knowledge, she began to produce her first words. Some speculations are offered to account for Alison's somewhat protracted period of preverbalizations as well as to explain why she acquired genuine reference when she did.

Metalinguistic awareness in normal and language-impaired children. Alan G. Kamhi, Rene Friemoth Lee, Lauren K. Nelson and Dawn Dershem, Audiology and Speech Pathology, Memphis State University, Memphis, Tennessee 38105.

This study attempted to understand better the relationship between delayed linguistic performance and metalinguistic performance. Two experiments were conducted. The first experiment compared the ability of MA-matched normal and language-impaired (LI) children to identify and correct semantic, syntactic, and phonologic errors. The second experiment compared MA-matched, language-age matched, and LI children's ability to divide sentences into words and words into syllables and sounds. In experiment 1, the LI children had significantly more difficulty identifying and correcting syntactic errors

than the normal controls. In experiment 2, the LI children were generally slower than both control groups in dividing sentences into words and words into syllables and sounds. The findings indicate that not only do LI children take longer to understand and produce various linguistic forms, but they also seem to take longer to access this knowledge once it is acquired. This is one reason why LI children might continue to have learning difficulties after they have acquired most language forms as well as why certain metalinguistic tasks might prove difficult for them.

The acquisition of fricatives and affricates by Japanese children. Chieko Kobayashi, Tezukayama Gakuin Junior College, Tezakayama 3, Osaka, Japan.

This paper intends to analyze the course of development of fricatives and affricates in Japanese children on the basis of longitudinally collected spontaneous speech. As in other languages, fricatives [θ], [s], [ʃ], [ç], [z], [ʒ], and affricates [tʃ], [dʒ], and [tʃʃ] are very difficult consonants for Japanese children to acquire. They are often deleted and/or substituted by other consonants in earlier language development, and affected by various phonological processes over a long period. The acquisition of some fricatives, such as [s] and [z], comes very late in most children. In this study, primarily on data from three normal children, the order of acquisition, the patterns of substitutions, the use of any particular strategies, and the range of individual variation will be investigated to explore how these consonants are acquired by Japanese children.

The metaphorical expressions of Japanese elementary school children (6 age-11 age). Mayoko Koiwai, Seisen Women's College, Higashi-gotanda, Shinagawa-ku, Tokyo.

The metaphorical expressions of Japanese elementary school children are taken from children's writings under the title of 'Little Eye' appearing in the local newspaper (Shonan edition) and the collected works from elementary school children. This study confirms the assumption that the metaphorical expression of children is a primary 'speech performance' for making up for the insufficiency of description. The discovery of the similarity between 'the thing-said' and 'the thing-meant' by children is greatly dependent on the keen senses of an individual child and most children have the limited number of images in common, which are not characterizing children's 'creativity' in writing.

Factors influencing young children's ability to differentiate words and their referents. Stan A. Kuczaj II, Department of Psychology, Southern Methodist University, Dallas, Texas 75275.

The present study was intended to investigate the factors underlying young children's failure and success at differentiating words and referents.

Eighty 3-6 year-old children were asked a set of questions designed to assess the extent to which they distinguished words and referents. Forty of the children were then exposed to puppets that referred to the same object with different names. All of the children were subsequently retested to determine the effects of exposure to more than one name for the same object. Children who had heard the puppets name objects with a variety of labels showed significant improvement in their answers to the word-referent differentiation questions, whereas children in the control group did not. The implications of these results for theories of word-meaning development and metalinguistic development will be considered.

The pragmatic abilities of bilingual children: a comparative investigation.
Michael D. Laccinole, Brian B. Shulman, and William R. Kennan, Department of
Speech Communication & Theatre, West Texas State University, Canyon, Texas
 79066.

This study investigated the communication and functional language characteristics of four culturally distinct populations (Hispanic, Vietnamese, Laotian, and Anglo-American). Specifically, the pragmatic skill usage of ten children within each of the cultures was examined. Subjects ranged in chronological age from six to twelve years. Differences between how children from various cultures chose to interact in intercultural contexts were predicted. Spontaneous language samples were recorded using videotapes and coded using Dore's speech acts classification. An inter-coder agreement of .80 was obtained on random samples of coded data. The data revealed differences and similarities across cultures investigated. The technique of spontaneous language sampling employed with bilingual children for investigating pragmatic abilities is discussed.

Word recall in discourse by children with specific language impairment.
Lawrence B. Leonard, Robert V. Kail, and Catherine Hale, Department of
Psychology and Speech Science, Purdue University, West Lafayette, Indiana
 47907.

This investigation examined word recall by language-impaired children using a task involving a natural linguistic context. Language-impaired, age-matched normal, and language-matched normal children listened to stories during which probe words were presented. The children were required to say the word that had immediately followed the probe word in the story. The language-impaired children's recall was found to be poorer than that of the age controls and comparable to that of the language controls. For all groups words appearing toward the ends of sentences were better recalled than those appearing toward the beginning, and words occurring in main clauses were better recalled than those in subordinate clauses. Contrary to expectations, the language-impaired children's ability to use probe words from particular grammatical categories (e.g., adverbials) to guide retrieval was no lower relative to their performance with probe words from other categories (e.g., nouns) than was the case for normal children. The implications of these findings for a storage-elaboration versus retrieval-based account of language-impaired children's word-finding problems are discussed.

Antecedents and consequences of elementary math students' verbal disagreements during small-group learning. Janet A. Lindow and Louise Cherry Wilkinson, Department of Educational Psychology, University of Wisconsin-Madison, Madison, Wisconsin 53706.

Controversy, an aspect of small-group interaction and operationalized as the dissension episode for this study, was examined in six mixed-ability, mixed-gender math groups. The purpose of the study was to determine the relative influence of gender and ability on students' participation in verbal conflicts regarding discrepant math answers during seatwork, and to determine the relationship between participation in dissension episodes with achievement and sociometric ratings of competence. Results showed significant gender and ability differences for prevailing answers, and participation effects on achievement and peer-nominated competence. Dissension episodes are discussed in relation to group answer-checking and gender differences are examined in specific episodes.

syntactic processing and phonological assimilation in Hungarian children. Brian MacWhinney, Carnegie-Mellon University, Csaba Pleh, Eotvos Lorand University, Hungary, and Elizabeth Bates, University of California at San Diego.

This paper presents three experiments on sentence understanding by Hungarian preschool children and adults in the framework of the "competition model" put forward by Elizabeth Bates and Brian MacWhinney. According to this model, the listener uses verbal cues in a probabilistic manner to make judgments concerning the grammatical roles of the different noun phrases in a sentence. The order of acquisition of these cues by children is said to depend on cue validity. The cues manipulated in these experiments included case marking, word order, animacy, stress, phonological detectability, and person of the possessor. All three studies examined the impact of these cues on the choice of an agent. Although case-marking was the strongest cue at all ages, its strength in experiment 1 at the youngest ages was less than what would be predicted by cue validity alone. Experiments 2 and 3 indicate that this delay in acquisition may result from certain problems with phonological detectability of the accusative suffix in Hungarian. These two experiments also revealed the importance of a further strategy by which the child prefers the first noun to be an object possessed by ego. A revision of the competition model is proposed which is shown to account properly for the cross-linguistic data currently available on the development of comprehension strategies for simple sentences.

Analysis of expressive language content in normal and disordered children. Charles L. Madison, Department of Speech, Washington State University, Pullman, Washington 99104.

The present paper reviews the development of a concise method of evaluating language content in normal and disordered child speakers. Initially, a content inventory, including object knowledge (lexicon) and semantic

relationships (object relations and event relations) of the Clark-Madison Test of Oral Language was completed. A data point pool of 500 semantic items based on 65 target sentences resulted. The elicitation technique followed the protocol of the Clark-Madison. Children are presented with auditory and visual stimuli followed by a second visual plus an auditory cue designed to stimulate production of a novel sentence. Language disordered (N=88) and language normal (N=90) children ages four through eight years served as subjects. Analysis included comparisons of syntactic and semantic performance by age level and item analysis of semantic pool. Analysis (ANOVA) showed significant differences between age groups and between syntax and semantic scores as well as a significant interaction effect. There was a significant correlation between syntax and semantic scores. Based on item analysis discrimination and difficulty scores were determined for the semantic item pool. Discussion focuses on the trends and modifications suggested by the item analysis and the general research value of the content analysis system.

The child's acquisition of Japanese numeral classifiers. Yo Matsumoto, Graduate School of Languages and Linguistics, Sophia University, Kioicho, Gijyoda-ku, Tokyo.

A production experiment is reported on children's acquisition of five Japanese numeral classifiers commonly used in counting inanimate objects. Classifiers are morphemes analogous to English sheet in "two sheets of paper". These non-relational terms form a hierarchical structure similar to dimensional adjectives. The results show that 1) Children initially learn classifier meanings through experiences with objects to which these classifiers are applied. 2) In spite of the intervening factor above, the acquisition order of their full adult meanings is largely predicted by the difficulty of working out the adult conditions of their use. These findings are discussed in terms of Carey's Exemplar theory and Clark's recent Lexical Contrast Theory. A compatibility between exemplar-dependency and semantic complexity view of acquisition order is suggested. Furthermore, the type of semantic domain where conditions of use is the primary determinant of acquisition order is reconsidered, and it is claimed that something other than relationality is the critical factor.

On the nature and development of pragmatic rules. Madeline Maxwell, Department of Speech Communication, The University of Texas at Austin, Austin, Texas 78712

The investigation of pragmatics in children's language has reached a turning point. This paper is an attempt to characterize that point, to look at what we have done, where we might go, and, especially, what concepts we need to take with us. All speakers of a language have many subcodes; subcodes are dynamic because they are based on interaction and change through interaction. Studies of family communication show that communication acts have distinct properties in different families. Agreement for interpretation among family members is higher than with outsiders for public as well as private

communication. Differences develop in four dimensions of communication - status, solidarity, emotion, and point - that are revealed through lexicon, grammar, prosody, and shaping elements such as asides. Interpretation of these elements results in dynamism, levels of mutuality, and degrees of latency in communication. Management of these dimensions requires pragmatic rules be stochastic rather than predictive. Because of these factors individuals' expectancies for self, other, and situation determine which of their resources they apply. Future research must deal with these dimensions of difference in subjects and researchers both.

Do verb inflexions encode tense or aspect? John McShane and Stephen Whittaker, Department of Psychology, London School of Economics, Houghton Street, London, WC2A 2AE, England.

A number of studies have examined whether verb inflexions initially encode tense or aspect in children's speech. The methodologies employed by experimental and naturalistic studies is considered. Methodological difficulties are considered and an outline of experimentally manipulable aspectual oppositions is presented. Three experiments that manipulated aspectual parameters are reported. It is concluded that inflexions primarily encode tense relations but aspect, in some cases, determines secondary choice among inflexions.

Pragmatic disorders: a question of direction. Michael F. McTear, School of Communication Studies, Ulster Polytechnic, North Ireland.

During the last few years there has been a considerable upsurge in the study of developmental pragmatics and discourse, with recent attempts to extend this work to the analysis of disorders. Despite the progress made in such research, it is necessary to scrutinize carefully its theoretical underpinnings and the explanatory status of its findings. In the absence of a general theory for this domain, research is in danger of lacking rigour and direction. Furthermore, the design of many studies actually precludes a thorough investigation of the issues and obscures the nature of the relationship between "linguistic" and "pragmatic" disorders. It is argued that in the present state of the field, case studies offer a methodology for exploring the nature of pragmatic disability without begging some of the questions which ought to be investigated. An example of a problematic case of a child with "pragmatic disability" is presented in order to illustrate how some of the issues raised in the paper might be addressed.

Reduction of lexical overextensions: the roles of maternal attribute demonstrations and corrections. Carolyn B. Mervis and Cynthia A. Mervis, Department of Psychology, University of Massachusetts, Amherst, Massachusetts 01003.

The meanings of many of children's initial words are overextended to include objects similar to, but not, members of the relevant category from an adult perspective. These initial child-basic categories may be based on different attributes than the corresponding adult-basic categories, due to lack of knowledge of many culturally appropriate functions and correlated form attributes. The disappearance of overextensions has generally been assumed to be due to either simple implicit feedback (correct naming) or simple explicit feedback (correction). In contrast, we hypothesized that overextension reduction begins following maternal demonstration of critical *name and/or function attributes that make an object a member of its adult-basic, rather than child-basic, category*. The results of a longitudinal study of 6 child-mother dyads, which included both play sessions using specially chosen toys and systematic comprehension and production testing, supported our hypothesis. Initial comprehension of the adult-basic label almost always was immediately preceded by a maternal demonstration, and almost all demonstrations were followed by appropriate comprehension. Maternal use of the adult-basic label alone did not lead to appropriate comprehension. Mothers seldom corrected their children's errors prior to appropriate comprehension. Correction was significantly more likely after appropriate comprehension occurred.

Bilingual reading and writing in the early years. Els Oksaar, Institute of General Linguistics, Hamburg University, Hamburg, Germany.

The paper discusses some fundamental questions in the field of learning to read and write in two languages in the pre-school years. The main emphasis lies on psycho- and sociolinguistic issues of the child's learning readiness. How is his interest in literacy aroused? Which linguistic and socio-cultural factors influence the acquisition process, and what is the importance of the caretaker and interaction with the child? The question of language contact and mutual influence will be discussed, also from the perspective of its spoken and written form. The analyses are based on data from the Hamburg Multilingual Language Acquisition Project with children in a bi-, tri- and quadrilingual environment. Of 20 bilingual children of the Project (German-Swedish, German-English, Swedish-Estonian), 13 could read and write both languages more or less fluently by the age of 4-5 years. A differentiated model of learning readiness will be established, including a comparison between learning to talk, read and write.

Overextension of object words in production and comprehension. Diane Boulin-Dubois. Department of Psychology, McGill University, Montreal, Canada. Monique Laurendeau Bendavid. Department of Psychology, University of Montreal, Montreal, Canada.

The twofold purpose of the present study was to assess: a) the proportion of overextension errors in a corpus collected on a large French-speaking population; and b) whether overextensions of object words in production are mirrored in comprehension. Sixty French-speaking children, ranging in age from 17 to 29 months, were studied. A production task consisted of showing

the child 15 single objects and asking him to name each of them. To test for comprehension, the child was asked to choose the referent of each target word among four objects (an appropriate exemplar, an object to which the word had been overextended in production and two irrelevant objects). Among the more notable findings were the following: 1) 85% of the subjects overgeneralized one word at least once; 2) 62%, 37% and 33% of the words used, respectively by the children aged 17 to 19 months, 22 to 24 months and 27 to 29 months to refer to the stimuli were overextended; and 3) 30% of the words overextended in production were overextended in comprehension. Implications of these results for current theories of lexical development are discussed.

Send in hand: linguistic input and sign language acquisition in deaf children. Philip M. Prinz, Division of Special Education and Communication Disorders & Linguistics Program, The Pennsylvania State University, 118 Moore Building, University Park, Pennsylvania 16802.

The research focused on adult linguistic input to deaf children acquiring language through the visual-gestural modality. Sign language input to 7 severely to profoundly deaf children, ages 15 to 36 months, was manipulated in order to assess the impact of input modifications on syntactic acquisition. The longitudinal study covering a 10-month period, centered on the relative effects of "recast" replies of teachers and parents on the subsequent language acquisition of the children. Targeted forms in several categories (negatives, noun-verb phrases, adverbial expressions, and complex verbs) were either completely absent or infrequently occurring in the children's spontaneous utterances at the beginning of the study. The data yield complementary evidence about the same linguistic structures of input analyzed through both experimental intervention and naturalistic observation. For all the syntactic categories studied, it was found that the children receiving systematic sign language input produced some variants within each grammatical category.

"Ball chases horse": a child-adult-computer interactive approach to language/reading development in young deaf children. Phillip M. Prinz, Division of Special Education and Communication Disorders, and Keith E. Nelson, Department of Psychology, The Pennsylvania State University, University Park, Pennsylvania 16802.

The present research involves a new method for teaching young deaf children (2 to 8 years) to read and "write" using a portable microcomputer which allows the child to initiate communication from the onset of instruction. The children use a special interface keyboard which builds in perceptual assistance, individualized vocabulary, and animation of pictures and color graphic representations of signs from American Sign Language (ASL). The learning mechanism underlying this novel instructional system is best characterized as responsive, interactional and exploratory, reflective of the way in which most children acquire a first language. Results of the study have demonstrated a significant improvement in word and phrase identification, reading comprehension and basic sentence construction or

writing. The increase in writing and reading/communication skills is attributed to exploratory learning--not solely programmed instruction--which allows the child to flexibly investigate the representation of various printed forms which relate to the child's own primary mode of communication.

If you could only hear what I see: code-switching across American sign language and manually coded English. Phillip M. Prinz and Elisabeth A. Prinz, Division of Special Education & Communication Disorders, The Pennsylvania State University, 118 Moore Building, University Park, Pennsylvania 16802.

The study investigated code-switching abilities in American Sign Language (ASL) and Manually Coded English (MCE) of 25 profoundly deaf children and adolescents between the ages of 10 years, 7 months and 20 years, 11 months. The subjects were evaluated in terms of their productive code-switching abilities (including use of propositions, lexical items and underlying syntactic constructions) and their ability to identify and judge code-switching in an adult deaf signer. The results suggest a developmental trend in code-switching abilities in terms of production, perception and metalinguistic judgment.

From Creole to English: assessing language difference and language disorder. Adele Proctor and Ann M. McLaughlin, Northeastern University, Boston, Massachusetts 02115 and John B. Hutchinson, Boston University, Boston, Massachusetts 02215.

To determine whether a non-native English speaking child is exhibiting a language difference and/or a language disorder, it is first necessary to establish differences between the child's native language and English. In an attempt to address the language difference/disorder question for Cape Verdean Creole speaking children, the Test of Auditory Comprehension of Language, a measure of oral language comprehension standardized in English, was translated by a native Creole speaker. The translation revealed phonological, lexical, morphological and syntactical differences between Creole and English. Based on the translation process, several predictions were made relative to the language normal Creole speaking child's performance on selected aspects of language, as measured by the test. The test was then administered to 15 language normal Creole speaking children ranging in age from 5 to 9 years and 5 Creole speaking children, 7 to 11 years, suspected of language disorder. Linguistic differences found between Creole and English and results of language normal and language impaired children's performance will be discussed with reference to predictions made as a function of the translation process.

A comparison of initial consonant acquisition in English and Quiche. Clifton Poe, David Ingram, and Helen List, Department of Linguistics, The University of British Columbia, Vancouver, British Columbia, V6T 1W5, Canada.

In this study we report the development of initial consonants in the speech of six Quiche Mayan children (aged 0;10 to 3;0 initially). Longitudinal samples were subjected to a phonological analysis which sets both a frequency limit (determined in part by the total number of lexical items the child has produced) and a matching criteria (fifty percent of the adult target sounds). The results indicate that while the Quiche children showed a certain amount of variation, they all began with a phonological inventory that was distinct from that of children learning English. In particular, the Quiche children developed an early /t_s/, /x/ and /l/. This suggests that the adult phonological system exerts more influence on the earliest stages of a children's phonology than previously realized, promoting the early development of sounds which children learning other languages find "difficult" to produce. Some type of Jakobsonian theory may be necessary to explain the initial organization of children's phonology.

Possible constraints and non-constraints on the nature of phonological input to language-learning children. Nan Bernstein Ratner, Department of Hearing and Speech Sciences, University of Maryland, College Park, Maryland 20742.

This paper proposes certain pre-requisite modifications that must be made by input registers if speech is to be processable by language-learning infants. Such modifications or constraints are derived from review and evaluation of past research describing the acoustic-phonetic characteristics of parental speech to young children, and from research exploring the processing demands imposed upon listeners by normal, adult conversational speech. Hypothetical constraints include: some prerequisite level of segmental clarification at relatively early stages of child language learning; an adult model which alternates clarified and unclarified phonetic forms in speech to young children; and necessary marking of segmental boundaries or the selective repetition of words outside of utterance embedded contexts to allow language learners to segment the speech signal into minimally meaningful units. It is suggested that such hypothetical constraints fit well with data gathered for English-speaking parents talking to their children, and that they may also be reconcilable with descriptions of input or BT registers quite unlike English BT.

Operating principles and processing constraints in the acquisition of Japanese verb morphology. Matthew Rispoli, Department of Developmental Psychology, Teachers College, Columbia University, New York, New York 10027.

Japanese children seem to acquire verb inflections without major obstacle. The "error" has been noted by several researchers, the overextended use of

the -te "concatenative" suffix. This overextension has been attributed to a principled attempt to establish a basic, all-purpose verb form. This is especially relevant because Japanese verbs have no unmarked form. On the other hand, the -te "concatenative" suffix functions in adult Japanese as a connective in composite predicates. The apparent overgeneralization may actually be due to limitations on utterance length. Two Japanese boys were observed longitudinally between the ages of 18 and 25 months. Audiotaped samples of caregiver-child discourse were made periodically. The two boys differed in a number of behaviors: rate of increase of mean words per utterance, productivity of inflections, production of multiword, composite predicates, and the overgeneralization of -te. The overgeneralization of -te occurred considerably more often, over a longer period of time with the child whose speech production was more highly constrained. This result raises the question of what relationship exists between operating principles and processing limitations.

Interruption of conversations by preschool children: behavior and metalinguistic knowledge. Jacqueline Sachs, James Donnelly, Cheryl Smith, and Julia Dwyer, University of Connecticut, Storrs, Connecticut 06268.

The aim of this study was to determine 1) whether preschoolers behave differently when making requests to adults engaged in conversation and adults who are silent, and 2) what preschoolers know about the rules governing conversation interruptions. Forty-five children (3, 0 - 5, 6) participated in an art project with one experimenter. To complete the task, the child had to ask two other moderately familiar adults (talking or silent) for needed items. Most children interrupted the talking adults, not waiting for silence or acknowledgment. Only the oldest girls consistently responded differently when making the request of talking adults, taking longer to begin their requests and using signals such as tapping to gain attention. All children were also tested for metalinguistic judgments about speaking to a silent versus talking addressee. Even some of the youngest children said a child should wait until the addressee is not busy before making a request. It would appear that preschoolers have acquired some knowledge about the rules of appropriate conversation interruption quite early, though their behavior often does not reflect that knowledge.

The effects of communicative context on children's pragmatic skills: implications for assessment. Brian B. Shulman, Department of Speech Communication and Theatre, West Texas State University, Canyon, Texas 79016.

The effects of three different communicative contexts on children's turn-taking, topic maintenance, topic change, and speaker dominance skills were investigated. One hundred-fifty spontaneously produced utterances were analyzed based upon dyadic interaction with an adult. Results are discussed in relation to clinical applicability to language sampling techniques and assessment strategies.

Three year-olds' reading and writing behaviors. Anne Sinclair, F.P.S.E., University of Geneva, 24 Rue general Dufour, 1211 Geneve 4, Switzerland.

Twenty-four children aged 3;2 to 4;2 were asked to perform various tasks dealing with the interpretation and production of printed or written material, both alphabetical and numerical. For example, we asked children: to tell us the meaning of examples of environmental print (e.g. shop-signs, speed-limit), to make notations for displays (e.g. three blocks) and for spoken material (e.g. "Hi Mommy"). Results show that many subjects distinguish print from non-print and that others are aware of some of the features print must possess. Environmental print is interpreted not only through knowledge of the real world, but also according to certain principles constructed by the children themselves. For language material subjects create various writing systems, e.g. representation of intonation, syllabic notations. For numerical material one-to-one correspondences between objects and graphemes were often used. Links between early "reading" and "writing" are discussed from the point of view of developmental cognitive psychology.

Linguistic complexity in language acquisition. Carlota Smith and Anne van Kleeck, University of Texas, Austin, Texas 78712.

This paper reports an experiment that tests an hypothesis concerning linguistic complexity. The hypothesis is the common and plausible notion that children acquire simple linguistic structures earlier than complex structures, other things being equal. The sentences used as stimulæ in the experiment were constructed according to the principles of a theory of complexity developed by the first author. The theory assesses the complexity of sentences in terms of several factors: systematic constraints on particular forms, surface structure length and density, and interpretive required. The prediction was that, for three related adverbial structures, children would have better knowledge and control of those structures that are linguistically less complex. Two tasks using the test structures, Toy Moving and Imitation, were presented to children 3½-6 years of age. The results of the experiment supported the predictions made according to the theory of simplicity: performance was better with linguistically simpler structures. However, there were dramatic differences for the two tasks, suggesting that they do not tap the same processes and should not be directly compared.

Why routines are different: situational effects on children's and mother's speech. Catherine Snow, Debra Nathan, Rivka Perlman, Harvard Graduate School of Education, Larsen 7, Cambridge, Massachusetts 02138.

Although it has long been recognized that situation is an important variable in child language research, the effect of situation on language produced by children has not been systematically looked at, nor has situation been taken into account in studies of the effect of adult speech on children's language development. This paper presents data to suggest that one aspect of situation - the degree an activity is routinized or predictable - affects both complexity of child speech and the incidence of facilitative intentional

features in adult speech. Children's and mother's speech was more complex in routine situations than in less familiar or less structured situations. In addition, children were less imitative and mothers less semantically contingent in these situations. We suggest that the pattern of features in adult speech which facilitate children's language development may be highly situation-specific. In unstructured, novel situations (those most often studied) syntactic simplicity and semantic contingency are necessary to ensure comprehension and to enable children to learn something about the input language. In routine situations, though, predictability may be the crucial feature enabling the child to respond and to remember the utterance for later use.

A model for the description and evaluation of the communicative performance of adult-child dyads in a free play situation. Ragnhild Söderbergh, Department of Linguistics, Child Language Research Institute, Helgonabacken 12, S-223 62 Lund, Sweden.

The model has been developed to meet the need for describing and evaluating the communicative performance of adult-child dyads in a free play situation. The child's verbal language is seen as developing on the basis of prespeech interaction in gaze, vocalizing, babbling, and gestures, and these non-verbal means of interaction are regarded as essential both in the child's conversation during the whole preschool period and in the adult's intercourse with the child. The model thus comprises three components, a verbal, a somatic and a vocal component. The verbal component contains discourse analysis and a classification of utterances according to function. The somatic component registers direction of body, direction of gaze, facial expression, and action. The vocal component takes care of the "tone of voice" as expressing emotional attitude. The model also has a marking system for turn passing.

Individual differences in learning to speak: a bilingual case study. Gisela Speidel, Kamehameha Educational Research Institute, Honolulu, Hawaii 96782.

The study of the simultaneous acquisition of two languages by children can help to disentangle constitutional and environmental causes of differences in language behavior. A case study, supplemented by standardized language and intelligence tests, traces the language learning histories of two bilingual children from 7½ months to 7 years. The children differed greatly in the ease with which they learned to speak their two languages. In addition to delayed language, articulation and syntactical problems in both languages, the one child, the recreator, had difficulty in speaking his thoughts fluently, seeming to reconstruct the grammar when he spoke. His difficulties gradually disappeared, though traces remain. The imitator learned the two languages readily, speaking fluently and with little mental effort. The children did not differ on averaged performance across a variety of linguistic tasks in the two languages. However, the recreator had significantly poorer imitation than comprehension in both languages; the imitator had no difficulties with imitation. General cognitive abilities, language learning environment and bilingualism are discussed and rejected as primary causes of the differences. The differences are probably related to neurological differences creating variation in the ease of speech sound production. Such variation may be representative of children in general.

Conversation and language learning in the classroom. Gisela Speidel, The Kamehameha Educational Research Institute, 1850 Makuakane Street, Honolulu, Hawaii 96782.

Conversation is the major vehicle by which small children acquire the rudiments of their language. Can conversation also be used to promote further language development in the classroom? The present paper describes codes for looking at the pattern of conversation between a teacher and her students. The codes focus on those elements of the conversational interaction which, in mother-child interactions, have been thought to be critical for language learning. The codes are then used to analyze conversations between a teacher and a small group of her students during their reading comprehension lesson. Results of the analysis showed that the nature of the interaction process during these reading lessons was very favorable for language learning. Examples of actual language learning are described. The present example of language learning through conversation is with dialect speaking children, extending their ability to speak in standard English. However, it is very probable that with modification in level of topic difficulties, this strategy would also be appropriate for English speaking children and for children who are learning English as a second language in a regular classroom setting.

Children's comprehension of reflexive pronouns. Francesca M. Spinelli, Brenda Y. Terrell, and Saha K. Prosanta. Department of Communication Science, Case Western Reserve University, Cleveland, Ohio 44106.

This study explored children's comprehension of reflexive pronouns. Third and sixth grade subjects listened to and answered questions about sentences containing reflexive and personal pronouns in four different syntactic roles. Results indicated that the syntactic role of the pronouns affected comprehension. Although the mean scores for the two grades were similar, the distribution of correct responses across the syntactic categories and conditions indicated that the third and sixth graders used different strategies to comprehend the pronouns. However, within each grade level reflexive and personal pronouns were processed similarly. The third graders invoked a referent of a pronoun before the pronoun rule. When application of this rule resulted in two possible referents, the minimal distance principle was used to determine which noun was appropriate. The sixth grade subjects utilized a subject-of-main-clause strategy. Here the subjects interpreted the referent of the pronoun as being the main clause of the sentence. The strategy used by the sixth graders showed greater syntactic processing than those used by the younger subjects.

Modifying the interactive system between a mother and her Down's Syndrome child: a strategy for promoting language development. E. M. Stella-Prorok Universidade Federal de Sao Carlos, Brazil.

Based upon some analyses of a two-year longitudinal data collection, the interactive system of a mother-child (Down's Syndrome) dyad was characterized

in the following dimensions: (a) temporal structure; (b) communicative exchanges; and (c) individual output in-between exchanges, both in quantitative and qualitative terms. Through the comparison of the results with previous ones obtained from normal samples of different ages, it was concluded that the M - C system was showing clear disequilibrium within these dimensions. A series of instructions for the mother was then planned and gradually implemented. After each instruction, a series of 5 to 7 observational sessions were carried out at the Ss' home to obtain new information about the M - C interaction in the free-play situation. The data presented refer to a series of 5 instructions and the resulting changes in the dimensions of the M - C system previously mentioned. The data also show clear progress in the child's development of language. The implications of the results are discussed concerning the relevance of the mother-child interactive system to the organization and development of the child's linguistic behavior.

A closer look at children's acquisition of dynamic and static locative meaning distinctions. Ida J. Stockman, Department of Audiology & Speech Sciences, Michigan State University, East Lansing, Michigan 48823 and Fay B. Vaughn-Cooke, Department of Communication Disorders, The University of District of Columbia, Washington, D.C. 20002.

Research on children's locative expressions has focused mainly on the acquisitional meaning of small subsets of individual locative words, typically in isolation of the syntactic/semantic contexts in which they occur. Among the few studies that have focused on syntactic locative meaning are those which have shown that children learn to talk about the spatial displacement of objects (dynamic or locative action utterances) and the existing place of objects without reference to the movement that resulted in the place (static or locative state utterances). In this study, children's ability to code dynamic and static locative events in terms of locative direction, origin, position, or some combination of these subcategories of meaning was investigated. Cross-sectional/longitudinal observations were made of 12 normally developing children who were equally distributed by age and sex at 1;6, 3;0, and 4;6 years by the onset of data collection. Audio-visual records were made of their spoken language which was sampled during home play and social interactions at four to six week intervals for 18 months. Cross-sectional data trends from the first sampling period reveals that children's dynamic and static expressions expand to include four subcategories of locative meaning distinctions. The acquisitional order for these subcategories differs for dynamic and static locative utterances. The study has both theoretical and practical significance for expanding developmental descriptions of locative knowledge beyond individual locative words.

Phonetic inventories, 15-24 months: a longitudinal study. Carol Stoel-Gammon, Department of Speech and Hearing Sciences, University of Washington, Seattle, Washington.

This study presents a phonological analysis of longitudinal language samples collected from 34 English-speaking children ages 15-24 months. The samples, taken when the subjects were 15, 18, 21, and 24 months old, were collected in free play settings while the subjects interacted with a caretaker (usually the mother). At 15 months, only 7 of the 34 subjects produced enough meaningful speech (a minimum of 10 different identifiable words) to be included in the study. At 24 months, 33 of the 34 subjects had reached the criterion of 10 words. Word productions were analyzed in terms of initial and final consonantal phones produced. Phones occurring in a given position for a given child were included in the phonetic inventory for that child. Group analysis of the phonetic inventories revealed: (1) a consistent increase in inventory size over time; (2) a predominance of stops, nasals, and glides at all ages; (3) a predominance of voiced stops word-initially and voiceless stops word-finally; (4) a tendency for larger inventories of initial consonants than final consonants; and (5) a strong tendency for /r/ to appear first in word-final position. The results are compared with published studies of babbling and early phonological development.

A longitudinal study of cohesion in the narrative of young children. Carol Stoel-Gammon, Department of Speech and Hearing Sciences, University of Washington, Seattle, Washington 98195 and Natalie L. Hedberg, University of Colorado, Boulder, Colorado 80309.

Cohesion in a text is created through the mutual connection of linguistic components in the surface structure. Cohesive connections, or 'ties', create meaningful interdependencies among words and allow for the interpretation of certain items according to their dependencies on other items. The purpose of this paper is to report the findings of a study investigating the use of cohesion in young children's narratives. The data base consisted of 48 stories told by eight children; for each child, there were two stories at 2-3 years, two stories at 3-4 years, and two stories at 4-5 years. Each story was divided into T-units, and then examined to determine the use of cohesive ties between T-units. Five types of cohesive ties were analyzed: (1) reference (pronouns, definite articles, demonstratives, and comparatives), (2) lexical cohesion, (3) conjunctions, (4) substitution, and (5) ellipsis. The results revealed a developmental pattern in the types of cohesive ties, with reference and lexical cohesion appearing first, followed by conjunctive cohesion, and lastly by substitution and ellipsis. In addition, the range of cohesive ties within the five major types increased with age.

Operating principles in the acquisition of literacy. William T. Stokes, Lesley College, Cambridge, Massachusetts 02138 and George Branigan, Stonehill College, North Easton, Massachusetts 02356.

Drawing from a decade of research in language development, psycholinguistic investigations of beginning literacy have begun to identify the cognitive and linguistic strategies children employ as they struggle to extract meaning from print or to express intentions in writing. Invented spellings, reading miscues and related behaviors reveal the general character of such strategies. In this paper we provide a detailed examination of a set of operating principles through which children break into the underlying systems of reading and writing. Slobin's (1983) operating principles served as the heuristic for examining children's reading and writing. Using these principles enabled us to discover similarities and dissimilarities between the acquisition of language and literacy. Our analyses focus specifically on children's understanding of (1) the segmentation into units, (2) the constraints upon the order of units, and (3) the generalizability of initial hypotheses. The data are drawn from the records of four children five to twelve years old and extend from the onset of relevant behaviors to the present. We argue that children naturally acquire the underlying principles of written language when they encounter print in a context of meaningful social interaction with adults who by their participation model competent behaviors. Slobin's contention that meaning is central to language acquisition is extended by our findings to the acquisition of literacy. In children's writing, attempts to create meanings take precedence over form and in children's reading attempts to extract meanings take precedence over precision. More mature behaviors in both domains are the natural result of active attempts to map meanings to forms.

The role of prosody in children's comprehension of embedded sentences. Helen Tager-Flusberg, Psychology Department, University of Massachusetts, Boston, Massachusetts 02125.

Studies on children's comprehension of sentences containing relative clauses has led to conflicting findings on the order of difficulty for specific sentences, and conflicting theoretical interpretations. This experiment investigated the hypothesis that these varying results might have been caused by prosodic factors which had not been controlled in the earlier studies. Thirty 4 and 5 year-old English-speaking children were given two sets of nine sentences with relative clauses (subject, object, and indirect object focus and embeddedness) and asked to act them out on a stage using toy animals. Half the subjects received sentences with normal prosody, and half received sentences with no prosodic features. All sentences were presented by tape recorder. The data showed that overall, performance on sentences without prosody was worse than on the sentences with normal prosody. There was also a significant sentence by prosody interaction: in particular, sentences with subject embedding and focus were especially adversely influenced when presented without prosodic clues. Thus the order of difficulty obtained for the main types of relative clause sentences is influenced by prosody, confirming the initial hypothesis. The findings from this study fit best with surface structure explanations of children's handling of complex sentences, modified to include the influence of prosody.

The acquisition of color terms. Helen Tager-Flusberg and Gail Rex, Psychology Department, University of Massachusetts, Boston, Massachusetts 02125.

Research on the acquisition of color terms by children has been guided by Berlin and Kay's seminal research demonstrating universal aspects of color categorization and naming. While in general, studies agree that focal colors are developmentally salient, there is less agreement regarding the hypothesis that the universal order of evolution of color names is reflected in development. This study was designed to test children's acquisition of color naming and comprehension in two, three, and four year-olds. Children, screened for color-blindness, were tested on their comprehension of the eleven basic color terms, including examples of focal and non-focal colors for each term. The same subjects were also tested for their ability to name focal and non-focal colors for each of the basic color terms. Focal colors were named and understood earlier than non-focal colors. However, these experiments did not confirm the hypothesis that the evolutionary order for color terms was reflected in the order of acquisition. There was little consistency among the children in the order in which they acquired color names, although they all consistently named colors with basic color terms. Production was also superior to comprehension in this lexical domain. Transcript analyses of three children studied longitudinally demonstrated that there is a close relationship between the frequency and use of particular color words in mothers and their children. This study shows that the acquisition of color words is partially determined by the perceptual organization of the domain of color, and partially by the language input that children receive.

Discourse of preschool children: a contextual analysis. Elizabeth Teas, INREAL, Campus Box 409, University of Colorado, Boulder, Colorado 80309.

This study used the communicative context as a basis for detecting and interpreting patterns of similarity and difference in the communicative strategies employed by thirty 3 to 5 year-old normally developing and language delayed preschool children during discourse. Normally developing children displayed an ability to effectively use nonverbal and verbal information from the communicative context to understand and express messages. They combined gaze at their communicative partners with their propositional utterances significantly more often than their language delayed peers. They also disambiguated pronominal reference by accompanying it with pointing. Normally developing children provided precise and complete communicative information for their listeners and monitored the success of their communications. The language delayed group spent significantly more time in dyadic interactions and used significantly more clusters of 4 to 7 nonverbal behaviors with nonverbal maintenance strategies. Their gaze impoverished behavior deprived them significantly more often of valuable nonverbal communication occurring within the communicative context. The language delayed children had significantly fewer opportunities to observe interaction of all elements of the communicative context, and were more immature, less efficient communicators.

Lexical and conversational differences in mothers' and fathers' speech to one-year olds. Michael Tomasello, Lisa Kaley, and Michael Jeffrey Farrar, Department of Psychology, Emory University, Atlanta, Georgia 30322.

Fathers' speech to children has been characterized as both redundant with mothers' speech and as complementary to it. Most studies have used structural-linguistic measures for comparison of mothers' and fathers' speech and have reported no differences, implying a redundancy. The few reports of differences, implying a complementarity, have resulted almost totally from semantic and pragmatic measures. The current study hypothesized that because fathers are less familiar with their child, they should differ from mothers on pragmatic and semantic measures, especially those that reflect: (1) sensitivity to the child's attentional state and (2) understanding of and appropriate response to the child's utterance. Subjects were 24 children videotaped playing separately with their mothers and fathers for 15 minutes each. Interview data confirmed that fathers spend less time per week with their child than mothers. No differences in the number of joint interactions during the play sessions were found. Fathers used significantly fewer attentional strategies when naming objects than mothers. Fathers were also significantly more likely to misunderstand their child and request clarification, whereas mothers were more likely to recast their child's utterances. The results suggest that fathers play a redundant role with respect to structural-linguistic features of the child's linguistic input and a complementary role with respect to semantic-pragmatic features.

A comparison of sibling and parent language models. Michael Tomasello and Sara Mammle, Department of Psychology, Emory University, Atlanta, Georgia 30322.

Findings from language development research indicate that laterborns acquire language at a slower rate than firstborn children. One possible contributor to this delay is the model provided by the older sibling. The current study addressed two questions. The first was whether or not preschool children's linguistic interactions with infant siblings was similar to the parents' linguistic interactions with the same infants. The second was whether or not the lexical model provided by the sibling was systematically related to the infant's language acquisition. Ten 12 to 18 month old infants, each of whom had a sibling ranging in age from 3 to 5 years, were videotaped for fifteen minutes each with mother, father and sibling. Comparison of the linguistic interactions revealed that, as compared to parents, siblings: (1) almost never provided language models while following into the infant's attentional focus, (2) almost never made their lexical model salient by gesturing, (3) almost never recast the infant's language, and (4) infrequently responded to infant's language in a conversationally appropriate manner. The correlational data show that some characteristics of the sibling-infant linguistic interaction are related to the infant's language development. Future research should investigate more fully the effects of different language learning environments on the process of language development.

The first prepositions in Afrikaans: order and semantic distinctions. Jan Vorster, Human Sciences Research Council, Private Bag X41, 0001 Pretoria, South Africa.

In longitudinal naturalistic data from two age-homogeneous three-child cohorts, covering the age-range from 23 through 35 months and the MLU-range from 1.7 through 5.3, evidence is found that the order of emergence of the first ten Afrikaans prepositions is: IN ('in'), TOE ('to'), OP ('on'), BY ('by'), IN ('into'), MET ('with'), AAN ('on' fixed: VAT AAN = 'touch'), VIR ('to' dative), UIT ('out of'), ONDER ('under'). Comparison of paraphrased and realized versions of utterances suggests that a distinction be made between prepositions with a high utilitarian value, expressing perceptually salient relations, and specialized, esoteric prepositions. In the former case conceptual development seems to precede acquisition of forms, whereas in the latter, concept and form seem to emerge simultaneously.

Phoneme segments in child phonology: how valid is the concept? Natalie Waterson, Department of Phonetics and Linguistics, School of Oriental and African Studies, University of London, England.

The validity of the phoneme as a unit of speech perception in early child phonology has now been questioned by several scholars. Related discussions are currently taking place in adult speech perception research with a move away from phoneme segments to diphones, syllables, words, and larger units. This is because phonemes have proved unproductive in the search for invariance which is needed to account for the rapidity of speech processing, and to explain how normalization takes place from one speaker to another across boundaries of age, sex, rate of speaking, etc. These are areas that have so far not received much attention in studies of child phonology. In order to promote such research, an alternative unit to the phoneme is proposed in the shape of an invariant auditory pattern based on selected acoustic cues abstracted from heard words or larger units, i.e. not the whole acoustic spectrum of the word(s) but a "skeleton" spectrum. The acquisition of phonology is thus seen as learning by pattern recognition and pattern matching rather than the learning of phonemic contrasts, whether they be segments or distinctive features.

Contrastive stress production in children with hearing impairments. Amy L. Weiss, Department of Communication Disorders and Speech Science, University of Colorado, Boulder, Colorado 80309. Arlene E. Carney, Department of Speech and Hearing Sciences, University of Illinois, Champaign, Champaign-Urbana, Illinois 61801. Laurence B. Leonard, Department of Audiology and Speech Sciences, Purdue University, Lafayette, Indiana 47907.

This study investigated one conversational-pragmatic skill, contrastive stress production, in a group of 20 moderate-to-severely hearing-impaired children. The particular hearing-impaired group chosen for study reflects a population rarely discussed in the literature but one which represents a large proportion of hearing-impaired children receiving educational services

in the public schools. Unfortunately, little is known about the discourse capabilities of these children whose educational placements dictate interaction with normal-hearing and hearing-impaired youngsters. A comparison group of 20 normal-hearing children matched by MLU was also selected. Each child participated in a picture description task. Pairs of photographs presented to the children were arranged such that the child was required to convey an element of new information contradicting that already given the examiner/listener. Eight listeners judged audio recordings of the children's conversations. Their judgments of contrastive stress yielded evidence that the children with hearing impairments did use contrastive stress where appropriate to convey new information in a manner similar to that of the normal-hearing group.

Language prerequisites for literacy. Carol E. Westby, Programs for Children, 2600 Marble NE, Albuquerque, New Mexico. Zelda Maggart and Richard Van Dongen, College of Education, University of New Mexico, Albuquerque, New Mexico 87106.

Literacy acquisition involves more than the decoding of written language. Current studies on oral/literate language differences, text linguistics, schema theory, and metacognition indicate that oral and written language have different functions and structures. As a consequence, the acquisition of literacy involves the acquisition of new language functions and structures in addition to decoding skills. Narrative language combines components of both oral and literate language and, as a result, can function as a transition between oral and literate language skills. This presentation will discuss the narrative comprehension and production abilities of elementary school children who were identified as average and poor readers. Particular attention will be given to text analysis systems and the students' awareness of the feelings, thoughts, and plans of characters in narratives. Using these analysis systems, students who were previously thought to have only a specific reading disability were found to have additional language learning problems. Implications for facilitating the development of literacy in reading disabled students will be made.

Overgeneralization of the English dative alternation in child language. Lydia White, McGill University, Department of Linguistics, Montreal H3A 1G5, Quebec, Canada.

In recent literature on the acquisition of the dative alternation, there have been a few anecdotal reports of a particular kind of overgeneralization of the double-object construction, as in:

1. Open Mummy the door

In this paper, results will be reported of an attempt to elicit such overgeneralizations experimentally from children aged 3 to 5 via an imitation task and an act-out comprehension task. The implications of such overgeneralizations will be discussed: the occurrence of these forms suggests that the child is not observing a semantic constraint, present in

the adult grammar, which requires that the indirect object in the double-object construction be the "prospective possessor" of the direct object. This will require careful consideration of the kind of evidence available to the child to enable him to learn this restriction.

Metapragmatic Knowledge of School-Age Mexican-American Children. Louise Cherry Wilkinson, University of Wisconsin-Madison, Madison, Wisconsin 53706. Celia Genishi, University of Texas at Austin, Austin, Texas 78712.

This study was conducted to examine Mexican-American children's understanding of the use of requests in the classroom. It was an attempt to replicate the findings of an earlier study of English monolingual age-mates (Wilkinson et al., 1982). First- and third-grade children's metapragmatic knowledge of requests was examined in three tasks: production, comprehension, and reflection. The meta-production task involved a role playing task with dolls, where requests were elicited in hypothetical classrooms. The meta-comprehension task involved eliciting judgments of the appropriateness of requests in hypothetical classroom situations, and explaining the bases for the judgments. The reflection task consisted of an open-ended interview, which explored understanding the use of requests in the classroom.