

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

**August 9th to 14th, 1981**

**Vancouver, British Columbia**

**Canada**

**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 Second International Congress for the Study of

### **CHILD LANGUAGE**

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Sponsored by the International Association for the Study of Child Language and the University of British Columbia.

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Recall errors and natural phonology. Jean Aitchison, Dept. of Language Studies, London School of Economics, Houghton Street, Aldwych, London WC2A 2AE, G.B. and Shulamuth Chiat, School for the Study of Disorders of Human Communication, 86 Blackfriars Road, London SE1 8HA. G.B.

The recall errors of 90 children between the ages of 5 and 9 in a word learning task were remarkably similar to the phonological deformations found in the spontaneous speech of younger children, revealing processes such as consonant harmony and omission of final consonants which are usually attributed to 'natural phonology'. We discuss the implications of these findings, and point out that the role of phonological memory, which has largely been ignored in studies of lexical acquisition, needs to be explored more fully.

On the predictive value of the linguistic level and primary symptoms confirmed in pre-school as regards subsequent school and linguistic performances. Eila Alahuhta, Department of Special Education, University of Jyväskylä, 40100 Jyväskylä 10, FINLAND.

In this follow-up investigation (Tokyo, 1978) the children involved were in grade IV. The main hypothesis was that children who, according to investigation performed in pre-school, had primary symptoms predicting linguistic difficulties and who belonged to weaker speech level and Apgar group, would be less successful, especially in reading, writing and mathematics than those placed in the best groups in pre-school. Also, they would have greater difficulties in concentrating in school work, and their linguistic level evaluated by their teacher was assumed to be weaker than that of those who had, while been placed in better groups in pre-school, a better prognosis as to their later performance. Procedure: linguistic ability of the children was carried out with a dictation test and questionnaire sent out to the teachers as well as to the parents. Treatment of data: in order to describe the variables, it was computed distributions, means and deviations. For comparison of groups, t-test was used as well as the factor and discriminant analyses were performed.

Cue Deletion, Case and Task in Children's Relative Clause Comprehension, Wayne K. Aller, Professor of Psychology, Indiana State University, Terre Haute, Indiana 47809

Research attempted to assess the validity of the cue deletion hypothesis (Slobin; Bever) and to explore the role of case in children's comprehension of relative clause constructions using elicited imitation and enactment procedures. Thirty 3-, 4-, and 5-yr-olds tested on SS, SO, OS, and OO relatives with the rel PRO present or absent (in SO & OO) and with either an inanimate or animate noun as the non-coreferential NP in the relative clause and reversible verbs (e.g., "hit") revealed: 1) no support for the cue deletion hypothesis, 2) support from enactment for a word order, but no parallel function or interruption hypothesis. 3) support from imitation for the interruption hypothesis, 4) instrumental cases imitated better than, and enacted the same as, agentive cases, 5) imitation better on all sentence types when inanimate noun present. Conclusions: A) Slobin and Bever are wrong about cue deletion. B) Agentive case relative clauses not better comprehended than instrumentals because of semantic, "animicity confusion" phenomenon. C) Slobin's imitation procedure doesn't measure comprehension -- is closer to his "operating principles" which, based on production data, do not predict comprehension. D) Different information-processing strategies underlie the two tasks.

The Relation of Reasoning, Memory and Verbal Ability of Children, Shizuko Amaiwa, Iwaki Junior College, 13-2, 5-chome, Oizumi, Nerima-ku, Tokyo 177, Japan.

In general, transitive inference is the type of reasoning to infer the relationship of A and C, when the 3 elements A, B and C are arranged in order, provided that the 2 sets of promises are given, that is  $A > B$  (A is longer than B) and  $B > C$  (B is longer than C). Recently, some reports insist the fact that the level of transitive inference is influenced by the subject's range of working memory and the verbal ability to understand the relational terms such as bigger, smaller, same etc., and is facilitated by the memory training procedures. The purpose of this study is to clarify the relation, through the experiments in the kindergarten children, among the function of the memory, the transitive inference which uses the concrete stimulus materials and the transitive inference which is verbally illustrated.

Fronting in Down's Syndrome Phonology. Ken Bleile, #12,  
2190 Patterson, Eugene, Oregon, 97405.

The paper documents one aspect of the phonology of a four year old child with Down's Syndrome. This child has a constraint that reads: in the form CVC, the first consonant has to be equal in stricture place or more forward than the second consonant. It is argued that this fronting strategy motivates all the consonant substitutions found in Mark's attempted pronunciation of CVC words. The argument proceeds in five steps. 1) The literature on Down's Syndrome phonology is reviewed, with special note being taken of Bodine (1974) and Dodd (1975). 2) Ingram's 1974 article is discussed briefly. 3) Fronting is shown to be an entity in Mark's speech, in both real and nonsense words. In all, forty words and eighty forms were collected; all obeyed the fronting constraint. 4) The results are compared with those of Ingram's. In this study, it is shown that complete stricture place reduplication is unmarked, fronting is allowed, and "backing" is disallowed. 5) The paper concludes by noting the potential value of Down's phonology to the study of child language.

Development of intentionality in the vocalization of handicapped infants reared in a hospital setting. Sandra Bochner, Special Education Centre, Macquarie University, North Ryde, N.S.W. 2113 Australia.

In a longitudinal study of five handicapped infants (initial age approximately 0.6) tape recordings were collected in a consistent natural setting over a nine-twelve month period. Tapes from one infant were analysed in terms of environmental sounds and all other tapes were sampled for examples of current vocal patterns. Data was analysed by two adult, female, native-English speakers in terms of selected features (e.g. mood), intent and target listener. Early scanning of the data suggests that for the three more retarded infants, vocalizing throughout the observed time period remained largely a form of protest or self-entertainment with some instances of social interaction. The two less handicapped infants, by 18 months, demonstrated effective use of sounds in social interaction, with infrequent instances of self-commentary and self-assertion.

An integrated account of utterance variability in early language development. George Branigan, Department of Education, Stonehill College, North Easton, MA 02356. William T. Stokes, Division of Education, Lesley College, Graduate School, Cambridge, MA 02138.

Recent research has demonstrated that early language development is characterized by a great variety of utterance forms (Bloom, 1973; Braine, 1976; Peters, 1977; Branigan, 1979; Stokes & Holden, 1980). The natural speech of 10 children (0;9 - 3;0) was examined with attention to a more precise specification of (1) the features which distinguish such forms, (2) the distribution of these features across linguistic domains, (3) the co-occurrence of these features within utterances, and (4) how their interaction affects utterance form. The data reveal that all children exhibit the simultaneous use of a variety of utterance forms including: temporally fragmented forms, prosodically integrated forms and segmentally simplified forms. In addition, we found that some children exhibited strong, but temporary preferences for certain forms. We argue that a unified analysis and account of these phenomena entail attention to the interaction of intention, linguistic knowledge, organizational constraints, production demands and communicative pressures.

Egocentric Speech Reconsidered - III. Susan R. Braunwald, 2416 Nottingham Avenue, Los Angeles, California 90027.

This paper is one in a series of presentations that revise Piaget's 1926 theory of egocentric speech. In previous reports the controversy in the literature over egocentric speech is resolved by: 1) refining Piaget's original functional dichotomy to include four forms of speech--private, social egocentric and socialized; 2) identifying two general types of decentration; and 3) ordering Piaget's original definitions and descriptions into a sequential model of communication. The present research extends the definition of the four forms of speech in terms of a matrix based on the concept of repair. The matrix is a theoretical construct that is defined in terms of the interface of five sources of variability in the encoding of an interpersonal act of communication: 1) the speaker's intended orientation to a listener; 2) the setting; 3) the general reason for the breakdown; 4) the possible sources of repair; and 5) the potential for a final successful outcome as an episode of interpersonal communication. The concept of repair is extended to take into account possible cognitive, social and linguistic sources of breakdown in interpersonal communication. Although examples from the literature and my own longitudinal data are included, this research is primarily a conceptual contribution.



Development of early object manipulation and non-verbal social communication in handicapped and non-handicapped infants. Diane Bricker & Laurel Carlson, Center on Human Development, University of Oregon, Eugene, OR 97403.

Naturalistic home observations of mother-infant play and communication were conducted longitudinally. Object and social-communicative behavior was studied in a group of 12 Down's syndrome infants from 0;2 to 3;0 for evidence of the emergence of protoimperatives and protodeclaratives. A contrast group of 5 non-delayed infants was observed from 0;2 to 1;8. Analyses suggest that these early communicative functions develop in similar sequential patterns in the delayed and non-delayed groups studied. An elicited communication task was also administered longitudinally to assess protoimperative performance. These data correlate with infants' production of protoimperatives in the naturalistic environment.

A case for literal metaphor in child language. Nancy Budwig, Michael Bamberg & Amy Strage, Department of Psychology, University of California, Berkeley, CA 94720

Recent theories of metaphor have questioned the distinction between literal and non-literal meaning (e.g. Lakoff & Johnson 1980). Within this framework, we have investigated how children learn to express linguistically 'seeing something as something' (e.g. adjective-noun modifications) and 'seeing something as something else' (e.g. metaphor). We have examined instances of modifications and metaphor in the speech of 2 two year-old children, videotaped monthly over a twelve month period. In contrast to a number of other studies, we propose an analysis that makes use of the discourse setting in which modifiers and metaphors function. This analysis revealed that children do not pass through a 'literal stage' of language use, mapping words to objects, before spontaneously using figurative language. Rather, our results indicate that modifications and metaphor (1) both occur in the earliest speech samples, (2) develop simultaneously, and (3) serve the same communicative function. The implication of our findings for a theory of language acquisition are discussed.

Development of discourse skills in the second year of life. Robin S. Chapman, Jon F. Miller, Heather MacKenzie, and Jan Bedrosian, Dept. of Communicative Disorders, 1975 Willow Dr., University of Wisconsin, Madison, WI 53706.

Emerging discourse skills were studied cross-sectionally in 48 children, ages 10 to 21 months, through analyses of 20 minutes of videotaped free play with the mothers. The appearance of conversational turn-taking was shown to arise primarily through the mother's consistent taking of verbal turns after child utterances. Children of all ages, in contrast, were more likely to talk following silent intervals (<2 sec.) than after mothers' speech. Analyses of topic initiations and continuations revealed a small increase with age in the conditional probability of a child's continuing a topic initiated by the mother: from .02 to .13. Instances of these sequences were analyzed pragmatically. Implications of these findings for theories of emerging discourse skill are discussed.

The effects of word-familiarity on phonemic recognition in children aged 3 to 5 years. Harold Clumeck, Department of Communicative Disorders, Northwestern University, 2299 Sheridan Road, Evanston, Illinois 60201.

This paper reports a study of the effects of word-familiarity on children's ability to recognize phonologically contrasting sounds in minimal pairs in a picture-pointing task. Subjects were thirty children with normal speech and hearing between the ages of 3;0 and 5;10. Results show that this variable has different effects on children's phoneme recognition which correlate roughly with age: the youngest children are generally unable to recognize the phonemic distinction in word-pairs containing unfamiliar items, whereas the oldest children are able to recognize the contrasts regardless of whether or not they had previously known the words in the pair, in other words, their phonemic recognition is, by this point, essentially adultlike. The paper describes the changes that the children undergo between these two "endpoint" stages, leading to the gradual lessening of their dependence upon familiarity in order to achieve phonological recognition of the sound differences. Findings of the study are related to the issues of developing reasoning strategies and metalinguistic awareness. [Work supported by NIH]

Phonological Processes Affecting Consonants in the Acquisition of American English. Mary Schramm Coberly, Dept. of Linguistics, University of Colorado, Boulder, CO. 80509, U.S.A.

Gross consonant pronunciation errors were analyzed in transcriptions of 5518 spontaneous utterances by 80 children between the ages of 1;4 and 4;5, collected by David Olmsted around 1970. This large sample permits a statistical assessment of whether processes are likely to be comparably frequent in the entire population of Standard American first language learners. The following processes are likely to be most widespread: 1) Stops tend to drop, and voiceless stops tend to drop or voice, before another consonant, except for [k] which is not particularly disfavored in any position. 2) [t] tends to drop or voice intervocalically. This seems likely to be an imitation of informal English tapping and dropping, but it is interesting that coronal fricatives (s, z, ʃ) are disfavored intervocalically also. 3) Voiceless stops tend to voice in all positions but utterance-final, presumably showing a preference for short voicing lag. 4) Voiced stops tend to devoice morpheme- and utterance-finally. This tendency also appears in [z], the only voiced fricatives occurring often enough finally and in other positions to permit a significant contrast. 5) Dental stops tend to become velar morpheme- and utterance-initially to create forms showing consonant harmony. 6) Dental stops tend to drop or devoice in postvocalic morpheme- and utterance-final position. This may reflect the instability of dental stops in informal pronunciation. However, [θ] also tends to drop utterance-finally. (ð is seldom attempted finally.) 7) Interdental fricatives tend to drop prevocally. 8) Voiced front fricatives [v] and [ð] tend to become voiced stops [b] and [d]. 9) Other fricatives tend to become a variety of phones, chiefly voiceless fricatives. A slight fronting tendency seems to be present: [ʃ] tends to become [s], secondarily [θ]; [z] tends to become [θ], secondarily [s]; [z] tends to become [s]; [θ] tends to drop, secondarily becomes [s], or else [f]; [f] is unlikely to be mispronounced, but if it is it tends to drop. 10) [s] is less stable utterance-initially than elsewhere. 11) [r] tends to become [w] utterance-initially. 12) [l] tends to drop, secondarily become [w], or becomes a back vowel morpheme- and utterance-finally. 13) [w] is seldom mispronounced. When [w], [y], or [h] are mispronounced they tend to drop.

Talking backward: speech play in late childhood. Nelson Cowan & Lewis A. Leavitt, Waisman Center, University of Wisconsin, Madison, WI 53706.

Language play involving rearrangement of syllabic or phonemic units is found in many cultures. This paper investigates cognitive and pragmatic features of linguistic play in a group of fluent "backward talkers." Our subjects include 27 adults and 5 children who independently developed this skill. The data comprise transcribed productions in response to probe sentences, cognitive assessments, and interviews. Some of the subjects reverse the order of phonemes within each word; others speak as if mentally scanning the written form backward. Most (63%) began talking backward between the ages of 7 and 12 years (primarily in the 8-10 range), and none reported an earlier age of onset. Therefore, we suggest that concrete operations and/or reading instruction may be necessary prerequisites to this type of ability. Alternative mechanisms for the manipulation of linguistic units will be discussed. Furthermore, talking backward, like other "secret" language games, may express the child's wish to be knowledgeable at an age in which there are increased social and intellectual demands.

A Preliminary Look at Phonological Process Suppression. Michael A. Crary and Stephen E. Blache, Department of Speech Pathology and Audiology, Southern Illinois University, Carbondale, Illinois 62901 and Terrel Welmers, Haslett, Michigan 48840.

Conversational speech of 20 language-normal preschool children (2;0 to 4;0) was analyzed with reference to MLU and the frequency of occurrence of simplifying phonological processes. Six general processes were observed in the samples: final consonant deletion, weak syllable deletion, cluster reduction, fronting, stopping, and liquid for glide substitution. Descriptive data analyses demonstrated that: 1) fronting and weak syllable deletion were not prominent in the phonological simplification patterns of these subjects, 2) developmentally, processes are suppressed in a consistent linear fashion, and 3) with the exception of cluster reduction, very few phonological simplifications were observed, even at 2;0. A correlation analysis indicated a significant relation between: 1) chronological age and MLU, 2) chronological age and cluster reduction, and 3) MLU and cluster reduction. Cluster reduction was the only phonological process which significantly predicted both age and MLU. These data are discussed in reference to a sequential reduction strategy in language development. A preliminary statistical model predicting cluster reduction suppression in normal children is offered.

Sentence processing by severely aphasic children. Richard F. Cromer. Medical Research Council Developmental Psychology Unit, Drayton House, Gordon Street, London WC1H 0AN England.

Earlier experiments with a special group of severely aphasic children revealed an underlying impairment in the ability to deal with hierarchically structured material requiring the interruption of sequential strings. Although these children have no oral language comprehension or production, they have been taught some reading and writing skills. In the present experiment several methods were devised to study the processing of various sentence structures including types such as relative clauses and conjoined verb phrases that require interruption of the sequence. The difficulties severely aphasic children had with these sentences relative to normal control groups are discussed. Differential processing of the sentence types by the normal children is also discussed.

A Comparative Study of the Linguistic Abilities of Autistic, Dysphasic and Normal Children. Toni G. Cross, Institute of Early Childhood Development, 4 Madden Grove, Kew Victoria, 3101, Australia, and Jillian Ball, Psychology Department, University of Melbourne, Australia.

A detail speech-act analysis was made of the spontaneous language of 32 children, eight autistic, eight receptive dysphasic and 16 normal children equated for utterance length and complexity and on standard tests of language comprehension and production. The results of this comparison showed that both the autistic and dysphasic groups were experiencing severe delays in their formal language development when compared with the normal group. However, these clinical groups could be clearly differentiated in terms of the autistic children's more limited ranges of communicative functions in their speech and gestural behaviours with adults. The dysphasics, by contrast, could rarely be distinguished from their matched normal counterparts in terms of either discourse or performative features. It was concluded that the verbal autistic child is deficient in both socio-communicative and formal linguistic abilities, whereas the dysphasic's developmental pattern suggested a more specific formal language disability. The aetiological and diagnostic implications of the specific differences in functional categories between the clinical groups are discussed and related to previous comparisons of the language development of autistic and dysphasic children.

Effects of Day-Care Experience on the Formal and Pragmatic Development of Young Children. Toni G. Cross, Institute of Early Childhood Development, 4 Madden Grove, Kew, Victoria, 3101, Australia, Jill Parmenter, Senior Psychologist, Royal Children's Hospital, Melbourne, Australia, Maryla Juchnowski, Psychology Department, University of Melbourne, Australia, and Gillian Johnson, Psychology Department, University of Melbourne, Australia.

This paper reports the results of a long-running project comparing formal and pragmatic features of the spontaneous speech of two- to three-year-old children who had experienced either full- or part-time day-care since infancy, or had been cared for entirely at home. The overall results of five comparative studies of child-adult interaction are reported, which were conducted over the years from 1973-1981 and included a total of 72 'day-care' families and 56 'home-care' families. Each study adopted a fine-grained coding procedure and analysed both adult and child language simultaneously, matching home- and day-care children for age, sex, parental education, socio-economic status, stage of language development and language-recording situation. Two studies followed-up children over a six- or twelve-month period, and one study investigated child personality variables and maternal attitudes to child-rearing and work. In general, the results from adequately-staffed centres suggest that neither full-time nor part-time day-care significantly alters the course or rate of language development over the age-range from six to forty-two months, despite demonstrated differences in the opportunities of adult-child interaction in the day- and home-care situations. The implications of the results for current notions about the role of adult-child interaction in language development is discussed.

The specificity of infant babbling in the light of the characteristics of the mother tongue. Bénédicte de BOYSSON-BARDIES - Laboratoire de Psychologie, 54 bld Raspail, 75270 Paris Cedex 06, France.

Babbling from 6-, 8- and 10-month-old babies was collected in France, Tunisia and Hong-Kong. Extracts of this babbling were then presented to French adults who were given the task of distinguishing French from foreign babbling. It appears that babbling from 10-month-old babies can be discriminated as specific to linguistic origin. However, age is not the only factor, the particularities of the languages considered play a role in facilitating discriminations. "Non linguistic" cues such as melody and voice quality, when existing in the language, are used, but phonetic repertory can also be relevant. Analyses of the physical properties of the babbling support these conclusions.

The development of metaphor: Describing metaphoric similarity. Cathy H. Dent, Department of Psychology, University of North Carolina, Chapel Hill, NC. 27514.

Metaphors commonly contain a topic (what the metaphor is about) and a vehicle (the term used metaphorically) as in "The ballerina is a top". Ten metaphors were chosen and films of natural scenes corresponding to the topic and vehicle referents were produced. For each topic/vehicle pair of scenes a third scene was added to provide the possibility of literal as well as metaphoric pairing of scenes

(e.g., ballerina spinning  
 literal pair ↗ ↘ metaphoric pair  
 ballerina leaping top spinning)

Five, seven, and ten-year-old children and adults viewed the scenes, made pairs and talked about the pairs. They described what they thought of when thinking of the two scenes at the same time. These descriptions were scored for the degree that the two scenes were condensed or fused in the description (e.g., "the top is dancing on the stage") where the highest degree of fusion is a metaphor or simile. The frequency of metaphoric pairing increased with age, as did the frequency of metaphoric description. Surprisingly, metaphors were more frequent than similes. The results indicate a developing ability to perceive and talk about metaphoric similarity.

Toward an empirical definition of "stage" in language development.  
Bruce L. Derwing & William J. Baker, Department of Linguistics,  
 The University of Alberta, Edmonton, Alberta T6G 2H1.

The concept of "stage" is widely used in discussions of many aspects of child development, but few non-arbitrary criteria exist either for defining the concept in a particular area (i.e., determining when a particular child is or is not operating at a given stage) or for determining the number of stages children go through in their mastery of a particular problem (cf., e.g., the widespread use of the MLU index in language acquisition studies, which fails on both of these counts). This paper, based on a study of the acquisition of the English plural inflection, presents methods which provide reasonably objective answers to both of these issues. Through an analysis of the coincidence of correct responses for all possible pairs of items, relative "distances" between pairs of subjects can be determined. From this, coherent groups of subjects displaying similar response patterns can be discovered. Analysis of performance within these groups then leads to information with respect to the basis on which the groups are formed.

Strategies to be understood: Storytelling to children from 18 to 36 months. Antonella Devescovi, Maria Silvia Barbieri, and Domenoco Musumarra, Istituto di Psicologia, Università di Trieste, Via dell'Università 7, 34140 Trieste, Italia.

This research analyzes the linguistic production of 16 mother-child pairs when reading a picture story. Eight pairs came from high socio-cultural background and 8 from a low one. For each age level (18, 24, 30, 36 months) 4 children, 2 males and 2 females were told the story. Previous research pointed out the adult's linguistic adaptation to the child and argued that variations in the linguistic of mother's speech varies together with the increasing linguistic competence of the child. The first aim of the research was to study the criteria governing the adult's linguistic decisions explaining what is in each picture or simply describing and naming it. The second aim was to address the impact of two variables (age of the child and socio-cultural level of the mother) on the adult's speech. The adaptation's effort of the mother is supposed to be dependent on her representation of the child's mind, i.e. linguistic and cognitive competence.

Bilingual Language Acquisition. Dr. Marlene Dolitsky,  
Derelvans, Université de Paris VII, 75221 Paris Cedex 05,  
France.

A case study of the acquisition of language in a child living in France, whose mother is American and father is French, was carried out from 2.0 to 3.0 (in MLU: French, 1.0 - 2.0; English, 1.0 - 2.5). Verbatim phonetic transcripts of the recordings were typed and syntactic, semantic and phonetic analyses made with emphasis on the first two. It was found that a grammatical form existing in both French and English would appear at the same time in both languages, first as a common morpheme, i.e. one that could be used in both languages, a member of (French  $\cap$  English) and would subsequently develop separately according to the rules of each. A semantic morpheme, on the other hand, could appear as a member of (French  $\cap$  English) or equivalent forms for each language could appear simultaneously or it could appear in only one language where a translation would later be learned. This data suggests that shared grammatical forms, are, insofar as they are similar, of the compound type of bilingualism, while shared semantic forms could be of a compound, coordinate or subordinate type depending on its development in the given individual.

The word-context production strategy in the early acquisition of meaning. Esther Dromi, School of Education, Tel-Aviv University, Ramat-Aviv, Tel-Aviv 69978, Israel.

This study traces the acquisition, extension and differentiation of the early vocabulary of one Hebrew-speaking child. Throughout the one-word stage most of my daughter's comprehensible utterances were noted down accompanied by careful descriptions of the non-linguistic contexts of each production. Every two weeks a speech sample of 2-3 hours was recorded and phonetically transcribed. The diary provided the main source of data while the transcriptions have been used as a complementary source of evidence as well as a measure of the overall external validity of the diary. Currently proposed theoretical models of the acquisition of word meaning (Clark 1973, 1975; Nelson 1974; Bowerman 1978, 1980; Barret 1978, in press) will be tested against the existing Hebrew data. The processes involved in the early organization of the child's lexicon will be discussed with special reference to the language-context mapping problem (Clark 1975; Braunwald 1978). A context-based production strategy will be proposed to account for the non-conventional uses of words in the early phases of the one-word stage.



Proper name usage in maternal speech: A longitudinal study. Kevin Durkin, D.R. Rutter, Susan Room, and Patricia Grounds, Social Psychology Research Unit, University of Kent at Canterbury, England.

The way in which adults use proper names in interaction with young children differs markedly from their usage of the same terms in adult-adult interaction. This study investigates the development of this feature of baby talk in a longitudinal study of the speech of twelve mothers to their children over a two-year period. Subjects were videotaped monthly at play in a specially designed laboratory. Results show that the use of proper names can be explained in terms of social and functional goals on the mothers' part, but also provide further evidence against a syntactic 'fine-tuning' account of parental speech modifications.

Developmental processes vs. dialectal variation in the phonology of Spanish-speaking Mexican children. Roy E. Eblen, Department of Communicative Disorders, University of Northern Iowa, Cedar Falls, Iowa 50614.

The interplay between general developmental processes and dialectal variation was studied in the phonology of six 3-year-old monolingual Spanish-speaking children in Oaxaca, Mexico. The children named pictures and performed an elicited sentence imitation task. The mothers provided the adult model for the sentence imitation and served as a control for adult dialectal variation. The data showed that the processes of stopping, internal nasal assimilation and weak syllable deletion were present, but varied both across phonemes and across children. Strategies for singleton /s/ differed across children, and their treatment of /s/ + obstruent clusters overrode an adult dialectal pattern. Implications for a developmental pattern of phoneme acquisition in monolingual Spanish-speaking children are discussed.

Later developments in displaced reference: Language learning through routine. Ann R. Eisenberg, Department of Psychology, University of California, Berkeley, CA. 94720.

The majority of studies on young children's ability to talk about the "there and then" focus on the linguistic and cognitive constraints that limit reference to displaced events. The current paper, however, suggests that an equally important component is the lack of a framework for how such conversations get accomplished--that is, a general awareness of appropriate topics (e.g., past events) and what should be said about them. In a developmental analysis of recurring conversations routines between three, white, middle-class children (30-42 months) and their mothers, it is shown how variations in mothers' responses to the topic of children's initiations and what they elicit information about "shapes" the children's discussions concerning displaced referents. Examples are used to illustrate how actual memory for the event being discussed is less important than knowing "what fits together"--i.e., relationships between events and people in, for example, a trip to Grandma's house. These discourse strategies are learned through routine and repetition as part of the socialization to the cultural world and the child's identity as a person.

Complementarity, antonymy and semantic development: A method and some data. Michael Evans, University of Bamberg, Fleisschstrasse 2, D. 8600 Bamberg, West Germany.

It is proposed that no adequate investigation of the semantic development of antonymous adjectives in child English can be conducted without attending to extensional meaning. A brief characterisation of the differences in logical extension of complementary and antonymous pairs of adjectives is offered, and taking big and small as examples a method of assessing changes in extensional meaning during child development is outlined. The results such a method can achieve are illustrated by presenting the analysis of data collected from 110 school-children between the ages of 8;01 and 13;07 years of age. The preliminary conclusion to be drawn from the analysis is that the logic of complementarity develops prior to that of antonymy in the semantics of child language.

Word-order invariance and variability in five children's three-word utterances: a limited-scope formula analysis. Guy Ewing, Department of Linguistics, University of Toronto, Toronto, Ontario M5S 1A1

This paper presents diachronic evidence to support the limited-scope formula analysis of children's first word combinations in Braine (1976). It is shown that Braine's analysis of two-word utterances predicts what kinds of variable word order can occur in subsequent three-word utterances. An explicit formulation of these predictions is provided, and it is shown that the predictions are borne out by diachronic data: transcripts from periodic tape-recorded play sessions for five children from 1;6 to 2;0, and diary entries for one of these children from 1;0 to 2;0. The paper concludes with a discussion of how Braine's analysis can be further clarified and extended by diachronic research.

Verb-form development: lexis or grammar? Paul Fletcher, Department of Linguistic Science, University of Reading, Reading RG6 2AA UK (until April 15). (After April 15) Boystown Institute, 555 N. 30th St., Omaha, Neb. 68131.

Following a cross-sectional analysis of the distribution of past and present perfect forms in the spontaneous speech of a large sample of British English children at 3;3, (see Fletcher 1981) an intensive longitudinal study was made of the speech of one child, beginning at 2;4, when no verb-forms (inflections or auxiliaries) were used, up to 3;6., in order to investigate the systemic development of past-referring forms in the first year or so of their use. The large amount of data available (from approximately 150 samples in the first year) allows both a traditional analysis of the data (in terms of grammatical forms and the development of 'rules'), and a lexically-based analysis, which examines the distribution of relevant verb-forms across lexical verbs over time. The formal analysis reveals the expected existence of overgeneralisation (from 2;7), but, unusually, on -en forms (e.g. maden, touchen, hitten, putten, builden etc.); these -en forms appear to inhibit the development of past tense forms. The lexical analysis indicates that verb-forms begin as specific to individual verbs, with gradual diffusion to a larger set. The question of the semantic characteristics of the sets of verbs over which forms develop is addressed, and it is argued that no analysis of verb-form development is complete without this lexical dimension.

Development in realization of story structure in written productions of school children. Aviva Freedman, Linguistics, Carleton University, Ottawa, Ontario K1S 5B6.

The objective of this research is to compare the degree of and the nature of the realization of story structure in the written productions of children in grades 5, 7, and 8. The scripts analysed constitute a randomly selected sample of a large body of narratives written by over 2,000 students, representing the entire ability range in one Canadian school board. The instrument for evaluating the narratives is based on the Stein and Glenn grammar of story structure [(1979) An analysis of story comprehension in elementary school children. In Roy O. Freedle (ed.) New directions in discourse processing. Vol. 2. Norwood, New Jersey: Ablex]. The analyses revealed a marked development in the degree to which the grade 7 and 8 narratives realized the minimal criteria for complete episodes as compared to the grade 5 writers. There are significant differences as well in the categories of optional elements included, as well as in the nature of the interrelationships between elements. A model for development in the production of written narratives is suggested.

A young baby's prosodic differentiation between a person and a toy. Diane Fujitani, Psychology Department, University of California, Berkeley, CA 94704, Patricia M. Greenfield, Psychology Department, University of California, Los Angeles, and James Arqiro, 11042 Aqua Vista, North Hollywood, CA.

This study investigated whether or not a baby boy, two to three months old, differentiated his vocalizations to a person and to a toy. The baby interacted vocally with an adult in the Person condition and responded vocally to a noisemaking toy in the Toy condition. At two months, the baby's vocalizations to the person generally varied prosodically to a greater extent from sound to sound than did his vocalizations to the toy. Toy vocalizations were more monotone in pitch; rhythmic variability in duration was greater in the Person condition; and successive sounds were more detached in the Person condition. There was no difference in volume pattern. These differences held for patterns of successive vocal sounds, but not for unpatterned absolute frequencies. These trends were not significant for the baby's three-month-old data. Prosodic differentiation could have been influenced by visual presentation of the stimuli; or by an interactive element between the baby and the adult in the Person condition; or by auditory differences between the speech sounds of the person and the nonspeech sounds of the toy.

On Parts of Speech and Neologisms at an Early Stage of Child Language. (Based on diary records of Armenian child speech).  
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 Gaydar Street 2, fl. 19, Yerevan - 375033, USSR.

At an early stage of child language a number of linguistic phenomena are observed. They enable us to judge about the semantic meanings expressed by them and are realized in homonymic utterances. This fact is noted by many investigators, who have found out that, from the very first steps of speaking, children never confuse parts of speech, they do not use a conjunction instead of a preposition or markers and suffixes of one part of speech with another. Numerous child neologisms are also built in conformity with the rules referred to above. Here is observed determinativeness between the meaning expressed and part of speech, suffixes and markers used. However, parallel to the speech "according to the rules", neologisms of some other structure are of a very rare occurrence in a child aged two. In the sentence structure they do not occupy a place peculiar to them as a part of speech. They manifest themselves in two ways. The particular cases referred to above need a special study, for they reflect underlying processes in a way peculiar to them.

The Onset of Comprehension and Production in a Language-delayed child. Deborah Gibson, 3180 West 3rd Avenue and David Ingram, Department of Linguistics, University of B.C. Vancouver, B.C. V6T 1W5, Canada.

This study was undertaken to examine the onset and acquisition of language comprehension and production in a language delayed child. A daily diary was kept on a language delayed boy, G from 2;5 to 3;1. At the onset of the study G. had no productive speech, not even in the form of babbling, and only two words in comprehension, "no" and "Graeme". Over the seven month period of observation, G. acquired 100 words in comprehension. He acquired words first in strict situational contexts and "communication games", much like reports on younger normal children. The key development took place at 2;10 when G. realized things have names, a realization which led to rapid acquisition of new receptive vocabulary. This cognitive realization was followed two weeks later by the symbolic realization that pictures represent real-world objects. At this point, G's rate of acquisition was the same as that of normal children (based on Benedict, 1979), although his productive vocabulary still showed no signs of normal development. A discussion of these results will suggest that the comprehension milestone that things have names may be a more crucial indicator of the onset of the symbolic function than production.

Parsing mechanisms, developmental sequences, and children's sentence processing. Helen Goodluck, Linguistics Department, University of Wisconsin-Madison, Madison, WI 53706, & Susan Tavakolian, Linguistics Department, Ohio State University Columbus, OH 43210.

We will review the Operating Principles proposed by Slobin [1973] in the light of recent research on child language and adult sentence processing. We will argue--much in the spirit of Slobin's original proposals--that data covered by his operating principles can be accounted for in terms of the child's use of processing mechanisms and parsing principles essentially identical to those proposed for adult sentence processing (drawing on, for example, Frazier and Fodor [1978]). Differences in child and adult performance arise from the child's more limited processing capacity and restricted stock of language particular rules rather than from the use of special principles of language acquisition. Our approach in general leads to a narrowing of the role to be played by an autonomous Language Acquisition Device in accounting for language development.

Gone and the concept of the object. Alison Gopnik, 7 Blithfield Street, London W.8. England.

The use of gone by 9 children from 15-24 months old was studied. Children used gone when they turned away from objects or placed objects behind them, when objects moved behind or inside other objects, when containers were emptied, and when the children searched for invisibly displaced objects and "hypothetical" objects. These uses of gone are related to Bower's [Bower, T.G. (1974) Development in Infancy, San Francisco: W.H. Freeman.] account of the development of the object concept. It is argued that from birth to 18 months infants gradually acquire specific rules to deal with specific types of disappearance. At about 18 months they generalise across these rules and this allows them to deal with new types of disappearance. It is argued that the early gone encodes this generalisation. It is suggested that the infant's interest in the problem of disappearance motivates his acquisition of gone and that the acquisition of gone could facilitate the development of the 18-month-old object concept.

Language elicitation techniques in bilingual discourse: A comparison. Mel Greenlee, 1780 Franklin St., Berkeley, California 94702, U.S.A.

Recent studies of Spanish/English bilingual discourse, both in mother-child interaction and in the classroom, have identified several "teaching" patterns through which one interlocutor controls and directs the other's response, sometimes including language choice [E.E. Garcia and R.L. Carrasco, "An analysis of bilingual mother-child discourse," in Latino Language and Communicative Behavior, edited by R. Duran (Ablex, Norwood, New Jersey, 1981)]. In the present study, discourse analysis procedures were applied to transcripts of Spanish-English conversational interaction in which the child's role was occupied by a developmentally disabled adolescent. When interaction patterns in the latter situation were compared to those identified in earlier research, a number of common features were found, which appear to be partially based on the "parent"'s shared goal of language elicitation, and on the perceived abilities of the children to respond in a linguistically appropriate way. Observed differences (e.g., in child-introduced topics and parent evaluation patterns) might be attributed either to the child's handicapping condition or to parent and child deviations from the perceived goal of these language lessons. [Work supported by NEH]

Meaning and function of common, proper and nicknames: How schoolchildren view the relation between signs and their referents. H. Grimm & W. Kany, Psychologisches Institut der Universität Heidelberg, 6900 Heidelberg, Hauptstrape 47 - 51, West Germany.

Children (ages 7 -11) were interviewed concerning their views about meaning, reference, arbitrariness and function of common names, proper names and nicknames. Analysis suggests that the schoolchildren experience difficulty in recognizing the logical arbitrariness between signs and referents especially in the case of common names, while they have no difficulty with proper names. Nicknames have a special status because of their affective connotations. In addition the occurrence of nicknames in the two school classes was determined. The nicknames prevalent in the speech of the children seem to reflect the social structure of the school classes and to indicate the children's ability to modify existing signs and to invent new ones.

Fricatives and Affricates in the Speech of Children with Phonological Disability. Pamela Grunwell, School of Speech Pathology, Leicester Polytechnic, Scraptoft, Leicester, LE7 9SU, U.K.

Spontaneous speech samples were collected from 12 children, (from 4;6 - 8;0), clinically diagnosed as having developmental phonological disability. The realisations of word-initial fricatives and affricates were examined for evidence of the stages of production outlined by Ingram (1978). While similarities with Ingram's stages could be identified, it was evident that restricting the analysis to fricatives often led to an inappropriate assessment of a child's developmental stage, since patterns operating throughout the data were relevant to the analysis of the fricative and affricate realisations. For 5 of the children, samples were collected over an 18-month period. The longitudinal data revealed, for the most part, a normal pattern of development, though much delayed and prolonged. Again, it was found that for an adequate appreciation of the process of fricative development, other aspects of a child's changing speech patterns needed to be considered.

Frequency of usage and the acquisition of set-relational quantifiers in early childhood. Camille Hanlon, Connecticut College, Box 1488; New London, Connecticut 06320.

The frequency of usage of common English set-relational quantifiers was related to the order in which they were comprehended during the acquisition of English as a first language. The words studied were all, some, no, none, each, any, both, either, and neither. Measures of frequency of usage included those derived from parental speech. Comprehension measures were obtained from 70 children aged 3 to 9. The results are discussed in terms of alternative theoretical accounts of the respective roles of frequency and structural complexity in first language acquisition.



Novel noun compounds. Barbara F. Hecht, Eve V. Clark, & Randa C. Mulford, Department of Linguistics, Stanford University, Stanford, CA 94305, USA.

Novel deverbal compound nouns for agents and instruments (e.g., paper-ripper, ripping-man) were systematically elicited from children aged 3;0-7;0 in order to assess what they knew about English word formation for compounding. All the children could construct deverbal compound forms and all invariably used appropriate compound stress, but different age groups made different choices in the compound patterns used. Quantitatively, the youngest children used the largest number of different compound patterns. As children got older, they used fewer patterns and gradually eliminated illegitimate patterns like \*V+O (a hug-people), \*V+er+O (a dumper-trash), or \*V+ing+O+A (a breaking-bottle-girl). Qualitatively, there was a change with age in the legitimate patterns used: the younger children were more likely to mark agents and instruments explicitly in the head noun (a present-boy, a ripping-machine), while the older ones relied on other conventional productive patterns like O+V+er (a wagon-puller). This developmental sequence will be discussed in connection with general principles that govern the acquisition of word formation.

Developmental study of skills in natural narrative. Cliff Highnam and Sandra Metts, Department of Communicative Disorders, University of Northern Iowa, Cedar Falls, Iowa 50614.

The relating of personal experiences, termed "natural narrative", was studied as a conversational skill in 50 children. Ten children at each of the developmental levels three years through seven years were interviewed by an adult using a series of activities and questions designed to elicit natural narrative events. These 20-30 minute interviews were each transcribed from audiotapes for study. Narratives were coded for agent focus (self, immediate other, etc.), episodic focus (participation, observation, recitation, etc.) and thematic focus (factual informative, affective, novelty, etc.). The internal structure of narratives was quantified in terms of 1) topic explication (horizontal detail) and topic development (vertical depth). These data were used to compare narratives which occurred in spontaneous and elicited contexts and correlated with 1) chronological age, 2) general linguistic development, and 3) scores on a draw-a-person test. Developmental trends were observed in each of the "focus" variables and in the internal structure of narratives. A tentative model which represents these trends will be proposed.

The function of early noun phrases. Christine Howe, Psychology, Strathclyde University, Glasgow G1 1RD, Scotland, U.K.

The noun phrases in early sentences seem open to two interpretations. They might express the roles or the involvement of entities in actions and states of affair. This paper presents a study which supports the second interpretation. It involved children in Brown's [1973] Stages I, II and III. The children were asked to differentiate pictures where actors transferred objects to locations or beneficiaries. The pictures were presented in pairs with actors and locations/beneficiaries reversed across pictures and objects held constant. For example, the children were asked Where's the tea for the lady? and shown a man giving tea to a lady with a lady giving tea to a man. Over eight trials, the Stage I children performed at chance level. Pre-testing and training ensured this could not reflect lexical, syntactic or procedural confusion. Rather, the Stage I children must have thought the expressions applied to any picture containing labelled entities. This indicates they believed noun phrases express involvement, not roles. The paper will discuss what this conclusion implies for case grammar analyses of Stage I speech and exclusively cognitive accounts of semantic development.

[Brown, R. (1973). A first language: the early stages. London: Allen & Unwin.]

The use of some complementary or antonymous verbs by children and adults. Willem Kaper, University of Amsterdam, Wouwermanstraat 39<sup>ns</sup>, 1071 LW Amsterdam, the Netherlands.

On the basis of some spontaneous utterances of Dutch children and adults the use is analysed of the complementary verbs zoeken 'look for' and vinden 'find', as well as that of the antonyms halen 'fetch' and brengen 'bring', gaan 'go' and komen 'come'. It appears that children now and then interchange such opposites, but in doing so make use of possibilities inherent to the language they are learning which are neglected in normal linguistic usage. In another language a similar possibility may be utilized in actual adult speech. The special quality of such an "international correspondence" may be accidental and vary from child to child, but the phenomenon in itself is likely to be due to the fact that potential constructions in different languages are the same. Interchanges of this kind also occur in adult speech. They may be caused by contamination, but in some examples the meaning intended by child or adult is expressed more exactly by an unusual linguistic form.

Requesting and responding in mother-child interaction.  
Robert D. Kavanaugh, Jennifer D. White, & Ann M. Jirkovsky,  
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Mother-child interactions between three groups of children age 12, 18, and 24 months were coded for maternal requests for action (RAs) and child responses to those requests. RAs were analyzed for both the type of verbal request encoded, either a direct or an indirect imperative, and for the type of gesture accompanying the RA. Gestures were divided into those that explicitly aided the child in complying with the RA (e.g., modeling the requested action), vs, those that only implicitly aided child compliance (e.g., handing the child an object needed to carry out the RA). Analyses revealed that RAs to 12 month olds were accompanied primarily by explicit gestures and direct imperatives, while RAs to 18 and 25 month olds were accompanied by implicit gestures and frequently coded through indirect imperatives. Maternal behaviors were consistent with and related to children's responses to RA's: 12 month olds showed a reliably lower level of compliance with RAs than either 18 or 24 month olds. In addition, the mothers of the youngest children were far more likely to repeat an RA following non-compliance than were the mothers of either of the older two groups.

A Functional - Transactional Theory of Language and Some Observations from Language Acquisition of Urdu - Speaking Children. B.S.A. Khan, & S.K. Sinha, P.O. Box 2459, Department of English, College of Administrative Sciences, University of Riyadh, Riyadh, Saudi Arabia.

In a paper presented to the First Congress - it was argued that a realistic and intuitively satisfactory account of 'the facts of cognitive behavioural development and of language acquisition' can be provided only by a theory which presumes these continually changing - developing facts to be produced by the growing infant's continually changing - developing states of cognitive - behavioural development and of language acquisition in his interaction with and quest for more efficient and productive adaptation to his environment and therefore, regards these to comprise discrete system which are related to each other as well as to successive ones through the dialectics of individual development. It was then noted that the theories of language, which assume the (deep) structure of language to be a static, monolithic, well-defined, existent system - and it matters little whether the existent system is conceived to be 'immanent' (as in the case of the structuralists) or 'biologically given' (as in the case of the transformational generative linguistics) - would fail to account for and explicate these facts in a non-adhoc way. For they would lack a 'natural fit' (and, hence, be incompatible) with the observed facts, which call for a system which is in a dynamic state of equilibrium and is constructed individually by each child as a result of the interaction between his ever-changing-developing levels of cognitive - behavioural development and his ever-changing functional - transactional needs of living in an environment which is not only physical but socio-cultural-linguistic as well. As a result such theories seeking to account for and explicate the observed facts are obliged to adopt adhoc, a priori assumptions to reduce somehow these facts to fit the existent system. However, the functional transactional theory adopting a 'constructionalist' approach is preferred to such 'physicalist' or 'rationalist mentalist' theories because its basic assumptions are not only not incompatible with the observed facts but also have the support and sanction of the related sister sciences with call for similar ones.

Finally, it was claimed that a realistic and intuitively satisfactory account of language acquisition and linguistic competence can be provided only if these changing-developing facts comprising discrete but related systems are (a) related to the ontogenetic development of the species specific innate principles of cognitive behavioural - development and (b) regarded as the product such principles of organisation extended to specialized ethological function. Unlike the innate language acquisition device of the transformational generative linguists operating with well-defined set of universal linguistic categories, the innate principles of cognitive behavioural organisation would operate with very general categories of 'functional equivalence' and 'functional differentiation' along axes that are familiar and meaningful to the categoriser. While in a newborn these categories may be initially biologically primed and very gross and global, in the course of his ontogenetic development, socialisation and acculturation, these are selectively sensitised and desensitised (refined, modified, and even altered altogether) according to the functional - transactional needs of his living in a specific environment. Adopting such an approach, the functional - transactional theory would, therefore, regard language and the structure of language or Linguistic Competence to be the product of the interaction between the individual

cognitive-behavioural development and his functional - transactional needs of living in a speech community, organising and structuring his experience, as well as responding to such experiences, in and through the language intelligible within the speech community. Thus, without postulating the existence of an independent language acquisition device, the functional-transactional theory would not only account for and explicate the child's acquisition of the language of his speech community but also show how it gradually develops from what is in the beginning an essentially arbitrary and egocentric system of interaction/communication between the infant and those who look after it.

The present paper will present some factual evidence in support of the claims made in the previous paper. The evidence consists of observations made about the language acquisition in three children of varying age (A - 12 months to 15 months, B - 12 months to 32 months, C - 24 months - 36 months). The children come from middle class, educated urdu speaking families, living in Riyadh in the University campus. However, they have been exposed to English too, at a very early age and the two older ones can communicate in English, too. The evidence will be presented from the fields of vocabulary growth, acquisition of structures as well as code-switching. Some observations regarding the transition from proto-language to language will be made in the case of the first child.

Tone Acquisition: Some General Observations. Brian King,  
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Edward, Ottawa K1N 6N5.

In spite of the dearth of material on tone acquisition some tentative generalizations do emerge. A recent study on Taiwanese tone acquisition by the author indicated that tones are acquired before segmentals, level tones are acquired before contour tones, tones which are maximally opposed are acquired first and that there is a close relationship between the stages of tone acquisition and syntactic development. The present paper discusses these results in light of previous research and suggests that they have a general applicability to the tone acquisition process. Some possible explanations are offered to account for these phenomena by drawing on research on tone language typology.

Functional Diversity as a Developmental Phenomenon in Child and Parent Conversation. Maggie Kirkman and Toni Cross, Institute of Early Childhood Development, 4 Madden Grove, Kew, Victoria, 3101, Australia.

This study addressed the question of whether functional diversity in child and parent language is an informative measure of language development. Thirty-two Australian mothers and their children were selected into four groups of eight dyads each based on the children's ages (2 or 5 years), formal language ability (MLU 1-0 or 3-0) and hearing capacity. A simultaneous comparison of functional categories in the spontaneous conversation of mothers and children was made using an adapted version of Dore's hierarchical scheme of conversational acts [Dore, Gearhart and Newman, 1978] on 200 consecutive utterances from each participant. The results indicated that normally-hearing children learn to use differentially an increasing range of conversational acts between the ages of 2 and 5, the last group reaching a level of diversity similar to that of mothers' language to young children. The language of the deaf children achieved significantly lower functional diversity scores than either their language- or age-matched peers. There was little evidence that parents adjust this aspect of language to developmental differences in their children. The implications of these results for an interactional account of pragmatic development are discussed.

The Acquisition of Japanese Pitch-Accent. Chieko Kobayashi, Ph.D. Tezukayama Gakuin Junior College, Tezukayama, Osaka, Japan, 558.

Based on detailed observational data, analysis of the acquisition of pitch-accent by Japanese children is attempted on two stages of development: the evolution of pitch-accent at an early stage and the acquisition of accentual rules such as accent reduction rule at a much later stage. The very early development of an initial low pitch in the Kyoto child in contrast with high-beginning words, before the appearance of a distinctive pitch drop acquired first by the Tokyo child, indicates basic difference in the accentual systems of the two major dialects of Japanese, standard and Kyoto. Comparison with the conclusions of recent work on the acquisition of a tone language (Li, C.N. & Thompson, S.A. (1977). The acquisition of tone in Mandarin-speaking children. JChL 4. 185-99.) is attempted to illustrate similarity and dissimilarity in the acquisition process of pitch-accent and tones.

Development of the kinship term semantic system in English speaking children. Stan A. Kuczaj II, Department of Psychology, Southern Methodist University, Dallas, TX 75275 U.S.A.

One hundred children ranging in age from 3;1 (years;months) to 7;9 were given two tasks in order to assess their knowledge of 25 English kinship terms--an interview task and a comprehension task. The results demonstrate that the relation "child of" is central to the acquisition of the meaning of such terms and that the meaning of terms which involve this relation in which the child is himself the "child of" are acquired first, followed by the acquisition of the meaning of terms in which the "child of" relation involves someone other than the child. The meaning of terms which involve other relations or in which "child of" plays at best a partial role are acquired much later. This pattern is revealed in both the children's acquisition of the correct meaning of the terms of concern and in the errors which they make in assigning meanings to terms. The implications of these results for theories of lexical-meaning development will be considered.

The acquisition of the meaning of mood terms. Stan A. Kuczaj II & Denise Clark, Department of Psychology, Southern Methodist University, Dallas, TX 75275 U.S.A.

Forty children ranging in age from 3;0 (years;months) to 6;11 were given two tasks in order to assess their understanding of the meaning of ten English mood terms (e.g., happy) -- a story presentation and question answering task and a self-report task (involving questions such as "what do you do when you are happy?" and "how do you feel when you are happy?") The results indicate that children's understanding of the meaning of the ten target terms gradually increases with age, and follows a consistent development pattern. This pattern appears to be influenced by both the denotative and connotative meaning of the terms. The implications of these findings for theories of lexical-meaning development will be considered.

Young children's use of referent animacy in sentence production.  
Henrietta Lempert, Department of Psychology, University of Toronto,  
Toronto, Ontario, M5S 1A1.

Sixty-seven children ages 2.9 to 5.5 years were trained to produce either passive (NVN) or inverted cleft (NNV) sentences to describe enacted events in which agent and patient animacy were systematically varied. Children preferentially named the animate referent in the immediate preverbal position (the first noun in passives and the second noun in inverted clefts), so leading to correct word order when the animate referent was patient. Generalization tests confirmed that correct word order was based on referent animacy and not on syntactical knowledge.

Children's choice of seating space in function of relationship to adult partner. Kenneth C. Lester, Box 2158 Station B, Nashville, TN 37235 USA and Walburga von-Raffler Engel, Dept. Linguistics, Vanderbilt University.

Fifty-one children, ages 3-12, and 11 adults were videotaped entering a kiddie matinee. A previous study had determined the seating areas preferred by adults in regular movies. In this study, children accompanied by a parent selected their own seats in the areas customarily avoided by adults. Children that were accompanied by an adult other than their parent followed the adult to a seat of the latter's choosing within the adult area. The tapes were then viewed for comparison and contrast of the non-verbal language displayed by the children and adults.



The non-interaction of cognitive and linguistic notions of gender in the language of young Israelis. Yonatha Levy, The Institute of Human Learning, University of California, Berkeley, California 94720.

Hebrew marks gender on nouns, adjectives, verbs and prepositions. The gender distinction is completely arbitrary for inanimate nouns but is in perfect correspondence with the sex of the referents of the animate nouns. Names of animals are marked for gender in a way similar to the markings of the animate nouns. In an experimental study of 28 native Israeli children (mean age 2:7) it was found that the subjects were unable to apply the relevant cognitive notions of gender in their linguistic usage. Evidence to that effect was found in tests of adjectives and verb forms where the items used were animate and inanimate toys, as well as in tests for the production and comprehension of animal names. These findings accord well with previous findings in a longitudinal study of the acquisition of Hebrew. In fact, they are predictable from the literature on the development of the cognitive notion of gender in young children.

The concept of experience in speech development. Kristine MacKain, Department of Psychiatry, Cornell University Medical College, 525 E. 68th Street, New York, New York 10021.

The relation between infant speech perception and phonological acquisition has been investigated by determining what effect a particular linguistic environment has on infants' discrimination of phonetic contrasts. Exposure to sound contrasts phonemic for a community has been said to heighten preverbal infants' sensitivity to these contrasts. It has been argued that exposure (or the lack thereof) to certain speech contrasts during the preverbal period will have systematic effects on phonological acquisition through processes such as facilitation, maintenance, or attenuation of discrimination. This paper contends that phonetic input cannot be specified and "experience" cannot be defined in this context without knowing how infants perceptually structure speech input. Consequently, the discrimination paradigm provides no test for the effect of experience on infants' speech discrimination. Seven conditions to be met in order to conclude an effect of experience are discussed. It is further argued that in the common case of allophonic variation for phonemic contrasts, we would not expect a modification to occur in infants' perceptual sensitivity to psychoacoustic parameters which differentiate phonetic contrasts until infants are capable of recognizing that certain sounds contrast to convey differences in meaning.

Cross-modal coordination in infants' perception of speech. Kristine MacKain, Department of Psychiatry, Cornell University Medical College, 525 E. 68th Street, N.Y. N.Y. 10021. Michael Studdert-Kennedy, Haskins Laboratories, New Haven, Connecticut. Susan Spieker, Cornell University Medical College, Daniel Stern, Cornell University Medical College.

Infants' capacity to match auditorily-presented consonant-vowel sequences, CVCV's, and their visually-presented articulatory concomitants was investigated by measuring whether six-month-old infants looked longer at the video display of the face of a woman repeating the articulatory pattern (e.g., /lulu/) which matched an audio recording (/lulu/) than at an alternative display of the same woman repeating an articulatory pattern (e.g., /mama/) which did not match the audio input. Twenty infants were tested on pairs of CVCV's in a fully counterbalanced, within-subjects design. The speech was played over a central loudspeaker in synchrony with left and right video displays. Infants' gazes were videotaped and two measures of fixation time were collected. Infants preferred to watch dynamic articulatory patterns which matched the syllables they were hearing. This result was highly significant. Evidentially, these infants, like normal adults, can match syllable structure across auditory and visual modalities, and can detect synchrony of corresponding events in the two modalities (e.g. shifts in formant frequencies and in degrees of mouth constriction). Implications for speech acquisition by blind infants and for teaching speech to deaf children are discussed.

Children's Comprehension of Relational Terms: Two Developmental Levels. Judith A. McLaughlin, Elizabethtown College, Elizabethtown, Pennsylvania and Roy Pea, Clark University, Worcester, Massachusetts.

This study examines the relationship between children's comprehension of relational terms and their ability to conserve. Forty-eight 4- to 9-year-old children were tested individually on two tasks (continuous quantity, discontinuous quantity, number, length, area, and substance). Children's ability to conserve in each content area was assessed on a conservation test in which relational terms were not used in questioning. Each child was tested for comprehension of the relational terms signifying lesser, greater and equal extension along the relevant dimension under two conditions: (1) covarying, in which the relevant dimension of the stimuli children compared covaried with another dimension of those stimuli; and (2) non-covarying, in which the relevant dimension did not covary consistently with any other dimension of the stimuli. Most conservers succeeded in comprehending the relational terms in the non-covarying condition, while most non-conservers failed, demonstrating that this ability is a concrete operational one. Most non-conservers and all conservers succeeded in the covarying condition. Therefore, since children comprehend relational terms before acquiring the ability to conserve, an inability to comprehend relational terms could not prevent children from success on the traditional tests of conservation.

Adults' Questions and Children's Answers. John McShane, Department of Social Psychology, London School of Economics & Political Science, Houghton Street, London, WC2A 2AE.

Adult questions and children's answers, from a longitudinal study of six mother-infant dyads in the second year were studied. The children made a relatively greater proportion of conversational responses to questions than to other adult utterances. In the early months of the second year the children's responses were lexically unintelligible; such responses indicate the pre-verbal establishment of certain conversational conventions. The development of the children's responses from this early stage will be traced. Particular attention will be given to the role of question - answer routines in the development of language structure. The concept of an appropriate response to a question will be discussed from a semantic and a pragmatic viewpoint as certain responses judged as inappropriate on semantic criteria can nevertheless be seen to satisfy pragmatic and interactional criteria. On the adult side, the type of question asked and the changes in adult questions over time will be considered and related to changes in the child's ability to respond to particular types of questions.

Phonological processes: within or across phoneme class generalization in articulation training. Leija V. McReynolds, Ph.D., Ralph L. Smith Research Center in Mental Retardation, University of Kansas Medical Center, 39th and Rainbow, Kansas City, Kansas 66103 and Mary Elbert, Ph.D., Department of Speech and Hearing Sciences, Indiana University, Bloomington, Indiana 47401.

Cluster Reduction and Final Consonant Deletion are purported to be general phonological processes applied by misarticulating children to simplify production of consonants in clusters or at the end of words. In two experimental training studies generality of the processes were explored. The question was concerned with whether generalization from training would occur across several affected phonemes, other than the target phoneme (across class generalization), or was restricted to the target phoneme trained (within class). Children with /s/ and /r/ errors in clusters and children who omitted final plosive and fricative sounds learned to produce a target sound in a within class context. Generalization to the other class was tested during training, e.g., if /s/ was trained, generalization to /r/ clusters was tested, and if /r/ was trained, /s/ generalization was tested. The plosives and fricatives were treated similarly. Results showed that the children generalized to within class contexts but not to across class contexts. Processes, if they existed for these children were restricted, not general.

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Slide and overhead projector is needed

The Role of Speech Act Theory in Language Development. John McShane, Department of Social Psychology, London School of Economics & Political Science, Houghton Street, London, WC2A 2AE.

In recent years speech act theory has had a growing influence on studies of language development (e.g. Bates, Camaioni and Volterra, 1975; Bruner, 1975; Dore, 1978; McShane, 1980; Shatz, 1978). However, there are a number of theoretical and practical problems that attend the extension of speech act theory to the developmental domain. Most theoretical accounts (Searle, 1969; Bennett, 1976) give a central role to the speaker's intended meaning (usually adopting some variant of Grice's (1957, 1969) theory of meanings). For a developmental account of language this raises the issue of how particular communicative intentions are conveyed by the child and understood by his/her interlocutors and how and why the means of conveying particular intentions changes over time. A further issue concerns the articulation of an appropriate taxonomy of speech acts that pays due attention to the pragmatic force of utterances while also allowing for the study of the development of new grammatical means of conveying particular communicative intentions. These issues will be discussed, with illustrative data, and a theory of speech act development will be outlined.

Repairs - learning to do it yourself. Michael F. McTear, School of Communication Studies, Ulster Polytechnic, Newtownabbey BT37 0QB, N. Ireland.

There are often points in the course of a conversation when talk breaks down and repair is necessary. Repairs can be initiated and carried out by the current speaker as well as the listener. This paper examines repairs by current speaker (self-repairs), using as data transcripts of the spontaneous conversations of two children videorecorded over a period of two years (3;8 - 5;10). The paper focusses on two types of self-repair: 1) repairs to syntactic "errors", which indicated the development of the children's ability to monitor their own speech and to select from different options available in their linguistic system, and 2) the children's hesitations and false starts, which, as in the literature on adult speech production, showed an awareness of the conflicting constraints of preserving syntactic constituents as well as meeting the demands of the system of conversational turn-taking. The present study contributes to our knowledge of the development of linguistic awareness and conversational competence. The paper concludes by considering some methodological implications for the study of child language development.

The functional unity of early phonological systems. Marlys Macken, Linguistics, Stanford University, Stanford, CA. 94305.

In this paper, three types of production processes are examined in the corpora from children acquiring English, Spanish and Estonian (one child per language but including corroborative data from other children acquiring these languages). The three types examined are place harmony, metathesis, and phonotactically-motivated deletion. The discussion focuses on the functional similarity of the structurally dissimilar rules associated with each process. It is suggested that the data demonstrate the need to consider aspects of phonological systems that previously have been largely ignored: consonantal strength hierarchies, the set of possible surface representations, and the relationship between the conditions that govern those representations and the phonological rules. The presentation concludes with a discussion of the place of such data within the larger context of a model of phonology acquisition that recognizes the importance of purely linguistic constraints and yet ascribes fundamental importance to a general cognitive process of rule formation.

Towards a psychology of morphological marking: Evidence from child language and linguistic structure. Lise Menn, Aphasia Research Center, Boston University School of Medicine, 150 S. Huntington Avenue Boston, MA 02130, and Brian MacWhinney, Psychology Department, University of Denver, Denver CO.

MacWhinney's (1978) psycholinguistic process model for the acquisition of morphophonology uses both rote-learned and rule-created affixed forms. Exploiting this duality, we can account for a variety of acquisition phenomena concerning the under- and over-use of morphological markers, including 1) lateness of acquisition of 'schwa-insert' affixes in English (and parallel phenomena in Hungarian and German); 2) reduced overregularization of English t/d final strong pasts (caughted compared to comed); 3) infrequency of inflectional back-formations; 4) occasional affix repetition (duckses). This dual mechanism can also help to account for a morphological surface constraint in adult language: the absence of adjacent identical morphs representing different underlying morphemes, e.g. the absence of English adverbs in -ly from adverbs in -ly (\*lovely-ly), the  $\emptyset$  plural marking of nouns ending in -Vs in Spanish, etc. Evidence is cited from English, Hungarian, Italian, Navajo, Ngarluma, Russian, Spanish, Swedish, and Turkish. We further justify an elaboration of MacWhinney's model with data from slips of the tongue and theoretical perceptual considerations.

Language development and reading. Paula Menyuk & James Flood, Applied Psycholinguistics Program, Boston University, Boston, MA 02215.

It is clear that segmental phonological awareness is necessary for the beginning reader (Gleitman & Rozin, 1977). Phonological awareness, however, may not be the only aspect of language processing which is significantly related to reading ability, especially throughout the school years. To explore this possibility a study was carried out with 4th, 7th, 10th grade children and adults, who were good and below average readers, in which subjects were asked to detect non-grammaticality, anomaly, paraphrase and ambiguity in sentences presented orally and in written form and then to correct and paraphrase examples of the above sentence types. Findings showed a significant differences between reader groups at all ages in both oral and written tasks, a significant correlation between task performance and reading scores and a levelling off of structural processing abilities in below average readers in the 4th grade or before. The implication of these findings for describing the relation between language development and reading is discussed.

Involvement of the Father as a Variable in Infant Language Stimulation. Marilyn N. Metzler, Ph.D., Director of Child Development, Menorah Medical Center, 1000 West 59th Street, Kansas City, Missouri 64113.

Sixty normal first-born children of two-parent, private service families comprised the subject pool. Subjects were divided into three groups: control, mothers receiving a language stimulation program, and mothers and fathers receiving the program simultaneously. The group in which fathers were included in training receive the highest mean score. Further analyses suggested that involvement of the father result in specific changes in the home environment as well as changes in the infant's social behavior and reaction to novel stimuli. This study provides a rationale for active paternal involvement in infant stimulation program.

Individual Differences in the Language Acquisition of Mentally Retarded Children. Jon Miller, Heather MacKenzie and Robin Chapman, Waisman Center on Mental Retardation & Human Development, University of Wisconsin-Madison, 1500 Highland Avenue, Madison, Wisconsin 53706.

Patterns of language performance relative to cognitive status were examined in 130 mentally retarded children functioning between 7 and 84 months. Measures of cognitive status, language comprehension and production, speech motor control, hearing status, motor development, etiology and chronological age were taken for each subject. Factor analysis of overall group performance revealed that cognitive level accounted for 85% of the variance in the eight measures. Examination of six cognitive stage sub-groups (Sensimotor IV, V, VI, early, mid and late preoperations) revealed a gradual unraveling of the high positive correlation between language performance and cognitive status as cognitive level advanced. This trend suggested greater individual variation at more advanced cognitive stages. To examine the trends, individual patterns of development were analyzed at each cognitive stage. Four distinct patterns of performance were identified relative to cognitive level: specific delay in language production, delay in both comprehension and production, advanced lexical comprehension, and comprehension and production levels equivalent to cognitive level. Instances of each pattern were found at every cognitive stage, with greater variation within each pattern evident at more advanced stages. These four patterns represent individual differences in communicative skills independent of cognitive level.

A Linguistic Evaluation of Hyperlexia. Rosa Needleman, Department of Psychiatry, The Neuropsychiatric Institute, UCLA School of Medicine, Los Angeles, California 90024.

An unusual, precocious and self-taught ability to read in very young children who have severe language disabilities was investigated. Nine children ranging in age from CA 48 months ("language age" 30 months) to CA 84 months ("language age" 40 months) - with diagnoses of autism, aphasia or pervasive developmental disorder - were given standardized tests of language development, reading and cognition. Additional experimental measures focussed on non-linguistic visual tasks and non-alphabetic linguistic tasks. Results indicate that, rather than relying on rote memory, hyperlexic children do comprehend written language and spell by rules of sight-sound correspondence. No consistently positive correlation with highly developed visual processing skills was found. The findings suggest that hyperlexia is an isolated linguistic ability.

Language-Learning Styles that Combine Semantic, Syntactic, and Discourse Components. Keith E. Nelson, Department of Psychology, The Pennsylvania State University, University Park, PA 16802. USA.

In a sample of 25 children strong individual differences in tendencies to imitate were observed at 22 months of age, and these differences showed stability. As compared with low-imitators (19% or less of their utterances were imitations), high-imitators (25% or more imitations) more quickly acquired (to a criterion of spontaneous use) new concept names but used shorter, less complex sentences. These latter children also showed (even when sentence lengths of subgroups were matched) more complex discourse with their mothers. Finally, leaving aside imitative attempts the strategy of mastering new concepts differed for the two groups: The high-imitators relied less on comprehension than did the low-imitators. Both the possible origins of these two patterns of individual differences and their implications for later skill levels and later styles of learning and communicating are discussed. Further detail on other components of the present two "styles" or "strategies" as they appear within longitudinal data, in combination with data from previous reports on such styles as "referential" or "analytic," leads to the suggestion that some of the most basic styles are those that represent complex communication over many months. In addition, the possibility is explored that such complex communication styles may be tied to more general cognitive styles observable in other systems or areas of the child's development.

Japanese/Chinese kanji - what they can tell us about nonverbal children and early symbolic language. Mary Rees Nishio, Department of Psychology, University of Toronto, Toronto, Ontario, Canada, M5S 1A1.

Japanese adult aphasics have been found to retain visual understanding of concrete kanji words although they may lose the understanding of the phonetic systems (hiragana & katakana). Based on this evidence that phonetic language and visuo-spatial gestalt symbols may be differentially processed in the brain, it was hypothesized that preschool, nonverbal (autistic, language delayed) children might be capable of attaching these symbols to objects or to pictures of objects even though the child might not have available a verbal response. Work with five pre-kindergarten and kindergarten aged nonverbal children showed that these children were capable of learning large numbers of the kanji, of using them to acquire desired objects, and in some cases showing indisputable evidence of symbolic understanding of the symbols. Results suggest that whole work or alternative gestalt symbols may prove useful in assessing the capabilities of non-verbal children.



The acquisition of interactional competence in bi- and trilingual environment. Els Oksaar, Institute of General Linguistics, University of Hamburg, Von Melle Park, 6, 2000 Hamburg 13, West-Germany.

This paper will report on certain aspects of a longitudinal study of bi- and trilingual children at pre-school age (The Hamburg Multilingual Language Acquisition Project. International Review of Applied Psychology 29, 1980). Natural speech of 1) 8 Swedish-Estonian children, 6 German-Swedish children and 6 German-English children and 2) 3 Estonian-Swedish-German and 3 Swedish-German-English children was studied according to the principles of an integrative approach (Oksaar, E., Spracherwerb im Vorschulalter. Einführung in die Pädolinguistik. Stuttgart 1977), the basic unit of which is the communicative act. It includes interactions not only by verbal, paralinguistic and kinesic means but also the whole affective behavioral characteristics and proxemic elements of child-adult and child-child interaction. The paper focuses on the creative aspects of interferences and the communicative strategies of code switching. The models discussed include a new type of interference--situational interferences and culturemes.

The Use of Melodic Intonation Therapy and Signing in Language Training of Autistic Children. Frances Pappas, M.A., Louisiana State University Medical Center, 100 South Derbigny Street, New Orleans, Louisiana 70112.

The use of Melodic Intonation Therapy has been well documented in the adult aphasic populations and recently with aphasic children. Likewise, sign language has also been accepted as one teaching modality for hearing, impaired, deaf, and autistic children. However, the use of the combination of these techniques has not been reported. Presented will be case studies of six autistic preschool children who participated in the Louisiana State University Therapeutic Nursery School program from the time of identification (18 months to 2 1/2 years of age) until mainstreaming (other nursery program or public school). Discussion will include: rationale for use of both techniques with these children, professionals involved in the transdisciplinary program, the specific therapeutic program, carryover of these special procedures by the families, evaluation/reevaluation results, and speculation on reasons for success (e.g. compared to the normal language acquisition process and appeal to relatively more intact areas of the brain).

Child Language and Failure in Reading Acquisition: A Twoway Relationship. P.G. Patel, Linguistics Department, Ottawa University, Ottawa, Ontario K1N 6N5.

Language processing at different levels of 88 schoolers (age range 8-16) with failure in reading acquisition (specific reading disability) was studied as a part of a research project which also involved extensive testing related to the different levels of processing in reading and neuropsychological functioning. Results on the performance of these children relative to normal controls on Pig Latin, Ubbly Dubby, morphophonemic encoding, semantic fields, comprehension of complex syntactic-lexical relations showed: the processing deficits seem to be located at the lower linguistic levels; the higher psycholinguistic organization seems to be relatively intact, most children being at the lower end of the normal range. These findings could be interpreted to throw light on two questions: (1) What is the nature of the deficient processes associated with failure in reading acquisition which can be studied in greater detail within the framework of child language? (2) What is the nature of the role of learning to read in language development? It would be suggested that the developmental processes involved in the use of the lexicon and syntax through speech and orthography are interrelated. These questions are relevant theoretically as well as in terms of applications in the field of child language.

Phonological Systems as Natural Categories. M.S. Patton, Department Psychology, U.C.L.A., Los Angeles, Cal. 90024.

In previous papers (1978, 1979) it was argued that phonological systems exhibit the same category structure which Rosch has identified in other perceptual and semantic categories. The evidence consisted of a survey of the phonological systems of a large sample of natural human languages (708), and a closer examination of those languages with the most intricate consonant systems (West Caucasian languages). We now examine ontogenetic evidence from ten children learning one of two unrelated non-IndoEuropean languages as their first language: the first has one of the richest vowel systems, while the second has a rich consonant system. The sequence of development and the substitution pattern are examined. Both are consistent with the model of phonological structure suggested by the earlier linguistic studies. Moreover, this model is in agreement with recent developments in phonological theory, which suggest a new structure for phonological rules. We discuss the implications of these findings.

Semantics of Modal Auxiliary Verb Uses by Preschool Children. Roy D. Pea, Clark University, Department of Psychology, Worcester, MA 01610.

The natural speech of 6 young children in nursery school interactions was studied longitudinally from approximately 2;6 to 3;2 for evidence of the use of modal auxiliaries and semantically-related expressions. The modals may, must, shall and the semi-auxiliary ought (to) were never used; might, should, and would were only used once or twice in the corpus. However, uses of can('t), will(won't), and could were quite frequent, as were semantically-related expressions such as have (got)to, going to, want to and need to. Philosophical and linguistic analyses of modals have indicated the need to distinguish deontic senses (re: permission, obligation) from epistemic senses (re: probability, necessity) of modals. Analyses revealed that the children used both deontic and epistemic senses of can('t) and could(n't), but only epistemic senses of will (won't), have(got)to, and of going to, want to, need to. Epistemic senses of all these expressions were used with both self and object/event as sentence subjects. Findings are discussed with respect to the speech act functions which utterances with the different modals expressed.

Toward a Cognitive Science of Lexical Development. Roy D. Pea, Clark University, Department of Psychology, Worcester MA 01610.

Recent cognitive science studies of memory and conceptual development have indicated that learning is only explainable if the interactions between (1) the activities of the learner, (2) the nature of the material to be learned, (3) the demands of the knowledge assessment task, and (4) the characteristics of the learner (such as current knowledge structure and attitudes) are considered. The current study of lexical development, when compared to the terms of this tetrahedral model, is seen to be lacking in scope and depth, for both theory and method, and a re-analysis of studies of mono- and bilingual lexical development, imitation, word comprehension-production relationships, metalinguistic development, and related empirical phenomena reveal the systematic and comprehensive nature of this theory. Shifts in methodology for the study of lexical development are recommended, with the aim of mapping out the specific nature of the relations between the different factors of this model for individual children acquiring the lexicon of their language.

Perceptual and acoustic attributes of infant distress vocalizations. Irene Petrovich-Bartell, Nelson Cowan, and Philip A. Morse, University of Wisconsin, 338 Educational Sciences Bldg., 1025 W. Johnson St., Madison, WI 53706.

This study explores one aspect of early mother-infant communication: mothers' perceptions of infant distress vocalizations. Of particular interest were the contributions of acoustic cues and non-acoustic contextual information. Vocalizations produced by five infants 3-4 months of age were rated on a five-point scale from "definitely fuss" to "definitely cry" by mothers on two home visits. On the first visit, each mother rated a set of her own infant's vocalizations. Three weeks later, mothers were presented with a master tape that contained the vocalizations of all five infants. Analyses of the judgement data and acoustic parameters revealed that (1) ratings generally were consistent for all mothers, both shortly after the vocalizations were produced and three weeks later with fewer available contextual cues, and (2) mothers relied upon mean dB, mean second formant frequency, and mean duration in their judgements of infant cries vs. fusses. Consistent individual differences between infants also suggested that some infants were perceived as "fuss-budgets" and others as "cry-babies." This infant status was unrelated to infant temperament.

Theoretical aspects of the role of cognitive development and linguistic input in language acquisition. Kim Plunkett & Anna Trosborg, Faculty of Social Sciences, Walton, Hall, Milton Keynes, U.K. MK7 6AA.

This paper extends the argument put forward by Schlesinger (1977) concerning the role of cognitive development and linguistic input for language acquisition. The acquisition of the purely ARTIFICIAL categories of linguistic distinctions are acknowledged as relying on linguistic input independent from extra-linguistic knowledge. Discussion centres upon the linguistic dissection of the natural world. Three sources of cross-language variation are identified; CORE DIFFERENTIATION, BOUNDARY VARIATION and PARASITIC EXTENSION. Each source reveals alternative restrictions in the manner that linguistic distinctions are extracted from extra-linguistic knowledge. The universals of language acquisition are identified with the process of Core Differentiation whereas Boundary Variation is seen as primary source of cross-language differences. Finally, the Parasitic Extension is identified as a highly active and creative function of language in that it enables one to go beyond the given reality to create new abstract realities.

Functional Analyses of Immediate and Delayed Echolalia in Autistic Children. Barry M. Prizant, Department of Speech Pathology and Audiology, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Videotaped language samples of ten verbal autistic children were analyzed in order to determine the variety of functions served by two frequently noted characteristics of autistic language, immediate and delayed echolalia. By reference to contextual features, including gestures, environmental referents, and interactiveness of each child's utterance production, functional categories were derived which were descriptive of cognitive (e.g. self-regulatory, rehearsal) as well as communicative (e.g. requests, declarative, affirmation) functions. These findings offer an alternative explanation to the occurrence of delayed and immediate echolalia, which are most often considered as isolated deviant linguistic behaviors rather than as transitional phenomena inherent in the cognitive and linguistic growth of autistic children. Delayed and immediate echolalia will also be considered in reference to the author's developing theory of language acquisition in autistic children, as well as in reference to alternative strategies of language acquisition in normal children.

Effects of social context on vocalization and hand gesture in early infancy. Adele Proctor, Dept. Speech-Language Pathology, Northeastern University, Boston, Massachusetts 02115

Infant communicative patterns contribute to establishing routines of social interaction. These elaborative and repetitive routines may serve as a basic framework upon which speech and language are developed. Infant communicative signals occur in a behavioral package and include the various channels of communication. Vocalization and hand gesture are two components of this behavioral package and are adapted for communicative use early in life.

In a naturalistic, longitudinal, videotape study of two infants during the first six months of life, infant communicative acts were differentiated from communicative acts which occur when verbal symbolic behavior is present. Vocalization and hand gesture were defined in reference to these infant communicative acts. Social contexts were defined in relation to infant and maternal behaviors. Vocalization and hand gesture were studied to determine if the two behaviors were influenced by four different social situations. Results of frequency distributions, supported by proportional data, suggested a co-variance of vocal and gestural behavior in different interactive situations.

Mayan telegraphese: Stage I speech in Quiche Mayan. Clifton Pye, Dept. of Anthropology, University of Pittsburgh, Pittsburgh, PA 15260.

One of the most striking characteristics of early speech in children is its "telegraphic" quality. Data collected over a nine-month period from three Quiche Mayan children, ages 2;1 to 3;0, suggests that there may be considerable differences across languages in the form of Stage I speech. The Quiche children consistently used inflectional morphemes rather than word roots to signal major semantic meanings. The children's choice of form in these utterances seemed to be guided by the rules for stress placement in Quiche. The Quiche data indicates that while a universal process of cognitive development may determine the meanings children first express in their speech, an independent perceptual strategy determines the forms which they will attach to those meanings.

Children's Repairs. Judy Reilly, 684 Norwood Drive, Pasadena, California, 91105.

In discourse, repetitions which refine or expand an initial turn are called Repairs. The present study suggests that children from the one-word stage through middle childhood use this strategy as a transitional mechanism to progress from one stage to another in acquiring a particular structure. This paper examines child self-initiated repair sequences of 25 children ranging in age from 18 months to seven years in order to reveal the nature and function of these refinements. It was found that like adults, children use repairs to clarify misunderstandings in discourse. Interestingly, children's repairs often bear closer resemblance to the adult model than the child's initial turn. For children, repairs can function as a language learning device to practice those specific structures where the child's competence is not yet fully developed. For example, a child at the two-word stage may use a second turn to add a third semantic component. Whereas an older child, who was working on coordination, can use a second turn to conjoin two previously independent clauses. In this way, the repair mechanism seems to reflect the continuous nature of the language acquisition process.

An Examination of the Effects of Verbal and Nonverbal Feedback on Maternal Speech to 2-1/2-year-old children. Karen L. Rembold, Dept. of Educational Psychology, University of Wisconsin, Madison, WI. 53706.

The quantitative and qualitative modifications made by adults in speaking to language-learning children are well-documented, and yet relatively little is known about how these modifications are elicited. Most research into this elicitation process has focused on how maternal speech is related to the child's verbal behavior. The present study examines the effect of the child's nonverbal behavior on maternal speech as well. Nine dyads of 2-1/2-year-old children and their mothers were placed in separate testing rooms where they could communicate with one another via television monitors and microphones. In one condition (V+), mothers could both see and hear their child on the monitor; and in a second condition (V-), mothers could only hear their child. The children could see and hear their mother in both conditions. Results from a repeated measures analysis suggest that maternal MLU in the V+ condition was significantly lower than maternal MLU in the V- condition, even though child MLU was constant across both conditions. Results are used to argue the importance of the child's nonverbal feedback in eliciting the "motherese" speech register.

An Experimental Investigation of the Acquisition of Tense and Aspect in English. Tanya Renner and Ann R. Eisenberg, Dept. of Psychology, University of California, Berkeley, CA 94720.

Sixteen single-action events were shown to English-speaking children aged 30-53 months to assess their ability to remember events and to refer linguistically to them. Each child was asked to "tell the story" and then to show it. The events represented two examples each of the possible combinations of the following dimensions: 1) discrete/continuous; 2) bounded/unbounded; and 3) transitive/intransitive. Issues investigated included: 1) Would children who could not verbally describe the events re-enact them? If so, would they remember only certain types (e.g., discrete, bounded)? 2) Would children who sometimes used past tense tend to mark some kinds of events rather than others? Nonverbal children re-enacted nearly all of the events. Thus, children can think about the past without necessarily being able to talk about it. When children linguistically mark some events for the past, they do not differentiate between the three dimensions investigated. When they use two past tenses (preterit and past progressive), however, they distinguish between bounded and unbounded events. Thus, at least certain types of aspect are not marked during the acquisition of simple past-tense marking.

The Uses of Child Language Studies in Literary Criticism.  
Laurie Ricou, Department of English, University of British  
Columbia, Vancouver, B.C. V6T 1W5, Canada.

This paper argues that some use, or at least understanding of child language is essential to the writer's creation of the child's viewpoint. Thus, a familiarity with the psycholinguist's description of child language, and of language acquisition, is necessary to developing the literary critic's sense of the effective presentation of the child's viewpoint. We are able to define the writer's technical difficulties in expressing the child's world when, for example, we note that the vertical construction of a child's sentences at the one- and two-word stage demands an unconventional syntax from the writer. Similarly, studies of children's semantic development refines our sense of the relationship between writerly metaphor and the child's perspective. Such explorations of the intersections between child language studies and literary criticism, using examples from Wordsworth to Dennis Lee, results in defining criteria for describing the child's point of view in poetry and fiction.

The Effects of Postpartum Mother-Infant Transactions On The Development Of Meanings of Five Year Olds. Norma M. Ringler, Case Western Reserve University 2035 Abington Cleveland, Ohio 44106.

The speech of six mother-child pairs was studied for linguistic forms and functions when the children were five years old using Halliday's basic function of alternative meanings design, to determine effects of reciprocal transactions of mother-child pairs as far back as the postpartum period on the development of meanings and use of functions. Half the mothers had had early and extended contact with their children when newborns, and half had had the regular hospital routine. T test results at five years suggested that mothers who had early and extended contact with their infant were half as controlling than mothers who had had limited postpartum contact with their newborns. Experimental mothers also asked significantly more questions than control mothers in verbal interactions with their five year olds. T test results at five also suggested that the experimental child was significantly more friendly, more self aware, shared feelings more and had more interactions with his mother than the control child. Significant correlations emerged for each postpartum contact group in behavior. Significant between group results suggested appropriate cognitive interaction between early contact mothers and their children.



The Acquisition of Coreference, Binding and Trace. Thomas Roeper, MIT Center for Cognitive Studies/UMass Linguistics Department; Cambridge, Massachusetts 02139.

We asked the following questions: how do children learn the difference between (1) who does he think wants an ice cream and (2) who thinks he wants an ice cream? In (1) who and he refer to different people (except under unusual circumstances where the answer could be "he thinks he himself wants an ice cream"). In (2) who and he refer to the same person or, crucially, to a set of who's and he's. The reason that we have who/he non-coreference in (1) is because there is a trace after think which is the position from which who is interpreted. Thus the meaning is like he thinks who wants an ice cream where he and who are non-coreferential for well known theoretical reasons (see Reinhard 1976, Solan 1978). In (2) coreference is permitted because the first who is like a name that has not been moved (John thinks he wants an ice cream). Our hypothesis: children will at first fail to have trace and therefore permit coreference. When they acquire trace (i.e. movement) they will also acquire binding (the notion that a set of who's and he's are involved). We did an experiment (Roeper & Borowsky (in preparation)) in which nine children from 5-6 years were asked paired questions about pictures. The pictures contained several people with one attribute (like wearing a hat) and a pragmatically outstanding person on the side. Then we asked either who thinks he is wearing a hat or who does he think is wearing a hat following by who's thinking. Each child received 14 sentences counterbalanced. Four children allowed coreference on both (1) and (2), all five years old. Five children made the distinction between (1) and (2) allowing coreference on (2) but choosing the outside, pragmatically suggested person for (1). These five children were the only ones that also used binding in coreference. That is, they answered with several people for the who's thinking questions (pointing at all 3 relevant people). A separate pilot experiment had the same results. This correlation between knowledge of non-coreference for (1), which equals knowledge of trace, and the use of binding is just what is predicted by linguistic universals and the notion of innate knowledge. The child automatically knows that movement implies traces, and trace imply bound variables, which produces the multiple coreferent who/he sets. Until that point the child simply knows that who/he are possible coreferents.

Riddles and rhymes: The Importance of speech play for blind and visually handicapped children. Sally M. Rogow, Department of Educational Psychology and Special Education, University of British Columbia. Vancouver, B.C. V6T 1W5, Canada.

The riddles of seven and eight-year old children require a more objective view of language than the humorous and whimsical forms of speech play observed in younger children. Severely visually limited children have few opportunities to experiment on the visual/spatial world, but express the need to explore and manipulate concepts in the language sphere. The recognition and resolution of riddle incongruity by blind and visually handicapped children provides evidence of the substantive value of riddles as a means of exploring the rules and constraints of the linguistic system and experimenting with the extension of concepts to novel situations. The present study of riddle comprehension by seven and eight year old blind children demonstrates the importance of speech play in children's mastery of the linguistic system.

A Comparison of the Order of French Language Structure Learning in an L2 Immersion Situation with the Order of Acquisition in an L1 Natural Situation. Robert R. Roy, Department of Language Education, Faculty of Education, University of British Columbia, Vancouver, B.C. V6T 1W5.

Samples of French language artificially elicited from 20 anglophone children (ages 8;3 to 9;3) in their third year of school immersion are analysed to determine the relative degree of mastery of selected structures. The order of structure learning is compared to the order of acquisition of younger native speakers. It was hypothesized that a natural L1 order of acquisition would result from a functional instructional approach in L2 in spite of the greater maturity of the L2 learners.

"Don't interrupt!": Preschoolers' entry into ongoing conversations. Jacqueline Sachs, Department of Communication Sciences, U-85, University of Connecticut, Storrs, Connecticut 06268.

Observations of natural interactions in a preschool (18 children 3;4 to 5;6) yielded instances of children's attempts to enter ongoing conversations between child-child, adult-child, and adult-adult pairs. Analyses revealed that children were sensitive to the status of their listeners, interrupting adult-child pairs more frequently than adult-adult pairs. There were age and/or sex differences in the use of introductory words (e.g., Teacher...), yelling, and proximity at initiation of speech. In this age range and situation, there was little evidence of polite strategies (e.g. waiting for acknowledgement) or courtesy phrases for interruption. The results are discussed in terms of the development of the sociolinguistic, social, and cognitive abilities involved in entering ongoing conversations.

The interrelations between cognitive and communicative development. Adriana L. Schuler and Christiane Kischkel-Bormann. 2069 N. MarVista Altadena, CA 91001.

A series of non-verbal experimental analyses of conceptual abilities were carried out in three autistic youngsters. In all cases, the ability to make abstractions about stimulus properties and spatial location by far surpassed the ability to make abstractions about object functions and associated action sequences. In addition, superior written word discrimination skills were contrasted by poor speech and sign discrimination. It is suggested that a disparity between a serial vs. a simultaneous mode of processing may account for the differences found. Implications are discussed in terms of the interrelations between cognitive and communicative development in normal children.

A developmental linguistic analysis of spelling ability in learning-disabled children. Sybil Schwartz, McGill-Montreal Children's Hospital Learning Centre, 3640 Mountain Street, Montreal, Quebec, H3G 2A8.

The ability of learning disabled children to abstract spelling patterns was studied using 3 spelling tests: 2 multiple choice and 1 dictation. Eighty children were tested: 20 at each age from 8 to 11. Children with learning problems are markedly delayed in their ability to abstract spelling patterns. Analyses of individual test items reveal that their performance is not essentially different from that of younger normal children. A detailed analysis of errors was done and is discussed as a basis for assessing linguistic competence.

Retelling of stories by preschool children. Leonor Scliar-Cabral & Maria Regina Machado de Campos, Pós-Graduação em Linguística, PUC/Campinas and E.P.M., Rua 7 Shigueo Mori, 60, Cidade Universitária, 13100, Campinas, SP Brazil.

The analysis of a recorded sample of stories told by the teacher and retold by 14 deprived institutionalized children whose ages ranged from 3;0 to 5;6 revealed the lack of constitutive elements (space, time, characters, action and textual cohesion) of an autonomous text among the youngest. The researchers accompanied the children in two stages within a space of three months. The limits for planning the stories are shown in the size of the stories, the number of characters, their qualities, the number of events and the lack of textual cohesion (mainly, causal incongruency). The inability for presupposing the listener's position (egocentrism) is shown through the use of implicit space and the misuse of deixis of person. For instance, use of "there" and of substitutes without antecedent. The process of contaminatio (that is, the fusion of two or more stories and/or of the factual with the fictitious) shows the absence of delimitation of one story opposed to others due to limitations upon long term memory and cognition in general and also the resistance children make to adhere to an unchangeable text.

Discourse Universals and the Development of Linguistic Structure from the First to the Fifth Year. M.M. Shields, University of London, Institute of Education, Department of Child Development and Education Psychology, 25 Woburn Square, London WC1H 0AA.

In the sixties and early seventies an emphasis on structure and the stages at which different structures appeared dominated the study of language development and is still producing some interesting results. Recently however the emphasis has been on function and to the pragmatics of interpersonal communication. There are now in addition many studies of prelinguistic communication which emphasise the reciprocal and social nature of communicative development. Both these tendencies have contributed towards a more plausible account of the psychology of language acquisition. It is the thesis of this paper that a stronger link can be forged between language function, language meaning and language structure by taking into account universals of human interpersonal communication and relating them to the development of structural means for their deployment. Data will be drawn from both the one word and combinatory stages of language development of English speaking children between one and five and an attempt will be made to develop a more unified theoretical approach to the relationships between meaning, intention and structure within an interpersonal discourse framework.

Grammatical Comprehension: A Question of Style? David N. Shorr, Dept. of Early Childhood Education, Central Washington University, Ellensburg, WA 98926 and Philip S. Dale, Dept. of Psychology, University of Washington, Seattle, WA 98915.

Two experiments investigated the influence of cognitive style (reflection-impulsivity) on children's picture-pointing and object-manipulation grammatical comprehension (PPGC and OMGC, respectively) task performances. Study I (24 preschool children) provided evidence of a strong linear relationship between standard PPGC task performance and reflectivity ( $r = .51$ ). A modified PPGC task, designed to control an otherwise reflectivity bias, was also administered to children in study II (32 preschool children). The modified PPGC task was a significantly weaker correlate of reflectivity ( $r = .41$ ) than was the standard PPGC task ( $r = .69$ ). Modified PPGC performance was also a slightly stronger correlate (albeit, non-significantly so) of OMGC task performance than was standard PPGC task performance. The research further addresses the grammatical comprehension construct, its operationalizations, and its expected relationship with cognitive style.

Some discourse processes at age three in the child-child dyadic relation. Grace Wales Shugar, Institute of Psychology, Warsaw University, 5/7 Stawki, 00 183 Warsaw, Poland.

Studies on dyadic interaction with preschoolers (child-adult and child-child) [Shugar, in press] led to conclusions as to underlying differences and similarities between dyadic types which warrant deeper study of discourse processes involved. Research [supported by Grant W-266, Polish Academy of Sciences] is based on transcribed videotaped observations of 15-minute unstructured sessions in which 24 children participated with both partner types (unfamiliar pairs). Whereas the symmetric relation (Child-adult) revealed a basic reciprocity and complementarity, in the symmetric relation (child-child) this quality had to be negotiated as a resolution of two conflicting tendencies: to achieve current interaction, and to clarify and integrate the individual current action line. Various types of joint (social) structures arose as more or less satisfactory resolutions. This paper, restricted to three-year-olds, will analyze the discourse process as a constant re-definition of the state of the dyadic relation, in which each participant contributes acquired resources and styles, and deals with those of the partner. Some interpretations of ongoing cognitive work will be proposed.

The acquisition of sociolinguistic skills: How do children learn the sick-room register? Catherine Snow and Fredi Shonkoff, Harvard Graduate School of Education, Roy E. Larsen Hall, Appian Way, Harvard University, Cambridge, MA 02138, and Harry Levin, Cornell University.

By the age of four, children demonstrate knowledge of some of the characteristics that differentiate among registers such as mother-talk, teacher-talk, and doctor-talk. However, acquisition of knowledge about socially appropriate speech styles continues much longer, perhaps throughout life, and depends on exposure to skilled users of the relevant register. Knowledge of the sick-room register was assessed for 23 children aged 4 to 9 years, using a role-play situation before and after the children were hospitalized for minor elective surgery. Although older children were better than younger on measures reflecting knowledge of the register prior to hospitalization, the post-test revealed no age differences. Children acquired knowledge of hospital-related lexical items, some knowledge of the differentiation between nurse-talk, doctor-talk and mother-of-sick-child-talk, but little facility in the use of a nurturant, comforting style, from their experiences in hospital. Child-specific relation between the talk heard in hospital and the talk produced in the post-hospitalization role-play situation are identifiable. Acquisition of the hospital register can be seen as a model for the relationship between linguistic input and the acquisition of language.

Linguistic effects at three years of age of extra contact during the first hour post partum. Ragnhild Söderbergh, Child Language Research Institute, University of Stockholm, Box 6404, S-113 82 Stockholm, Sweden.

In the spring of 1978, 38 children, then 36-40 months old, half of whom had got extra contact with their mothers during the first hour post partum, were videotaped together with their mothers in a free play session with a doll's house. It has been assumed that an effect, if any, of the early postnatal contact ought primarily to be sought in the interaction between mother and child and thus be possible to trace in their conversation during a free play-session. An essential task has been to find a way to discriminate between successful adult-child dialogues and less successful ones. A model has been constructed for an analysis of dialogues, regard being payed both to linguistic and non-linguistic components (gestures, gazes etc.) and special attention given to the speaker's (1) introduction and development of topics (2) tying of utterances to preceding utterances and actions (3) turnpassing devices and turntaking. [The research is carried out in collaboration with a medical project headed by Peter de Chateau M.D. and Jan Winberg M.D.]

The Acquisition of Linguistic Structures and Cognitive Development. Gisela E. Speidel, Kamehameha Educational Research Institute, 1850 Makuakane St., Honolulu, Hawaii 96817.

This study concerns itself with the Piagetian hypothesis that certain linguistic structures are based on the same operational schemata which lead to the acquisition of concrete operational thought. Eighty children enrolled in kindergarten through third grade participated in the study. Half of the children were from low-income homes and spoke Hawaiian English. The remainder of the children were from middle to upper-middle class families of diverse ancestry and spoke standard English. The children were given a series of language tasks [based on Sinclair, 1967, and Sinclair, Sinclair and De Marcellus, 1971] to chart the acquisition of comprehension and production of the comparative and of the passive, and the acquisition of more complex syntax to group information. Simultaneously, a series of Piagetian tasks (conservation, seriation and perspective taking) were administered. These Piagetian tasks, presumably are parallel to the verbal tasks and based on the same underlying cognitive structures. Preliminary analyses suggest that there is sufficient lack of correspondence between the emergence of the linguistic forms studied and their assumed nonverbal cognitive counterparts to question the hypothesis of the Piagetian developmental psycholinguists.

Patterns of Perceptual and Motor Deficits in Language-Delayed Children. Rachel E. Stark, Paula Tallal and Robert Johnston, John F. Kennedy Institute, 707 North Broadway, Baltimore, Maryland 21205.

In a recently completed study, (Stark and Tallal, 1980) two groups of children, aged 5 to 8 1/2 years, a speech articulation impaired group and a language impaired group were compared with a matched control group of normal children. The perceptual and motor skills of all three groups were tested by means of experimental batteries. Auditory, visual and cross modal perceptual testing, a speech motor battery and a neurodevelopmental test battery were included. By means of univariate and multivariate analysis, including multiple regression and discriminant function analyses, it was found that each of the two impaired groups, as compared with the normal children, presented different patterns of perceptual and motor deficits. These findings are being tested in re-analysis of the data which includes development of correlation matrices and cluster analyses. The data will be examined and discussed in relation to implications for assessment and treatment procedures.

Changes in the temporal patterns of mother-child dialogue: a compelling force for language development? Elza M. Stella-Prorok, Programa de Mestrado em Educação Especial Universidade Federal de São Carlos 13 560 - São Carlos Brasil.

Theoretical and practical implications of the organisation of dyadic behaviour in language development have been suggested by a number of recent interactional studies. Though the importance of turn-taking skills has been emphasised the actual data available are scarce and concern primarily prelinguistic children. This paper discusses temporal patterns of mother (M) - child(C) dialogue found for 15 Brazilian pairs, in which the children's ages varied from one to three years. The measurements were taken from protocols on average about two hours long (equivalent to about 2660 M-C verbalizations). The data refer to pauses recorded in terms of M-C, C-M, M-M and C-C sequences of utterances and their associations with the structure of some of the exchange utterances. The analyses yielded the following results: (a) M's performance at turn-taking follows the developmental trend already described for the children, which accommodates to an inverted U-shaped function from age one to age three; (b) M's performance in M-M sequences incorporates the pace of C's performance at turn-taking; (c) finally, some of the variations in M's and C's temporal patterns can be positively associated with the structure of the immediately preceding verbalisations. The paper suggests that subtle changes in the temporal patterns of mother-child dialogue are to be viewed as M's and C's differential responsiveness to each other, which may be operative as a form of communication pressure of twofold consequence for the child's language development.

Spelling Errors in the Compositions of Normal Children. Dr. C.M. Sterling, University of Reading, Department of Psychology, Building 3, Earley Gate, Whiteknights, Reading RG6 2AL, England.

The writing of an essay or composition is an expressive skill that calls upon a number of resources, of which one has to do with spelling. An analysis of the spelling errors of eleven year old Scottish schoolchildren's compositions has revealed that it is mistaken to conceive of the process of spelling as consisting simply of the transcription of essentially two kinds of words: a set of regularly spelled words, and a set of exception words. There are some errors in these compositions that have their origins in psychological processes such as lexical retrieval and lexical monitoring, as well as in transcription. There are other errors that reveal weaknesses or gaps in the child's knowledge of English spelling: for example, an ignorance of the regularities in the spelling of the /tʃ/ phoneme, and also of some of the more complex relationships between sound and spelling, such as the conditions for the doubling of consonants. The interaction of process and representation, specifically with respect to the morphemic structure of words, is found in the misspelling of inflected words, and compounds, but not derivatives. Thus the evidence indicates that inflected words are the product of a generative process, but that this does not hold for derivatives. A preliminary analysis has also revealed that this interactional nature of the process of spelling is manifest in the errors of younger children (8 yr. olds) and adults. Younger children tend to make large numbers of competence or knowledge errors while adults tend to make performance errors.



Semantic categories in the early language of working class Black children. Ida Stockman and Fay Boyd Vaughn-Cooke, Center for Applied Linguistics, 3520 Prospect Street, N.W., Washington, D.C. 20007.

In general, child language research has concentrated on those language varieties that are being acquired by middle class children. A comprehensive theory of language acquisition must be able to describe and explain how children of the working classes acquire their linguistic systems. Motivated by the goal to broaden the data base necessary for the expansion of child language theories, a large scale cross-sectional and longitudinal study (18 months) of the acquisition and development of language by 12 working class Black English speaking children has been initiated. Subjects range in age from 18 months to 4 1/2 years and two-hour video-taped samples of speech are being collected monthly in their homes. The data are being analyzed within the theoretical framework developed by Lois Bloom and her associates. This paper will describe the results from the first analytical phase, which revealed the semantic or content categories as evidenced by specific linguistic structures and nonlinguistic contextual information. The categories observed for the working class subjects will be examined relative to those reported for middle class children.

Individual Differences in Early Lexical and Phonological Acquisition. Carol Stoel-Gammon and Judith Cooper, Department of Speech and Hearing Sciences, University of Washington, Seattle, Washington 98195.

This study examines the period of late babbling and the acquisition of the first fifty adult-like words in three children, ages 0;10 to 0;11 at the beginning of the investigation and 1;4 to 1;7 at the end. The data were analyzed in terms of a) babbling sounds present during the month preceding the onset of meaningful speech, b) age at acquisition of the first adult-like words, c) rate of acquisition of the first fifty words, d) use of "proto-words", e) phonological form of the adult words occurring in the first words, and f) phonological form of the child's productions. The findings reveal that the prelinguistic vocalizations of all three subjects were similar, but that there was extensive inter-subject variation after the onset of meaningful speech, particularly in the use of proto-words and the phonological form of adult words selected to be part of the early vocabulary. These findings are compared with the results of other studies of early phonological and lexical development.

Emergence of the temporal reference system in childhood naturalistic second language acquisition. Amy Strage, Psychology Department, University of California, Berkeley, CA, 94720.

This study examined the emergence of linguistic markers for situating events in time, in naturalistic second language acquisition. Second language acquisition was chosen to factor out cognitive constraints on time concepts during first language acquisition. The data consist of 50 hours of audio-taped interactions spanning the 3rd through 9th months of immersion in the L2 (French) milieu for 6 American children (ages 5-8). Participants in these interactions included the learners, their French-monolingual friends, and a French/English bilingual researcher. All recordings were made in informal situations. Two aspects of the temporal reference system were analyzed: 1) particles (adverbs, prepositions and conjunctions) and 2) verb morphology. Two patterns emerged across children. In early samples, verb morphology was extremely restricted, and a range of particles in clause-initial and -final position served to disambiguate time frames. And temporal reference first appeared in formulaic routines (turn-taking negotiations and narrative frames, e.g.) and only later was used productively in other discourse contexts.

Discussion of the data focusses on the following issues:

- 1) The relationship of temporal reference in the input to learners' productions.
- 2) The decomposition of formulaic frames, and generalization to other contexts.
- 3) The coordination of the use of particles and verb morphology when the inflectional system began to blossom.

Language and the cognitive breakthrough at age six. H. Stephen Straight, Anthropology and Linguistics, SUNY, Binghamton, NY 13901.

A major discontinuity in cognitive functioning before and after about age six is revealed not only in Piagetian studies of 'preoperational' versus 'concrete operational' thought but also in many other longitudinal and correlational studies of learning, perception, memory, and intelligence. Linguistic indices of this breakthrough include the shift from 'syntagmatic' to 'paradigmatic' word associations, sharp increases in the appropriate use of logical and causal propositions, and the emergence of paraphrasing and synonymizing abilities, semantically-based response generalization, and adult-like semantic differential ratings. This and other such evidence can be brought together into a unified account by hypothesizing a wholesale restructuring of the basis for word meaning after age six. Single lexical items come to have a manipulable internal semantic structure comparable in form to that developed prior to age six in the analysis of phrases and sentences. In addition to the sources already mentioned, this account draws upon arguments raised on both sides during the recent (current?) controversy between lexicalist and decompositional syntax/semantics as well as during the elaboration of distributional, componential, and other competing accounts of word meaning and its development in children.

The effects of an infant language stimulation program on phonology and syntax at 2 years of age. Amy Swenson and Anne Watson, Department of Special Education, Ontario Institute for Studies in Education, 252 Bloor St. West, Toronto, Ontario M5S 1V6.

Using tape recordings made during free play in the home, the speech of six children (3M,3F) aged 25 and 26 months was analyzed one year following their participation in a parent-administered language stimulation program, and was compared with the speech of 30 children (15M,15F), mean age 27 months, of similar social class (middle) and parental educational level (college) to the stimulated group. On five of seven phonological measures [Ingram, 1980], the groups were nearly identical: number of sounds (mean 16 for  $n = 36$ ), articulation score (37), and proportions of monosyllables (.75), reduplicated syllables (.03), and homonomous types (.04). However, the stimulated children were significantly higher in proportion of closed syllables and of matches to the adult phonological form. They were also significantly superior on Brown MLU (3.33 vs. 2.51), and on proportion of DSS sentences meeting adult standard rules [Lee, 1974, p. 137], but not significantly so on DSS score. The infant language program seems to have led to a more rapid approximation of some aspects of syntactic and phonological development to adult models.

An experimental investigation of children's comprehension of the locutionary verb ask. Christine Tanz. Department of Psychology, University of Arizona, Tucson, AZ 85721.

Children's apparent "confusion" of the locutionary verbs ask and tell, incidentally uncovered in C. Chomsky's research on syntactic development, and subsequently interpreted in terms of E. Clark's theory of semantic development, is reinterpreted in the framework of pragmatic development. This progression recapitulates the expansion of focus in language acquisition research from an initial emphasis on syntax to the inclusion of semantics and eventually pragmatics. An experiment with children aged 5;5 to 9;9 confirms the hypothesis that they interpret instructions to ask someone a question as indirect requests for information. If they don't have the information, they relay the question, i.e., "ask"; if they do know the answer to the question, they supply it, i.e., "tell." In the appropriate context, the children show their ability to literally ask the question. When they "tell" instead of asking, what they reveal is not semantic confusion, but pragmatic skill. The results are discussed with reference to speech act theory. Children's ability to interpret directives non-literally has implications for conducting experiments with literal instructions and these are also discussed.

Talkativeness as a source of individual variation in children's language use. Anne Van Kleeck, Dept. of Speech Communication, University of Texas, Austin, TX 78712 and Richard Street, University of Arkansas at Fayetteville.

In our recent efforts to understand individual variation in the language acquisition process, the existence and nature of the communicative behaviors which differentiate talkative from reticent children have been virtually ignored. This study provides an in depth investigation of the communicative behaviors of four 3 1/2 year-old females, two talkative and two reticent, in dyadic free-play interactions with six to eight different adults each (yielding a total of 28 adult-child interactions of one-half hour duration each). Measures reflected structural complexity, pragmatic functions and discourse functions of both the adults' and children's language. Significant differences in the raw frequency of occurrence of various pragmatic and discourse functions were observed. Qualitative differences were found (by analyzing proportional distributions) on measures of structural complexity and pragmatic functions of the children's language. Adults adjusted pragmatic and discourse features but not the structural complexity of their talk as a function of interacting with talkative versus reticent children. Implications are explored.

Spirantization of Stops in a Deviant Phonological System.  
Fay Boyd Vaughn-Cooke, Center for Applied Linguistics,  
3520 Prospect Street, N.W., Washington, D.C. 20007.

The deviant phonological system of a fourteen year-old male was examined, and extensive evidence for the substitution of spirants for the voiced and voiceless velar stops was revealed. While spirantization of stops has been widely attested in the literature on phonological change, this process is unexpected and rare in normally developing, and deviant phonological systems, which exhibit pervasive evidence for stopping, the converse of spirantization. In order to investigate the details of spirantization in the deviant system that was analyzed, 261 phonetic realizations of /k/ and 115 realizations of /g/ were extracted from a three hour tape-recorded spontaneous sample of speech. The phonetic realizations represented attempts of the subject to produce /k/ and /g/ when the former and the latter occurred initially and finally in monosyllabic words, as members of word initial clusters, and as single segments in multisyllabic lexical items. The investigator attempted to account for the unexpected substitution process by appealing to the theory of consonants strength hierarchies.

A functional analysis of natural language in pre-school children. Hans Vejleskov, Inst. of Education and Psychology, The Royal Danish School of Educational Studies, 101, Emdrupvej. DK, 2400, Copenhagen, NV.

4000 utterances of 4-6 year old children during natural small-group activities are analyzed according to function, i.e., intention on behalf of the speaker; other variables are communication pattern, use of other means of expression, and explicitness. The various situations or contexts also vary with respect to adult participation as well as with respect to the fact that in some groups one of the three children is a handicapped child, "integrated" into the kindergarten. The results are discussed with regard to evaluation of the particular model for observation and interpretation as well as with regard to the relationship between "pragmatics" on the one hand and cognitive-developmental and educational-psychological theory on the other.

Language mixing and code-switching: conversations between a pair of bilingual siblings. Marilyn May Vihman, Linguistics Department, Stanford University, Stanford, CA 94305.

It has by now been clearly shown that children acquiring two languages simultaneously from the start tend to go through a period of mixed-language utterances, followed by a gradual differentiation of the two lexical and grammatical systems [Volterra & Taeschner 1978, Redlinger & Park 1980, Vihman & McLaughlin 1981]. On the other hand, little attention has been paid to the reverse process: the evolution of a code-switching style among children whose peers use a language other than that of the children's home. This paper presents the results of a study of a pair of bilingual siblings tape-recorded roughly semi-annually from ages two to five and five to eight. The proportion of utterances containing words from both languages gradually rose over this period in the language of both children (as did mean length of utterance). It is suggested, in the light of these data, that a distinction can usefully be made between "language mixing" and "code-switching". The paper explores the situational conditions and linguistic principles which may account for the children's switches at word, phrase, sentence, and episode boundary.

The last shall be first: acquisition of the Afrikaans double negative. Jan Vorster, Human Sciences Research Council, Private Bag X41, Pretoria 0001, South Africa.

The Afrikaans language, a derivative of seventeenth century Dutch, has an obligatory double negative, the first negative particle functioning in much the same way as the single negative of cognate languages, while the second, ascribed by the dominant hypothesis to Hottentot influence, marks the rightmost extent of the scope of negation. Longitudinal data from four young children (MLU 1 to + 3) and three older children (MLU + 3 to + 4.5) were studied for information on the acquisition of the Afrikaans double negative, and the interrelationships between the acquisition of negation and other complex operations. The results reveal (a) a marked preference, in contrast to the Harvard children, for a Neg-final arrangement when negating early nuclei; (b) a disparity between the younger children's anaphoric negations; (c) the early mastering of Afrikaans negation compared with aspects such as interrogation, pronominalization and tense. These results are interpreted in the light of current acquisition theories.

Maternal speech patterns and differential development rates. Lynn H. Waterhouse, 341 Holman Hall, Trenton State College, Trenton, New Jersey 08625.

In a study of mothers interacting with their same sex twinpairs, it was found that frequencies of specific linguistic features in mothers' speech to their children showed concordance for identical twins and non-concordance for fraternal twins. This was true even for a subset of cases where mothers were wrong about the zygosity of their twins. For all children in the sample, linguistic features of interactive speech which related to control, intervention and correction showed significant negative correlation with children's separately assessed rate of language development. These findings suggest that variation in a mother's speech to children of different genotype may be based on response to differential development rates. The relationship of these findings to other current studies of the relationship of mothers' speech to children's language development will be reviewed.

Evidence for non-segmental, whole-pattern speech perception and production from a child's first recitations of nursery rhymes. Natalie Waterson, Dept. of Phonetics & Linguistics, School of Oriental & African Studies, University of London WC1E 7HP.

The early learning of nursery rhymes by a child, 1;8 - 1;11, was recorded as part of a longitudinal study of his speech development. Nursery rhymes were the longest items yet produced. From the start, each rhyme was attempted as a whole unit: there was no evidence of learning line by line, word by word, or segment by segment. The whole was first produced in very simple form and was then gradually modified until it came closer to the adult version. Rhythm and intonation were produced with a high degree of accuracy from the start and it was the most salient syllables or salient parts of syllables, e.g. only some of the features, that were acquired first - the less salient were filled in later. This is the same as was the case in the production of early words. Thus the same non-segmental, whole-pattern production, and hence in all probability also perception, was involved in the acquisition of nursery rhymes as in the acquisition of words.

Relationship between phonology and syntax in 30 children aged 2;0 to 2;6. Anne Watson and Amy Swenson, Department of Special Education, Ontario Institute for Studies in Education, 252 Bloor Street West, Toronto, Ontario M5S 1V6.

Transcripts of audio tapes obtained in the homes of 30 mother-child dyads were coded for mean length of utterance (MLU Brown, 1973) and for developmental sentence score (Lee, 1974) as measures of syntactical complexity. Ingram's (1980) phonological analyses were used to assess phonological mastery. Analyses indicated no systematic relationship among phonological and syntactic measures nor between syntactic measures, and contrary to other studies (Miller and Chapman, in press; Lee), DSS and MLU were not found to correlate significantly with age, perhaps due to the restricted age range studied. Birth order effects on MLU were observed favoring first-borns. Two phonological measures (proportion of matches with adult model; proportion of closed syllables) were moderately positively correlated with age, but the number of sounds and articulation score were not related to age. The suitability of MLU and DSS as measures of syntactic complexity is discussed, as well as the apparent support for an assembly model as opposed to a systems model of language development suggested by the results.

Code-Switching among Chinese-American Children. Louise Cherry Wilkinson, Wisconsin Research and Development Center, University of Wisconsin-Madison, 1025 West Johnson Street, Madison, Wisconsin 53706 and Yue-Hua Shaw.

The effects of age, oral proficiency, and interactant on the quality and quantity of Chinese-American children's code-switching were examined. Speech samples were collected from 12 Chinese-American bilingual children, ranging in age from 5-1/2 to 15 years, in interview with experimenter and interactions with peer. Analyses revealed negative relationships between age and switching frequency with peer, English proficiency and switching frequency with experimenter; and positive relationships between Chinese oral proficiency and switching frequency with experimenter and between English oral proficiency and age. Discussion includes code-switching as a rhetorical device, topic initiator, and qualitative effects.

Developmental Differences in Metalinguistic Awareness. Louise Cherry Wilkinson, Wisconsin Research and Development Center, University of Wisconsin-Madison, 1025 West Johnson Street, Madison, Wisconsin 53706 and Karen Saywitz.

The present study examined relationships among metalinguistic awareness, chronological age, and language comprehension. Three issues were addressed: multidimensional versus unitary nature of metalinguistic awareness; gradual versus "all-or-none" process of development; age of acquisition. Thirty standard English-speaking male and female, normal children aged 2-8 years were given: the Peabody Picture Vocabulary Test, the Northwestern Syntax Screening Test, and 11 tasks assessing metalinguistic awareness. Statistical analyses of these data revealed that the children developed different aspects of metalinguistic awareness at a similar rate. Metalinguistic awareness increased dramatically with increasing age, even when IQ was held constant. Metalinguistic awareness was directly related to language comprehension, independently of IQ and age. The implications of these results for language and cognitive development are discussed.



Parents' and Peers' Communication to Toddlers. Louise Cherry Wilkinson, Wisconsin Research and Development Center, University of Wisconsin, Madison, Wisconsin 53706.

Parents' and peers' speech to toddlers was examined for differences as a function of sex and parent, parent/peer status, sex of child, and age of child. Mothers, fathers, and peers of 18 parent dyads were individually audio- and videotaped in a naturalistic play setting with their children (nine boys and nine girls) when the children were 2 years (parents only) and 2½ years (both parents and peers). Ten language measures were coded: mean length of utterances, type-token ratio, number of utterances, number of turns, rate of questioning, rate of answering, rate of directives, rate of attentionals, rate of polite directives, and rate of repetitions. Analyses of variance revealed significant main effects for parent/peer status for: number of utterances, number of turns, mean length of utterance, questions, answers, polite directives, but no main effects for sex of child, age of child, and sex of parent.

A Feature Hierarchy of Early Nonlinguistic Consonant Articulations. David R. Woods. Department of Communication Arts and Sciences, Howard University, Washington, D.C. 20059. Ida J. Stockman, Department of Communication Arts and Sciences, Howard University, Washington, D.C. 20059 and Center for Applied Linguistics, Washington, D.C. 20007.

Research on infant vocalization has been stimulated by the issue of continuity between prelinguistic and linguistic articulatory development. Although some researchers have focussed on nonsegmental aspects of early vocalization, a need remains for a reliable data base on the segmental characteristics of prelinguistic vocalizations, if we are to evaluate hypotheses about their relation to linguistic behavior. This paper presents the results of an analysis of three linguists' segmental transcriptions of noncry, nonlinguistic vocalizations of four infants (7 to 21 months). The analysis yielded a hierarchical expansion of consonantal articulatory features based on the most frequently transcribed and agreed upon segments. For example, the earliest vocalizations which reflected either open or closed glottal articulation were succeeded at the next stage by a differentiation of each of these classes into lingual and non-lingual types, and so forth. The hierarchical model with phonetic features as branches seems to permit the abstraction of a general pattern of articulatory development in infant vocalization from the particulars of segment transcription which may vary from infant to infant and from transcriber to transcriber. Implications of this model will be discussed for the child's articulatory preparation for language onset, for universals of prelinguistic articulatory development, and for correlations with other developmental patterns (e.g. physiological development).

On the independence of language and cognition: evidence from a "hyperlinguistic" retarded adolescent. Jeri E. Yamada, Department of Linguistics, UCLA, Los Angeles, 90024.

The unusual performance profile of a seventeen year old retarded girl ("Marta") will be presented and discussed. Marta's productive and receptive language as well as her non-linguistic abilities (including those which have been claimed to be linked to language, e.g. disembedding, hierarchical construction, memory) are being documented through formal testing and informal observation. Marta demonstrates a profile of extremely advanced linguistic abilities alongside markedly depressed non-linguistic cognitive abilities (e.g. memory, symbolic reasoning). There is some evidence that her syntactic and phonological abilities may be more developed than her semantic and pragmatic abilities. The high language - low cognition profile challenges claims that language is but one manifestation of a more general cognitive capacity. It indicates that language, or at least aspects of language (e.g. syntax), can emerge independent of putative cognitive prerequisites and that while principles governing the development of language may overlap with those governing cognition, some may be unique to language. These and other theoretical issues will be addressed in the context of a discussion of data from this case study.

Children's awareness of their own vocal activity in speech production. B. Zei, University of Geneva, 27 rue des Lattes, 1217 Meyrin, Geneva, Switzerland.

Starting from a hypothesis that for a naive subject the concept of a speech sound comprises characteristics of both acoustic and articulatory natures, an experimental study of children's awareness of their own phono-articulatory activity was done. Children from 4 to 9 were asked to pronounce successively 14 different syllables and to describe how they produced them. The results of the experiment show the following:

- children do have a remarkable knowledge of their phonetic activity
- the awareness of this activity changes with age and appears to be linked to the child's cognitive level
- children's motor categorization of speech sounds only partially coincides with the phonological sound-categorization
- most descriptions refer to the kinetic rather than static aspects of speech production
- an awareness of general aspects of sound production precedes that of specifically articulatory aspects
- phonetic distinctions appear on 28 dimensions - covering 80 features
- areas which appear as particularly liable to conceptualisation are - bilabial; - coronal/alveolar/dental; - velar
- phonetic oppositions are never expressed in binary terms involving awareness of an absence of a feature

On the whole, the results throw some light on the articulatory parameters that appear to be of psychological importance to speech production.

Metalinguistic Awareness in Young Deaf Children. Judith Zorfass, Reading Department, Graduate School of Education, Harvard University, Larsen Hall, Appian Way, Cambridge, Massachusetts, 02138.

The metalinguistic abilities of prelingually deaf children, aged 4-7, who are users of Signed English, are examined with regard to their explicit segmentation of Signed English sentences into discrete lexical items. Four developmental stages were found to exist which agree with stages previously identified in hearing children. In Stage 1, the sentence was not segmented; in Stage 2, the major constituents of the sentence were segmented; in Stage 3, the major constituents and some function words were segmented; in Stage 4, the entire sentence was segmented. Analyses reveal a steady decline in the omission of content and function words from Stage 1 to Stage 4, the omission of inflectional morphemes throughout the four stages, and the existence of implicit segmentation skills occurring prior to the development of explicit abilities.