

The 16th Annual
Boston University

Conference on
Language
Development



October 18, 19, and 20, 1991

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Acknowledgments

The Boston University Conference on Language Development is run by graduate students in the Program in Applied Linguistics. We are grateful for the help, support, and advice of many people, who have directly or indirectly contributed to this year's conference preparations.

We would like to thank Kip Opperman of the Office of Disabled Student Services for ensuring that we have sign language interpreters available for all sessions of this conference.

We appreciate the assistance of the Dean's Offices of the Graduate School and the College of Liberal Arts at Boston University.

We would also like to gratefully acknowledge the financial support of the Humanities Foundation at Boston University in assisting the conference with spiralling postage costs.

We would like to thank Debra Aarons, the Applied Linguistics Program Assistant (and 1990 Conference Co-chair), for her generous and untiring support. She has always been available and cheerfully gave hours and hours of her time. Her help made our work a lot easier and more pleasant.

The Program in Applied Linguistics has given us the benefit of all its facilities and resources (which we have strained to the limit). We are most thankful to the Director of the Program, Prof. Carol Neidle, who has made all of this possible. In addition, as our conference Advisor, she has gone way beyond what anyone could expect in the innumerable hours she has devoted to this conference. We have been most fortunate in having her direction, which has increased the quality and efficiency of all aspects of the conference. All the advances made by this year's conference—which will benefit the conference for years to come—are entirely due to her remarkable energy, dedication, and high standards. We really appreciate her personal contributions and the inordinate amount of work she has done for this conference.

For their careful selection of abstracts (and for reading more abstracts than ever before – sorry!) we would like to thank:

| | | |
|--------------------|-----------------------|------------------|
| Ellen Broselow | Beth Levin | Brenda Rapp |
| Courtney Cazden | Virginia Mann | Thomas Roeper |
| James Paul Gee | Michelle Mentis | Bonnie Schwartz |
| Jean Berko Gleason | Paula Menyuk | R. Lorenza Trigo |
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Welcome

Welcome to the Sixteenth Annual Boston University Conference on Language Development. We are delighted to have Steven Pinker, of the Massachusetts Institute of Technology, present Friday night's keynote address, "Rules of Language."

In addition, we are very fortunate to have Neil Smith, of University College London, as our Saturday evening speaker. His address is entitled "Learning the Impossible: The Acquisition of Possible and Impossible Languages by a Polyglot Savant."

The program is composed entirely of submitted abstracts. We received more than 200 submissions of a very high caliber and were able, with the invaluable help of our careful reviewers, to put together a program that we hope you will find satisfying.

We are, as always, grateful for the support and interest of all of our participants. It is our hope that the conference will reflect current developments in an interdisciplinary field that is becoming increasingly broad, diverse, and rigorous, with implications for both theoretical and applied disciplines.

Enjoy the conference!

The 1991 Conference Committee

Yunhee Lee, *chair*

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Next year's conference

will be held on **October 30 - November 1, 1992.**

We hope to see you there.

The deadline for receipt of abstracts is May 10, 1992. Unfortunately, we are unable to accommodate symposium proposals.

Further information will be available from the 1992 Conference Committee:

Boston University
Conference on Language Development
138 Mountfort Street
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General Information

REGISTRATION AND SESSION LOCATIONS

On **Friday**, registration will be held in the lobby on the second floor of the George Sherman Union from 8:30 AM to 5:30 PM, and from 7:00 to 8:00 PM.

On **Saturday and Sunday**, registration will take place in the lobby of the College of Basic Studies, beginning at 8:00 AM.

Please register before going to sessions. (This is a non-profit conference, which is run without financial support from the University. We must pay all expenses from the fees taken in, and we are very grateful for your cooperation and support.)

KEYNOTE AND SATURDAY EVENING ADDRESSES

Steven Pinker, of MIT, will deliver the keynote address at 8:00 PM in the Large Ballroom, 2nd floor, George Sherman Union. You are invited to a dessert buffet in the Small Ballroom (adjacent to the Grand Ballroom) immediately following the keynote address.

Neil Smith, of University College London, will deliver the Saturday Evening Address at 5:30 in the Sleeper Auditorium of the College of Basic Studies. Please join us for sherry before his talk, between 4:30 and 5:30 PM in the lobby of the College of Basic Studies.

Parking is available in the Armory Parking lot (one block west of 881 Commonwealth Avenue) on Friday and Saturday, at \$6 per day, and is free on Saturday afternoon and evening, and on Sunday. Please be sure to mention that you are attending the conference.

Publishers' Exhibits will be in the lobby of the College of Basic Studies on Saturday and Sunday.

Refreshments will be served at the breaks in the lobby. Bagels and cream cheese will be available from 8:30 AM on Sunday.

The following are available at the **registration desk**:

- **ASL Interpreters** (Please inquire when you arrive.)
- **Message Board**
- **Lost and Found**
- **Campus Maps**
- A list of nearby **restaurants**

Addresses of conference buildings:

George Sherman Union: 775 Commonwealth Avenue
College of Basic Studies: 871 Commonwealth Avenue

Finiteness and V2 Effects Implicate the Existence of Functional Categories and Head Movement in Early German Grammar

David Poeppel & Kenneth Wexler, Massachusetts Institute of Technology

The literature concerning the availability of functional categories in early child grammar reflects two popular views; children's grammar lacks functional categories and, therefore, lacks the properties attributable to functional projections (Guilfoyle & Noonan (1988); Lebeaux (1988); Platzack (1990); Radford (1986, 1990)), or, the grammar shows the availability of at least one functional projection above the VP but lacks CP (Clahsen (1990); Gawlitzek-Maiwald, Fritzenschaft, Tracy (1990); Meisel & Müller (1990)). Based on the quantitative analysis of German data from the CHILDES database we show that the child at 2;1 knows the correlation between finiteness and verb-placement and the morphosyntactic processes associated with finiteness (head movement). The prominence of the V2 phenomenon, in particular non-subjects in first position, implicates the availability of IP and CP. Supporting evidence comes from negation and longer sentences. We argue that the standard CP-IP analysis of adult German is the model that best accounts for the reported data.

The Theoretical Significance of Auxiliaries in Early Child German

Katharina Boser, Barbara Lust, Lynn Santelmann & John Whitman,
Cornell University

Data from early child German (ECG) have been central to the ongoing debate about first language acquisition of functional categories. Deprez & Pierce (1990) and Whitman, Lee & Lust (1990) use ECG to argue for the inclusion of functional categories in early child grammar. However, the well-known predominance of OV order in ECG could be taken to argue for the opposing hypothesis, that functional categories are initially absent in first language acquisition. On this view, matrix sentences are VP small clauses (Lebeaux (1988); Radford (1990)).

(1) [Thomas [klo machen]_v]_{vp}

SOV order is accounted for by the absence of the functional categories INFL and COMP together with V to COMP movement.

In this paper we introduce a new class of data which support the hypothesis that functional categories are present even at stages of ECG with predominant OV order. The relevant data involve auxiliary insertion in 2 experimental elicited imitation studies (Boser, 1989), with German Ss in 4 age groups from 2;8 to 4;11 collected in Freiburg, Germany. These data are supplemented by analyses of natural speech samples with German Ss from 1;9 to 4;11, also collected in Freiburg.

Explaining the Development of Interlanguage: Successive Grammars

Bonnie Schwartz, Boston University
Rex Sprouse, Harvard University

This paper's focus is the etiology of a set of interlanguage grammars. Idealizing, let us assume that stages of L2A can be identified with grammars $G_0, G_1, G_2, \dots, G_n$, where $G_0 = G(L1)$ and $G_n \approx G$ (Target Language).

Employing L2 longitudinal data from a Turkish-speaker acquiring German, Schwartz and Sprouse (1991) argue that the developmental sequence in (1) emerges:

1) G_0 : SOVI (from Vainikka & Young-Scholten (1990))

G_1 : SIOV; I' becomes head-initial; Adjunction to IP (no "inversion")

G_2 : Subject clitic movement into I; *wenn* in [Spec CP] ("inversion" with pronouns only)

G_3 : C' becomes head-initial; C is [+F] (*dass*-clauses)

G_4 : C is [+F]; I' becomes head-final; Adjunction to CP ("inversion" with non-pronouns; rise in V1)

This paper will attempt three goals:

2) a. assess the general validity of (1) on the basis of additional L1-Turkish, L2-German longitudinal data;

b. articulate the interactions among G_0, G_1, UG and PLD yielding each G_{i+1} ;

c. compare and explain the L1-Romance, L2-German (e.g. Clahsen & Muysken (1986); Eubank (1991)) with the L1-Turkish, L2-German developmental sequences in light of (2b).

"Optional" Inversion in the Intermediate Stages of the L2 Acquisition of German

Lynn Eubank, University of North Texas

During the intermediate stages of the L2 acquisition of German, subject-verb agreement is somewhat less than perfect, and subject-verb inversion has the appearance of "optionality;" during the final stage, agreement is acquired, and inversion becomes "obligatory." I follow Eubank (1991) in assuming that the two phenomena are closely bound and that the final stage represents standard verb-second movement (V^0 -to- C^0). To account for the intermediate stages, an account is proposed in which the cases of apparent agreement do not follow from paradigmatically represented affixes inserted under AGR^0 . Instead, the affixes are base-generated directly on the verb under V^0 , and "optional" movement of the verb to AGR^0 follows from Hyams and Safir's (1991) idea of *passive* knowledge of paradigmatic parameters.

The Social Construction of Intertextuality

David Bloome, University of Massachusetts, Amherst

Intertextuality can be defined as the juxtaposition of texts (including conversational and written texts). Intertextuality has usually been defined as an attribute of a text or as an attribute of reader-text interaction. In this paper, I argue that intertextuality is socially constructed rather than a given of texts or readers. The social construction of intertextuality involves at least three interactional processes: recognition, acknowledgment, and social significance.

Cultural factors influence the social construction of intertextuality. There are cultural constraints on what texts may be juxtaposed, when, and in what situations. And, there are cultural constraints on how texts may be juxtaposed (that is, on the styles of interaction condoned for establishing intertextuality in various situations). Intertextuality is also constrained by entitlement rights. There is differentiation in who is allowed to juxtapose what texts, how, and in what situations.

Technology and Literacies in a Haitian Community

Jo Anne Kleifgen, Teachers College, Columbia University

The research studies the relationship between literacy practices in a school that uses computers extensively and the language and literacy practices in a Haitian community. The school provided computers for thirty families to use at home, and offered the children weekly after-school lab sessions. Initial data reveal that most of the children were not writing at computers, and those who did wrote in English rather than Kreyòl. When the home computers were connected by modem to an electronic bulletin board, the children began to send messages in both Kreyòl and English. Over time, more writing emerged, and written Kreyòl became incorporated into school-based literacy. This report will describe the literacy practices of children in 3 of the families, focusing particularly on activities taking place at the computer and on the uses of Kreyòl in this context.

Explicit Uses of Others' Voices for Constructing Arguments in Japanese Classroom Discourse: An Analysis of the Use of Reported Speech

Chikako Toma, Clark University

The purpose of the present paper is to discuss the implications of the frequent use of reported speech among Japanese students in a fourth grade science classroom. During discussion in class sessions, students frequently reported other students' utterances in the construction of their arguments. The use of reported speech is analyzed in terms of two issues. The first is a cognitive issue and concerns generating new meaning by taking reported speech as what Lotman (1988) calls a "thinking device." The second is social and pragmatic in nature and concerns cultural values having to do with presenting one's opinion in relation to others. The implication of the use of reported speech among Japanese students for addressing relationships among culture, language, and psychological functioning is discussed.

The Complexity of Classroom Discourse: The Case of a Multi-Ethnic ESL Middle School Classroom

Barbara Gomes, Educational Testing Service

This paper discusses the multiple discourses evident in a communicative activity typically occurring in a multi-ethnic middle school ESL classroom in which the students are defined as "problems". Specifically, an analysis of student and teacher attempts at constructing narratives of personal experience within the conversational context of the classroom are described. Conventions used by each participant to create connections within and across turns indicated that more often than not distinct discourses were being constructed by each participant; they were not achieving any notion of cooperation and common meaning. Analysis of multi-ethnic contexts can contribute to an understanding of the nature of discourse and its construction generally and to our understanding of the development of multiple discourses and multiple meanings within situations that are defined as single events. It is within such contexts that social identity and social relations are constructed for all students.

Phonetic Inventories 13-25 Months: Environmental and Linguistic Considerations

Nan Bernstein Ratner, University of Maryland

Longitudinal and cross-sectional analyses of the phonetic inventories of 3 groups of infant girls were performed, in concert with analysis of the phonetic characteristics of their mothers' speech to them. Results from CLAN PHONFREQ analyses of over 8,000 words and word attempts from 3 preverbal children, 3 at the one-word stage and 3 using multi-word utterances, followed over 3 sampling sessions, suggest principled growth in the phonetic inventory consistent in some respects with Stoel-Gammon's (1984) prior work, but not in others. Comparison of these patterns of infant production with those seen in a 30,000-word corpus of their mothers' speech to them reveals little evidence that maternal patterns of use influence children's early phonetic inventories. Possible reasons for dissociated patterns of use will be discussed.

Acquisition of the Voicing Contrast by an English-Spanish Bilingual

Margaret Deuchar, University of Cambridge, United Kingdom

The results from a case study of a child acquiring English and Spanish from age 1;3 to 3;3 are presented in relation to two questions: (a) is there a single or a dual initial phonological system? and (b) is bilingual acquisition equivalent to dual monolingual acquisition? The answers to these questions have implications for the issue of the role of universal grammar versus linguistic input in the acquisition process.

No evidence was found for a single initial system. The voicing contrast was acquired in English in a similar way to that reported for monolingual acquisition. In Spanish the results were similar to those reported for monolingual acquisition in that no adult-like voicing contrast was acquired, although there was some indication of a contrast. The results are explained using Keating's (1984) model of the phonological feature [+/- voice] in a way which demonstrates the interaction of universal grammar with linguistic input.

The Acquisition of Language-Specific Prosodic Features: Evidence from Syllable Amplitude Patterns in the Reduplicative Babbling of French- and English-Learning Infants

Andrea Levitt, Haskins Laboratories and Wellesley College

Qi Wang, Haskins Laboratories and University of Connecticut

In English, which has variable word stress, stressed syllables are longer in duration and higher in amplitude than unstressed syllables. However, in French, which has only breath-group-final stress, the last syllable of an utterance is typically longer in duration but *lower* in amplitude than the preceding syllables. After verifying these language-specific patterns in the productions of adult native speakers of English and French, we examined the reduplicative babbles of 5 French- and 5 English-learning infants between the ages of 5 and 13 months. The infant utterances did not show strong evidence of the language-specific duration-linked amplitude patterns of the adult languages. The English-learning babies matched the longest syllable of an utterance with the highest amplitude only 45 percent of the time, on average. The French infants, unlike French adults, frequently produced final syllables that were louder than the preceding syllable. We discuss our results in terms of a possible order of acquisition for prosodic features of fundamental frequency contour, syllable timing, and peak amplitude.

Learnability Theory and the Acquisition of Syllable Structure

Diane Ohala, University of Arizona

The framework of learnability theory (particularly the Subset Principle) has been standardly applied to syntactic development. I propose (following Dell (1981), Hammond (1990)) that subset relations exist within phonological domains as well. Specifically, I propose that such relations are found in children's acquisition of syllables and that the Subset Principle accounts for the stages through which the child progresses in acquiring the syllable structure (or template) for her language.

Analyses of the early speech of 1 and 2 year olds test the hypothesis that children acquiring English will begin by assuming their grammar has only CV syllables; they have the default parameters [HAVE ONSET] and [AVOID CODA] (Greenberg (1978), (Prince & Smolensky (forthcoming))) and will drop final consonants. This hypothesis is supported. Further analyses test two related predictions: 1) coda omission is due to grammatical change, not to production deficits; and 2) the acquisition of the grammatical fact that codas are omitted is on a template-by-template basis.

Acquisition of Functional Structure

Teun Hoekstra, University of Leiden, The Netherlands

This paper argues that expressions which may ultimately be part of a functional structure are initially represented as adjuncts on the lexical projections they combine with. The starting point of the argument is the observation that UG cannot uniquely determine, on the basis of the meaning of an element, whether it has the status of a functional head, or of an adjunct (cf. linguistic variation with respect to negation). The proposal goes against the hypothesis that all functional structure is available throughout (continuity), but that the delay in acquisition is caused by the time involved in learning the expressions instantiating it (lexical learning). It may be compatible with the maturational hypothesis, although it is logically independent of it. The empirical domain on which the argument is built involves developmental evidence from Dutch with respect to a) negation and modality; b) scrambling of objects; c) degree modification; d) CP-structure of embedded clauses.

Triggering Functional Categories

Maaïke Verrips, Max Planck Institute for Psycholinguistics, The Netherlands

In this paper we argue that the grammar of German children includes at least one functional projection from the earliest observed stage onwards. The head of this functional projection serves as a landing site for head movement of the finite verb out of VP. Contrary to other authors, we claim that the movement rule affects finite verbs of any form, and is not confined to verbs with a particular argument structure or a particular inflectional ending.

We base these claims on a brief review of the literature and on our own research into the development of finiteness and verb placement in our corpus of longitudinal data on the acquisition of German. In particular we pay attention to the position of finite and non-finite verbs relative to sentence adverbials and the sentence negator. We shall discuss how these findings relate to developmental mechanisms such as lexical learning and maturation.

The Acquisition of Complementizers and Quotation

Tom Roeper, University of Massachusetts, Amherst

Jürgen Weissenborn, Max Planck Institute for Psycholinguistics, The Netherlands

Jill De Villiers, University of Massachusetts, Amherst

Subordinate CP clauses can be attached at many places in a tree (IP, V-bar, V). The point of attachment is marked syntactically in different ways: in French the absence of *that* marks quotation (*Il dit "il va"*), but not in English (*He said he went*); in German V2 indicates subordination; in English inversion marks quotation, but not in German. Furthermore, under quotation coreference is excluded in English:

1. a. He_i said he_i can go
- b. He_i said "he_k can go"

How does a child learn this system? A series of studies contrasted structures involving quotation versus indirect speech. Twenty-five English, 55 French and 20 German children between 3 and 7 years allowed wh-extraction for the sentences involving quotation, in violation of adult grammars. The results from 20 English children reveal many mistakes of coreference showing again insensitivity to the semantic restrictions introduced by quotation. A theory of subordinate CP acquisition is presented in which the child starts with a default syntactic adjunction of CP to IP which permits all semantic variations. Attachment at lower levels requires satisfaction of both the syntactic module and the semantic module.

The Acquisition of COMP and Word Order Patterns in Bilingual Children (German/French)

Natascha Müller, University of Hamburg, Germany

It has been claimed that word order variation can be explained by the position of finiteness [+F] in the grammar (finiteness parameter; cf. Platzack & Holmberg (1989)). Thus, there are two options across different languages and in language acquisition: [+F] is located in INFL (French and other non V2 languages) or in COMP (German and other V2 languages).

My study is based on videotaped recordings of spontaneous child speech, starting at age 1;5. There is evidence that early child grammars lack COMP (cf. Meisel & Müller, (1990)). I will argue that the three bilingual children I studied initially place [+F] in INFL (or TENSE; cf. Pollock (1989)) in both languages (cf. Meisel (1990); Meisel & Müller (1990)). As soon as the category COMP emerges, the third child leaves [+F] in INFL (or TENSE) and produces V2 patterns (SVX, XVS) in German embedded clauses. I will offer an account of the children's different choices which is based on the structure of COMP in the children's grammars. Following the assumption that fixed parameters cannot be reset (cf., e.g., Clahsen (1990)), one should expect from the third child a "step-by-step" acquisition process in the German data. This turns out to be the case; the use of the V-final pattern in German embedded clauses depends on the type of verb contained in the embedded clause and the type of complementizer introducing the embedded clause.

The Acquisition of Case Assignment in a Bilingual Child: Routes of Development and Theoretical Implications

Achim Stenzel, University of Hamburg, Germany

The introduction of a new functional category DET has important implications for Case Theory as well as for the study of language acquisition. I shall present evidence from the acquisition of Case that supports the DP analysis. Furthermore I will argue that the acquisition of Case crucially depends on the emergence of functional categories. Case is a means to structurally license the arguments of a category, its emergence is connected with the onset of grammatical development.

Another aspect of investigation is the various dimensions along which Case phenomena vary in the two languages involved. German displays a number of idiosyncrasies that are virtually nonexistent in French. An initial structural relationship between a category and the surface case it assigns is broken up when the child learns about the existence of lexical case assignment in German. Afterwards the child has to reconstruct the system and, at the same time, to store information on lexical case assignment in the lexicon and to set the case parameter to case assignment by [+N] categories.

Urdu IP and Its Genesis

Anjum P. Saleemi, Allama Iqbal Open University, Islamabad, Pakistan, and
Massachusetts Institute of Technology

Proceeding from certain syntactic assumptions, this paper draws on diary-based observational data, roughly extending over the first two years of a single child's acquisition of Urdu. We propose that Urdu IP has a configuration which includes V', VP, Asp', AspP, and I', with T appearing under I' as a sister of AspP. This presupposes that sentences require Asp(ectual) and T(ense) projections in addition to a VP. Both Asp and T systems exhibit quanta of specific features. (Note that the conception of Asp being employed is rather atypical, involving infinitival and imperative forms as well as the traditional aspectual elements).

It appears that the developmental data gathered so far lend support to the coextensive part of the above syntactic analysis. More specifically, the present research suggests that VP is acquired before AspP, and AspP before IP. Further, features that can be instantiated in each configurational slot likewise develop gradually, with the result that the emergence of a slot does not necessarily imply the simultaneous acquisition of all of the features connected with it. For instance, Asp progresses from perfective to non-perfective, from imperative to infinitival, and T from neutral to present to past. The appearance of sentence structure, it seems, undergoes two-fold elaboration, both in a linear direction and in terms of feature instantiation. It is possible to argue that the remaining inflectional elements—i.e., the ones related to person, number and gender—as well as the structural subjects, may not appear until IP as a whole is in place.

Sociolinguistic Behavior in a Detroit Inner-City Black Neighborhood

Walter F. Edwards, Wayne State University

This paper presents results from a sociolinguistic research project, conducted in 1988-89, that investigated the relationship between respondents' choices of Black English (BE) and Standard English variants of linguistic variables, and their vernacular culture index (VCI) as measured by their total scores on 10 lifestyle statements each with values ranging from 1 through 4. The respondents were identified in a random sample that was stratified into 4 age groups (18-25; 26-39; 40-59; 60+) and into males and females.

The theoretical aim of the paper is to evaluate Social Network Theory as a sociolinguistic framework for explaining linguistic variation in a working class urban neighborhood in America; and, thus, to contribute to the sociolinguistic literature on the principles that motivate linguistic variation in socially homogeneous speech communities (cf. Gal (1984), Lippi-Green (1989), Bortani-Ricardo (1985)). Descriptive statistics, including Pearson Product Moment correlations, are used to support the conclusions reached in this paper. The paper reports that older respondents are more likely to choose BE variants than younger respondents; and that there are consistent statistically significant correlations between high scores on the VCI and the choice of Black English variants of the linguistic variables. These results are used to support the proposal that the Social Network Theory approach, of which the VCI concept is a part, is capable of explaining intra-community linguistic variation in socio-economically homogeneous areas such as the black community studied.

Variable Rule Acquisition: A Study of t/d Deletion

Julie Roberts & William Labov, University of Pennsylvania

There have been many studies over the past few decades documenting the existence of variable rules in adult language. Only recently, however, has the *acquisition* of these rules been the focus of research, which has opened the door for questions about the interaction of the learning of categorical and variable rules. The present study examined the pattern of deletion of final t and d in word final consonant clusters in seventeen 3 and 4 year old children and their parents in order to ascertain the children's degree of mastery of phonological and grammatical constraints. The data showed that 1) children as young as 3 had largely mastered the phonological constraints of t/d deletion and were well in the process of acquiring the grammatical constraints, 2) the learning was not a reflection of universal constraints, and 3) the children were acquiring an abstract rule rather than simply copying the frequencies of their parents' forms.

Input and Interaction in Deaf Families

Anne E. Mills & Beppie van den Bogaerde, University of Amsterdam, The Netherlands

In this paper we will discuss the interaction between deaf mothers, all native signers of SLN (Sign Language of the Netherlands), and their children. The group of children studied are both hearing and deaf, aged between 0;11 and 2;0. Our paper will focus on some differences in input and interaction which appear to be characteristic of this group compared to hearing parents with hearing children and on differences which emerge within the group related to the hearing status of the child. Firstly it appears that the language used to the children by the mothers (Dutch, SLN or simultaneous communication (SC)) varies according to the hearing status of the child and according to the language development of the child over time. Secondly the strategies used to obtain visual attention necessary for sign language communication also vary according to the hearing status of the child and across time.

Do Children Attend to Form-Function Patterns in Caregiver Input? Evidence for Selective Use

Angela Wiley & Nancy Budwig, Clark University

The present study examines the relationship between linguistic forms and the semantic and pragmatic functions they serve in caregiver and child other reference. Patterns in other reference are compared to patterns previously noted in self reference. We examined all other references of 3 mothers and their children (between 18-30 months). A functional analysis was conducted on the two main forms *you* and "no form". The forms of other reference were noted to occur with distinct functional clusters and in different patterns for caregiver and child. Caregivers used *you* with noncontrol acts and state verbs and "no form" with control acts and accomplishment verbs. The findings imply that children do not use input concerning other reference as they do in self reference. We will explain selective use of input using The Competition Model (Bates and MacWhinney (1990)).

Mothers' Comments During Book Reading as Source of Narrative Structure for Preschoolers

Jeanne M. DeTemple & Julie A. Hirschler, Harvard Graduate School of Education

Children's experience with narratives and the support they receive in producing them are important influences on their language development. This paper focuses on one situation in which mothers support and structure narratives with their children: reading a picture book. It examines where the mother's contributions occur within the narrative and how these contribution points serve to highlight structural elements of the story for the child. The subjects were low-income mothers reading to their preschool children. They were audiotaped at home while looking at a picture book. The text was analyzed in terms of Labovian structural elements: Orientation, Complicating Actions, Evaluation and the High Point. Mothers' contributions were associated with the structural elements of the narrative. This activity is one of the important ways the child gains access to culturally appropriate uses of those narrative elements that must be included and the order in which they should be presented.

Social Class Differences in Maternal Speech and their Effects on Child Language Development

Erika Hoff-Ginsberg, University of Wisconsin, Parkside

The goal of this research was to investigate whether previously-observed social class differences in mothers' child-directed speech have consequences for their children's language development. Characteristics of mothers' speech and children's language development in a working class and an upper middle class sample were assessed from videotapes of home interactions which were recorded twice, 10 weeks apart. The findings suggest that children's early development of syntax is relatively insensitive to the properties of maternal speech that vary between classes, but that by approximately 2 years children's vocabulary development and some aspects of their communicative style have been influenced by social class differences in mothers' child-directed speech.

Prosodic Morphology in First Language Acquisition

E. Jane Fee, University of British Columbia and McGill University, Canada

In this paper I will demonstrate that the theory of prosodic morphology, as developed in McCarthy and Prince (1986), provides a principled model for investigating children's early canonical forms and the relationship of these forms to adult targets. Using data from children aged 1;5-2;0 acquiring Hungarian and Spanish, I show that two types of mismatches may occur when the segmental information from the adult target is mapped onto the child's prosodic word template. The first type of mismatch arises when the adult target is more complex than the prosodic template, and the resulting forms are often described as having undergone processes such as Unstressed Syllable Deletion, Final Consonant Deletion and Cluster Reduction. The second type of mismatch occurs when the child is not able to represent sufficient segmental information to fill a template. I argue that these forms, which have traditionally been called full or partial 'reduplications' in the child language literature, can be explained if we assume the child uses a spreading rule to fill in feature values for an underlying unspecified segment. This analysis has interesting implications for a theory of phonological rules.

Underspecification and "Shadow-Specification" in Phonological Development

Daniel A. Dinnsen & Steven B. Chin, Indiana University

This paper proposes the use of a theory of underspecification to account for phonetically identical elements in child language that nevertheless 1) participate in different alternations and 2) develop into different phonemes in later developmental stages. Specifically, a subset of the identical elements is underspecified for a particular feature, whereas another subset is specified ("shadow-specified") for the default value of that feature. Weakening processes such as deletion or glottalization affect the first type but not the second. Subsequent development of the phonological system involves respecification of the shadow-specified segments in order to render them phonetically as well as phonologically distinct. This underspecification account also explains the development of phonetic inventories and substitution patterns.

Feature Hierarchy in Phonological Acquisition

Mehmet Yavas, Florida International University

The relative strength of phonological features has always attracted researchers who seek a feature hierarchy in the explanation of certain phenomena such as markedness. Stevens & Keyser (1989) offer a scheme where they distinguish a set of primary features that are most salient and account for the most frequently found sounds in languages. The strength with which a primary feature is manifested in a given sound is influenced by the secondary features that co-occur with it.

This paper explores to what extent Stevens & Keyser's framework can account for the substitution patterns in child phonology based on the primary feature salience and their enhancement by the secondary features. It is found that the stability of the primary features are responsible for the great majority of the substitutions, and that the substitutes

are always closer to preferred feature combinations than the targets themselves. Results give further support to Stevens & Keyser's set of features which were shown to be relevant for other phenomena.

A Learning Path for Phonology: A Theory of Segmental Elaboration

Peter Avery & Keren Rice, University of Toronto, Canada

Data on the acquisition of sound systems have proven to be rather difficult to square with phonological theories that take the notion of contrast to be the central fact of acquisition (see Jakobson (1968); Ferguson & Farwell (1975); Ingram (1988)). We argue that the acquisition of inventories involves the elaboration of a universally fixed segment structure. If the child has only a single consonant segment, the phonetic realization of that segment is of little phonological significance. When the child acquires a consonantal contrast, however, the actual realization does become significant. Our prediction is that if the child elaborates place of articulation, the contrast will be between a coronal and a labial. If the child elaborates the sonorants first, then the contrast is predicted to be between a nasal and a non-nasal segment, with place of articulation being phonologically unimportant. We argue that there is a "markedness" hierarchy informing acquisition and that this hierarchy defines a path of acquisition based on a universal segment structure as well as contrasts present in an inventory.

Quantity-Sensitivity and the Word Tree in the Interlanguage of Adult Hungarian Speakers

John Archibald, University of Calgary, Canada

This study is designed to investigate the acquisition of adult metrical parameters (after Dresher and Kaye (1990)) by adult second language learners. This paper will report on data gathered from 20 adult Hungarian subjects. The subjects were assigned two tasks. The first task was a production task that had two sub-parts. In the first sub-part, the subject was asked to read a list of words out loud into a tape recorder. In the second sub-part the subject was asked to read a list of sentences which contained each of the targeted words. The second task was a perception task in which the subjects listened to a native speaker pronounce each of the words twice from a tape. The subject's task was to mark which syllable they perceived stress to be on. This was repeated for the sentence-focus task.

The most common Hungarian errors seem to be the result of transfer of the L1 parameter settings. Primarily, the fact that they are building their metrical structures from the left is causing the most difficulty in their English stress assignment. Transfer of the constituent to which the stress assignment is sensitive (nucleus versus rime) is also a factor in explaining the Hungarian subjects' errors. While English is sensitive to the rime (whether it branches), Hungarian stress assignment is sensitive to the nucleus (whether there is a long vowel).

I also examine the rare or uncommon errors of these subjects and show how they too are constrained by UG. None of the subjects are producing "unnatural" languages which violate phonological universals.

Finite and Infinitive Verbs in the Acquisition of Italian

Maria Teresa Guasti, University of Geneva, Switzerland

Based on Italian acquisition data, I will argue that functional categories are attested in early child grammar (see Pierce & Deprez (1990) for French and English; Weissenborn (1989) for German) and that Italian children distinguish between finite and non-finite verbs quite early. Assumptions:

- 1) Negation heads a maximal projection included in the sentence structure in between IP and VP (Pollock)
- 2) All finite verbs undergo V-to-I movement in French and Italian and clitic negation (*ne* and *non*) cliticizes into I. This gives the order: *ne/non V_{fin} pas/più*.
- 3) Infinitives in Italian—but not in French—raise to I. This yields the orders: *non V_{inf} più* for Italian and *ne pas V_{inf}* for French (see Belletti (1990), Pollock (1989)).

This model predicts that if categories are present in Italian child utterances we should find the order *non V più*, in finite and non-finite contexts. In French, on the contrary, a split is expected. These predictions are borne out as displayed below. (Italian data: Istituto Stella Maris - Pisa; French data: Pierce & Deprez)

- 4) *n piangere più* (NEG cry_{inf} not) (Raffaello 2;3-14)
- 5) *guadda no piange più* (look, NEG cries not) (Rosa 1;11-19)
- 6) *marche pas* (works not) (Daniel 20;3)
- 7) *pas casser* (not break) (Daniel 20;1)

Clitic and Affix Interactions in Early Romance

Marco Haverkort, Tilburg University, The Netherlands

Jürgen Weissenborn, Max Planck Institute for Psycholinguistics, The Netherlands

Children acquiring Romance develop cliticization from very early on and the non-canonical positioning of clitics doesn't seem to pose any problems. There are two notable exceptions to this general pattern: first, infinitival constructions appear in early Italian, but never include a clitic, unlike their French counterparts; and second, positive imperatives show up in both early French and early Italian, but with the wrong order of clitic and verb.

Two explanations for these exceptions suggest themselves: first, it can be argued that the children start out with a structure like in (1a), obeying the Head Movement Constraint rigidly, only later relaxing it in cases involving clitic movement, i.e. changing to the structure in (1b), which can be argued to be the correct structure for Romance:

- (1) a. [[clitic + verb] inflection] b. [clitic [verb + inflection]]

An alternative explanation makes use of some recent proposals of Kayne (1990), according to which the clitic always ends up in the same syntactic position, left-adjoined to a functional head, and it is the verb that moves to different positions, either preceding or following the clitic position.

In this talk, the pattern of cliticization in early Romance will be discussed and it will be shown that the first explanation has to be rejected for independent reasons, whereas the second one interacts in an interesting way with the acquisition of the complementizer projection in root clauses, and Wh-movement.

Unaccusativity and Auxiliary Choice in Non-Native Grammars of Italian and French: Asymmetries and Predictable Indeterminacy

Antonella Sorace, University of Edinburgh, United Kingdom

The diachronic process of generalization of reflexes of Latin *habere* at the expense of *esse*- reflexes in Romance has been systematically spreading from the periphery

towards the core of a hierarchy of unaccusative verbs based on the two semantic dimensions of **concreteness/abstractness** and **movement/staticity**. The process has affected Italian and French to different degrees: Italian has largely retained a syntactically and semantically consistent auxiliary system, whereas the French system, at a more advanced stage of the evolution, shows greater variation and inconsistency.

This paper presents evidence from the linguistic intuitions of very advanced Italian non-native speakers of French and French non-native speakers of Italian about equivalent unaccusative verbs, and shows that the unaccusative hierarchy conditions both the degree and the directionality of difficulty in second language acquisition. The findings suggest an asymmetric pattern: it is easier for the French learners to fully acquire the facts of *essere*-selection than for the Italian learners to internalize the facts of *être*-selection, and the degree of difficulty experienced by the Italian learners with individual unaccusative verbs is correlated with their position along the hierarchy.

Development of Discourse and Syntactic Constraints on Anaphora in Mandarin

Susan M. Wilcoxon, University of Texas, Austin & University of Illinois, Urbana

The present study investigates Mandarin-speaking children's developing interpretation of subject pronouns, both null and lexical, in complex sentences containing adverbial temporal complements. First, the study seeks to generalize Solan's (1983) claim that English-speaking children avoid backward anaphora. Since Mandarin exhibits a stronger constraint than English against backward anaphora, it provides a revealing test for Solan's hypothesis. The study also probes the development of discourse constraints as well as the possibility of multiple interpretations for the text structures. Finally, the study tests one of C. Chomsky's (1969) predictions about linguistic complexity and late acquisition. Sixty-six children between the ages of 3;6 and 7;2, living in mainland China were interviewed, using two comprehension tasks: a toy-moving task and a judgment task.

Results: 1) strong counter-evidence to Solan's hypothesis is presented: my youngest subjects actually *prefer* the backward anaphora interpretation; 2) the oldest group performs significantly better over the youngest in recognizing the only appropriate extra-sentential referent in the discourse; 3) my subjects have not yet acquired adult NP categories: *ta* and *pro* are not contrastive for my subjects as they are for adults; and 4) acquisition of the test structures is completed very late, upholding C. Chomsky's prediction.

"Degree-0" Learnability, Morphology, and Binding Domains

Margaret Thomas, Boston College

Lightfoot (1989) suggests that children need input of only limited degree ("degree-0") complexity to determine the properties of language. Several commentators have noted that languages with long-distance binding, where anaphors are bound outside the "degree-0" domain, are problematic for this proposal. However, Rizzi (1989) speculates that if the connection Pica (1987) forges between morphological complexity and binding domain holds, it may be possible for children to arrive at the correct hypothesis about how the language they are learning constrains anaphors, while preserving Lightfoot's "degree-0" proposal. This paper examines existing experimental and observational data on English anaphors in early child language for evidence that learners deduce the domain of a reflexive from its morphological structure.

"We was singing and we was dancing": A Cross-Cultural Analysis of Black and White Preschool Children's Personal Accounts

Lisa Gregory & Patton Tabors, Harvard Graduate School of Education

A growing body of research has shown that there is a variety of ways to represent events through narrative. Black narrative, for instance, has historically embraced a plurality of meaning embedded in indirect modes of communication (Gates (1988)); mainstream narrative has been found to be linear and chronologically based (Gee (1991)). This paper presents the results of both quantitative and qualitative analyses of 11 black and 28 white low-income preschool children's accounts.

The quantitative analysis found that, on average, the black children scored higher on measures of contribution to narrative construction and provisions of spontaneous information. The qualitative analysis found that both black and white children made use of explicit evaluation; but only the black children used implicit evaluative features like dialogue and double progressives. Educational implications of these findings are discussed in relation to literacy.

Rice Balls versus Bear Hunts: Japanese and Caucasian Family Narrative Patterns

Masahiko Minami & Allyssa McCabe, Harvard Graduate School of Education

Japanese children tell very different personal narratives from Caucasian children (Minami & McCabe (in press); Peterson & McCabe (1983)). Conversations between mothers and children in the two cultures were examined in order partly to account for the way in which cultural narrative style is transmitted to children. Comparison of mothers from the two cultures yielded the following salient contrasts: 1) Japanese mothers spoke fewer words and fewer utterances per turn compared to Caucasian mothers. 2) Japanese mothers often switched the topic of conversation after the child contributed approximately 2 to 4 sentences or phrases on a particular topic, while most Caucasian mothers extended the topic much longer, eliciting many more sentences per topic from their children. 3) There were relatively more prompts for orientative, descriptive information from Japanese mothers, whereas there were relatively more prompts for actions from Caucasian parents. 4) Japanese mothers and children engaged in back-channelling more frequently than did Caucasian mothers. When parents habitually switch the topic after relatively little discussion, children habitually tell short narratives with little elaboration. However, the production of short narratives in Japan is understood and valued differently from such production in North America.

Structure and Style in the Narrative Writing of Mexican-American and Black Adolescents

Ann E. Daubney-Davis, University of Southern California

In this paper, the presenter will explore how discourse structure, schooled writing conventions, and individual style are realized in the narrative writing of Mexican-American bilingual and Black students in the urban 7th grade classroom. In contrast to the story-grammar model of oral narrative, where the central focus is episodic

complexity, this analysis combines Labov's (1972) concept of **evaluation** with a recognition of the conventional and creative components of written narrative. Results of this small-scale study suggest some differences between the Black and Mexican-American students' narratives in the roles of evaluation, story-genre features, and stylistic devices that contribute to an individual writing **persona**. In contrast, cohesion, coherence, and written language conventions are generally uniform across the data. Theoretical and educational implications will be discussed.

"Getting your point across": Contrastive Sequencing in Low-Income American and Latino Children's Personal Narratives

Ana Maria Rodino, Cindy Gimbert, Harvard Graduate School of Education
 Carmella Perez, University of Massachusetts, Boston
 Karen Craddock-Willis, Children's Museum, Boston
 Allyssa McCabe, Harvard Graduate School of Education & Tufts University

Little is known about the narrative style of Latino children, and cultural differences in this respect could play a role in their struggle to acquire literacy in this country. Narratives from low-income English- and Spanish-speaking Latino children were compared to those of African-American children in the present project. The following distinctive features emerged from Labovian highpoint and stanza analyses of the narratives: 1) Few narratives produced by any Latino children contained more than 2 adjacent complicating actions reflective of sequenced events; orientation and evaluation comprised a higher proportion of Latino narrative comments. 2) Latino narrators emphasize thematic links rather than sequential actions in narratives, whereas African American children thematically linked stories with long sequences of complicating actions. 3) When Latino children put more than 2 events into sequence, they often did so by narrating scripts for general cases; such narratives have been dismissed as orientation in the past, yet are true narratives - narratives that report regular violations of social prescriptions. Such an emphasis on the habitual was not characteristic of African-American narratives. 4) Many of what Anglos would term digressions or tangents in both the African-American and Latino narratives were provisions of information about family background or explicit ties of the narrator's story to the interviewer's stories. For Latino children, sequential reconstruction may be a particularly challenging, perhaps culturally inappropriate, means of assessing narrative comprehension.

Repair and Recontextualization in Narratives

Dennis Palmer Wolf, Harvard University
 Livia Polanyi, Rice University

Much narrative research has focussed on the responsibilities of individual narrators to form coherent and cohesive texts. However, just as in conversation, the meaning of any narrative is socially negotiated and emergent between speakers. Nowhere is this more apparent than in the way narrators monitor and mend narrative performances for and with their listeners. In this paper we use a detailed analysis of an extended conversational narrative between a 5 year old girl and her mother to develop a much expanded understanding of the repertoire of strategies speakers can use to amend the emergent structure and meaning of their narratives. We discuss local repairs (focussed repairs of the information structure of the narrative); global repairs (wholesale replacements of one account with another, often to adjust the evaluation of events); and recontextualizations (conversational interchanges in which speaker and listener reframe the original narrative in terms of different role relationships or affective issues).

The Role of Sensitivity to Word Structure in the Development of Reading Skill

Diana L. Mahony, University of California, Irvine

Although the morpho-phonological nature of English spelling predicts that sensitivity to both morphemes and phonemes should be necessary for reading success, much less is known about the role of morpheme awareness than about the role of phoneme awareness. In this study, groups of low-literacy teenagers, age-matched controls, and elementary school reading-level matched controls were tested on phoneme awareness, acquisition of inflectional morphology, knowledge of the syntactic category of common suffixes using real (Syncat-real) and nonsense stems (Syncat-nonce), their ability to distinguish derivationally-related from pseudo-related word pairs (Relational), and their knowledge of how the pronunciation of “silent” letters in nonsense “verbs” is differentially affected by inflectional versus derivational boundaries (Silent Letters). Low-literacy subjects had anomalous scores on phoneme awareness, nonce inflections, Syncat-nonce, Relational, and Silent Letters tests. Scores for the two control groups on Syncat-nonce, Relational, and Silent Letters correlated significantly with reading scores.

The Role of Sublexical Phonological Structure in Developmental Dysgraphia: Evidence from Case Reports and a Group Study

James Hodgson, Neurolinguistics Laboratory & Center for Reading and Writing Research, Massachusetts General Hospital, Boston

Developmental dyslexics who experience little difficulty mastering explicit knowledge of letter-sound correspondences, but who show striking spelling impairments, characterized by high rates of phonologically plausible errors, have been called “developmental dysgraphics.” Their primary deficit is considered to be in building an orthographic lexicon, thus, leaving written word identification and spelling to be supported primarily by assembled phonology. Variants of this orthographic hypothesis are evaluated in the light of data from two case reports and a group study of high school dyslexics. Several measures of phonological skill indicate that phonological difficulties are typical of this group. Further, the results of naming and lexical decision tasks fail to support the prediction that their word identification skills are highly sensitive to spelling-sound regularity across a broad range of word frequencies. Implications for models of normal reading development and for theories of developmental dyslexia are considered.

The Role of Linguistic Input on Children's Phonological Awareness: A Crosslinguistic Study

Marketa Caravolas, McGill University, Canada

The effect of linguistic input on children's awareness of segments in cluster onsets was examined. Czech was contrasted with English because the two languages differ dramatically in the frequency and variation of permissible cluster onsets. Whereas English is fairly limited in cluster types and in frequency of their occurrence, Czech has an extensive inventory of cluster onsets and they are a frequent part of the linguistic input. A developmental study compared Czech and English-Canadian children's

awareness of cluster and singleton onsets. All children were monolingual, half were kindergarteners and half were in grade one. Parallel measures were constructed in English and in Czech.

Although Czech and English children were equally able to manipulate singleton onsets, as predicted, Czech children outperformed their Anglophone peers on awareness of clusters. Further testing showed that this metalinguistic advantage was associated with Czech children's better performance on a spelling task.

Speech Production, Syntax Comprehension, and Cognitive Deficits in Parkinson's Disease

Philip Lieberman, Edward Kako, Joseph Friedman, Gary Tajchman, Liane Feldman and Lisa Jimenez; Brown University, Yale University, and Roger Williams General Hospital

Speech samples were analyzed for voice onset time (VOT) for 40 English speaking subjects, 20 with mild and 20 with moderate non-demented Parkinson's disease (PD). Syntax comprehension and cognitive tests were administered to these subjects in the same test sessions. VOT disruptions similar in kind to those noted in Broca's aphasia occurred for 9 subjects; VOT's overlapped for "voiced" and "unvoiced" stop consonants in syllable initial position. Longer response times and errors in the comprehension of syntax as measured by the Rhode Island Test of Sentence Comprehension also tended to occur for these subjects. A two-factor Anova showed that the differences between the syntax error rates and response times of these subjects and the PD subjects who made no VOT timing errors was significant. A two-factor Anova also showed significant differences in RITLS error rates and response times between the Mild and Moderate PD subjects. Moderate PD subjects also performed significantly worse than mild PD subjects on cognitive tests that involve concept shifting. The data are consistent with neurophysiologic evidence for independent subcortical basal ganglia pathways linking prefrontal cortex with other cortical regions. PD can affect these pathways differentially. Impairment of these pathways may also explain the variable pattern of speech, syntax, and cognitive deficits observed in Broca's aphasia.

Toddlers with Specific Expressive Language Delay (SELD): Outcome at Age 3

Leslie Rescorla and Susan Chaplick, Bryn Mawr College

This research reports results from a follow-up at age 3 of 36 middle-class toddlers identified at 24-to-30 months of age as having specific expressive language delay (SELD). Results indicate that the children in both groups had good-to-excellent cognitive ability and age-adequate language comprehension at age 3. In vocabulary and the use of language to define and describe, the SELD children scored in the average range but were less advanced than the comparison children. Approximately half of the SELD children continued to have significant language delay at age 3, with deficits being most conspicuous in the areas of inflectional morphology and syntax as measured by the IPSyn. These data on a large sample of SELD toddlers complement previous findings regarding the outcome at age 3 of children who are slow to talk at age 2, despite having good nonverbal ability and normal receptive language.

Friday

All sessions in the George Sherman Union

Auditorium

East Balcony

Terrace Lounge

| | Functional Categories I | Classroom Discourse | Phonology I |
|-------|---|---|--|
| 9:00 | <p><i>D. Poeppel & K. Wexler</i>, Finiteness and V2 Effects Implicate the Existence of Functional Categories and Head Movement in Early German Grammar</p> <p><i>K. Boser, B. Lust, L. Santelmann & J. Whitman</i>, The Theoretical Significance of Auxiliaries in Early Child German</p> | <p><i>D. Bloome</i>, The Social Construction of Intertextuality</p> <p><i>J. Kleifgen</i>, Technology and Literacies in a Haitian Community</p> | <p><i>N. Ratner</i>, Phonetic Inventories 13-25 Months: Environmental and Linguistic Considerations</p> <p><i>M. Deuchar</i>, Acquisition of the Voicing Contrast by an English-Spanish Bilingual</p> |
| 9:40 | | | |
| 10:30 | <p><i>B. Schwartz & R. Sprouse</i>, Explaining the Development of Interlanguage: Successive Grammars</p> <p><i>L. Eubank</i>, "Optional" Inversion in the Intermediate Stages of the L2 Acquisition of German</p> | <p><i>C. Toma</i>, Explicit Use of Others' Voices for Constructing Arguments in Japanese Classroom Discourse: An Analysis of the Use of Reported Speech</p> <p><i>B. Gomes</i>, The Complexity of Classroom Discourse: The Case of a Multi-Ethnic ESL Middle School Classroom</p> | <p><i>A. Levitt & Q. Wang</i>, Acquisition of Language-Specific Prosodic Features: Evidence from Syllable Amplitude Patterns in the Reduplicative Babbling of French- and English-Learning Infants</p> <p><i>D. Ohata</i>, Learnability Theory and the Acquisition of Syllable Structure</p> |
| 11:10 | | | |

| | Functional Categories II | Language Variation | Phonology II |
|------|---|---|---|
| 1:00 | <i>T. Hoekstra</i> , Acquisition of Functional Structure | <i>W. Edwards</i> , Sociolinguistic Behavior in a Detroit Inner-city Black Neighborhood | <i>E. Fee</i> , Prosodic Morphology in First Language Acquisition |
| 1:40 | <i>M. Verrips</i> , Triggering Functional Categories | <i>J. Roberts & W. Labov</i> , Variable Rule Acquisition: A Study of /t/d/ Deletion | <i>D. Dinnsen & S. Chin</i> , Underspecification and "Shadow-Specification" in Phonological Development |
| 2:30 | <i>T. Roeper, J. Weissenborn & J. de Villiers</i> , The Acquisition of Complementizers and Quotation | Input and Interaction <i>A. Mills & B. van den Bogaerde</i> , Input and Interaction in Deaf Families | <i>M. Yavas</i> , Feature Hierarchy in Phonological Acquisition |
| 3:10 | <i>N. Müller</i> , The Acquisition of COMP and Word Order Patterns in Bilingual Children (German/French) | <i>A. Wiley & N. Budwig</i> , Do Children Attend to Form-Function Patterns in Caregiver Input? Evidence for Selective Use | <i>P. Avery & K. Rice</i> , A Learning Path for Phonology: A Theory of Segmental Elaboration |
| 3:50 | <i>A. Stenzel</i> , The Acquisition of Case Assignment in a Bilingual Child: Routes of Development and Theoretical Implications | <i>J. DeTemple & J. Hirschler</i> , Mothers' Comments During Book Reading as Source of Narrative Structure for Preschoolers | <i>J. Archibald</i> , Quantity-Sensitivity and the Word Tree in the Interlanguage of Adult Hungarian Speakers |
| 4:30 | <i>A. Saleemi</i> , Urdu IP and its Genesis | <i>E. Hoff-Ginsberg</i> , Social Class Differences in Maternal Speech and their Effects on Child Language Development | |

8:00 *Large Ballroom*

Steven Pinker, Massachusetts Institute of Technology: "Rules of Language"

Saturday

All sessions in the College of Basic Studies

Sleeper Auditorium

Room 505

Room 511

| | Romance |
|-------|--|
| 9:00 | <i>M. Guasti</i> , Finite and Infinitive Verbs in the Acquisition of Italian |
| 9:40 | <i>M. Haverkort & J. Weissenborn</i> , Clitic and Affix Interactions in Early Romance |
| 10:20 | <i>A. Sorace</i> , Unaccusativity and Auxiliary Choice in Non-Native Grammars of Italian and French: Asymmetries and Predictable Indeterminacy |
| | Binding Theory I |
| 11:10 | <i>S. Wilcoxon</i> , Development of Discourse and Syntactic Constraints on Anaphora in Mandarin |
| 11:50 | <i>M. Thomas</i> , "Degree-0" Learnability, Morphology, and Binding Domains |

| | Narrative |
|--|--|
| | <i>L. Gregory & P. Tabors</i> , "We was singing and we was dancing": A Cross-Cultural Analysis of Black and White Preschool Children's Personal Accounts |
| | <i>M. Minami & A. McCabe</i> , Rice Balls versus Bear Hunts: Japanese and Caucasian Children's Narrative Patterns |
| | <i>A. Daubney-Davis</i> , Structure and Style in the Narrative Writing of Mexican-American and Black Adolescents |
| | <i>A. Rodino, C. Gimbert, C. Perez, K. Craddock-Willis, & A. McCabe</i> , "Getting your Point Across": Contrastive Sequencing in Low-Income American & Latino Children's Personal Narratives |
| | <i>D. Wolf & L. Polanyi</i> , Repair and Recontextualization in Narratives |

| | Written Language |
|--|--|
| | <i>D. Mahony</i> , The Role of Sensitivity to Word Structure in the Development of Reading Skill |
| | <i>J. Hodgson</i> , The Role of Sublexical Phonological Structure in Developmental Dysgraphia: Evidence from Case Reports and a Group Study |
| | <i>M. Caravolas</i> , The Role of Linguistic Input on Children's Phonological Awareness: A Cross-linguistic Study |
| | Exceptional Language I |
| | <i>P. Lieberman, E. Kako, J. Friedman, G. Tajchman, L. Feldman & L. Jimenez</i> , Speech Production, Syntax Comprehension, and Cognitive Deficits in Parkinson's Disease |
| | <i>L. Rescorla & S. Chapplick</i> , Toddlers with Specific Expressive Language Delay (SELD): Outcome at Age 3 |

| | Binding Theory II | Words | Exceptional Language II |
|------|--|--|--|
| 1:30 | <i>R. Thornton & K. Wexler</i> , VP Ellipsis and the Binding Theory in Early Child Grammar | <i>J. Forbes & M. Farrar</i> , Children's and Adults' Initial Assumptions about the Meaning of Novel Motion Verbs | <i>M. Rice & J. Oetting</i> , Morphological Deficits of Specific Language Impairment: A Matter of Missing Functional Categories? |
| 2:10 | <i>T. Maxfield & D. McDaniel</i> , Principle B and Contrastive Stress | <i>I. Stockman</i> , Lexical Biases in Dynamic and Static Locative Expressions | <i>E. Guilfoyle, S. Allen & S. Moss</i> , Specific Language Impairment and the Maturation of Functional Categories |
| 3:00 | <i>L. Conway, P. Bloom, J. Nicol & A. Barss</i> , Children's Knowledge of Binding Principles: Evidence from Spontaneous Speech | <i>C. Johnson & K. Kearns</i> , General Nominals and Categories in the Early Lexicon: Evidence from Blind Children | <i>J. Gendron</i> , Determinants of Structural Complexity: Functional Categories and the Role of Government—Evidence from Aphasia |
| 3:40 | <i>P. Connell & S. Franks</i> , The Acquisition of Binding Theory: A New Methodology | <i>J. Hutchinson & J. Herman</i> , The Development of Word-Learning Strategies in Delayed Children | <i>M. Gopnik</i> , Linguistic Properties of Genetic Dysphasia |

Neil Smith, University College London: "Learning the Impossible: The Acquisition of Possible and Impossible Languages by a Polyglot Savant"

Sunday

All sessions in the College of Basic Studies

Sleeper Auditorium

Room 505

Room 511

| | Logical Interpretation | Analysis of Variation in L2A | Morphology |
|-------|---|--|---|
| 9:00 | W. Philip, Quantification over Events in Early Universal Quantification | M. Jagtman & T. Bongaerts, Automatic Syntactic Analysis of Longitudinal L2 Production Data | P. Cipriani, A. Chilosi & P. Bottari, Presyntactic Devices in the Acquisition of Italian Morphology |
| 9:40 | Y. Miyamoto & S. Crain, Children's Interpretation of Plural Pronouns: Collective vs. Distributive | D. Birdsong, Ultimate Attainment in SLA | E. Pizzuto, M. Caselli & T. Tangorra, The Acquisition of Italian Definite Articles: Insights from the Study of Natural Language and Neural Networks |
| 10:30 | Wh-Movement | Bilingualism | V. Marchman & K. Plunkett, Irregularization |
| 11:10 | P. Law, Resumptive Pronouns as Spelling out of Traces in French Relative Clauses | D. Kaufman, The Eroding Interlanguage: L1 Loss in Bilingual Children | M. Rothweiler & H. Clahsen, Regular vs. Irregular Inflection in the Acquisition of Verbs in German |
| 11:50 | G. Martohardjono, Universal Properties in the L2 Acquisition of Wh-Questions: A Comparison of Learners from Movement and Non-Movement L1 Backgrounds L. White, L. Travis & A. MacLachlan, Constraints on Wh-Question Formation in Malagasy Learners of English | J. Kroll, A. Sholl & E. Stewart, Lexical and Conceptual Determinants of Translation Performance S. Kwoh, M. Brisk & P. Menyuk, Bilingual Children's Acquisition of "Before" and "After" Sentences: Evidence for Positive Effect of Bilingualism in Terms of Syntactic Flexibility | A. Senghas, J. Kim, S. Pinker & C. Collins, Plurals-Inside-Compounds: Morphological Constraints and their Implications for Acquisition |

| | Binding Theory III | Processing & Memory | Bootstrapping, Syntax & Semantics |
|------|---|--|--|
| 1:30 | <i>S. Avrutin & K. Wexler</i> , Development of Binding and LF Movement in Russian | <i>H. Sung & A. Padilla</i> , Memory Representation in Unbalanced Korean-English Bilinguals: A Test of the Dual-Coding Model | <i>J. Siskind</i> , Dispelling Myths about Language Bootstrapping |
| 2:10 | <i>J. Bailyn</i> , LF Movement of Anaphors and Acquisition of Embedded Clauses in Russian | <i>S. Koiz, L. Osterhout & P. Holcomb</i> , Electrophysiological Evidence of Sentence Comprehension: A Comparison of Native and Non-Native Speakers of English | <i>A. Lederer, L. Gleitman, H. Gleitman & S. Ariel</i> , An Empirical Investigation of the Information Sources for Language Acquisition: Cross-situational vs. Cross-syntactic Observation |
| 2:50 | <i>S. Sigurjónsdóttir & N. Hyams</i> , The Acquisition of Binding in Icelandic | <i>M. Murphy</i> , Durational Properties in Speech Production and Speech Perception of Native and Non-Native Speakers | <i>S. Prasada</i> , Ontological Categories in Early Word Learning |
| 3:30 | <i>Y. Otsu</i> , Zibun in Japanese Acquisition | <i>D. Townsend, C. Carrithers & T. Bever</i> , Proficiency Differences in the Immediate Representation of Sentences | <i>J. Pustejovsky</i> , Principles vs. Criteria: The Lexical Semantics of Overgeneralization |

VP Ellipsis and the Binding Theory in Early Child Grammar

Rosalind Thornton, University of Connecticut and Massachusetts Institute of Technology

Kenneth Wexler, Massachusetts Institute of Technology

This study investigates children's knowledge of the Binding Theory, in particular, Principle B, by turning to VP Ellipsis, a structure not previously studied in child grammar. Following Reinhart (1983, 1986), we predicted that children would exclude interpretations of VP ellipsis structures which involve an "empty" bound variable, since this is subject to Principle B. As predicted, we found that children reject sentences like "The Ghostbuster served him and Gummy Bear did too" 75% of the time, on the interpretation where the Ghostbuster and Gummy Bear serve themselves, and reject such "reflexive" interpretations 93% of the time when the quantifier "every" binds the empty bound variable, as in "Batman cleaned him and every turtle did too." These findings demonstrate children's adherence to Principle B. Following Chien and Wexler, we also predicted that children would accept a non-adult interpretation of "Bert lassoed him and the Tin Man did too" in which Bert lassoed himself and the Tin Man also lassoed him. Children accepted this 43% of the time, supporting the hypothesis that they are missing the pragmatic rule that excludes this interpretation.

Principle B and Contrastive Stress

Thomas Maxfield, University of Massachusetts, Amherst

Dana McDaniel, University of Southern Maine

We investigated performance on Principle B in 36 children aged 3;1 to 6;10. The study was designed to test predictions made by two different accounts of children's poor performance on Principle B. One account, according to which children have a non-adult binding domain, predicts that children who do not show knowledge of Principle B will reject sentences like "John told Mary about himself." The other account attributes poor performance on Principle B to exposure to sentences like "I chose ME" and insensitivity to contrastive stress. This account predicts that children who do not show knowledge of Principle B will not show sensitivity to contrastive stress. We used a comprehension task to test sensitivity to contrastive stress and elicited grammaticality judgments. The results did not confirm the first hypothesis, but strongly supported the second. There was a high correlation between performance on Principle B and sensitivity to contrastive stress.

Children's Knowledge of Binding Principles: Evidence from Spontaneous Speech

Laura Conway, Paul Bloom, Janet Nicol, and Andrew Barss, University of Arizona

It is often argued that there are developmental differences in knowledge of the appropriate use of pronouns and reflexives. Chien and Wexler (1991), for example, argue that children younger than 6 do not use reflexives properly and that even older children are ignorant of principles governing pronoun use. Other scholars have argued that children's non-adult performance on these experiments is due to extraneous factors and that, when the appropriate analyses are performed, even very young children exhibit knowledge of the binding principles. This debate is important, as it has implications for both linguistic theory and for theories of the nature of language development.

One relevant source of evidence is the spontaneous speech of young children. We present the results of an extensive set of analyses suggesting that even young children correctly use pronouns and reflexives in their spontaneous speech. It is argued that this pattern of usage is impossible to explain unless one grants children knowledge of the appropriate principles governing the use of these lexical items. Nevertheless children do make errors in specific contexts, and it is possible that these errors are the result of children's ignorance of certain aspects of pragmatic or grammatical knowledge.

The Acquisition of Binding Theory: A New Methodology

Phil J. Connell & Steven Franks, Indiana University

This study addresses the variation observed in the binding domain and proper antecedent of anaphors in grammars of children. A video-tape testing technique was developed to obtain absolute rather than preferential grammaticality judgments from children. Their interpretation of potentially ambiguous sentences containing reflexive pronouns was probed by presenting multiple scenes depicting each of the conceivable ambiguities. The findings indicate that English-speaking children at some point entertain grammars that allow long-distance binding, that is, they appear to select the governing category parameter option that allows the widest possible domain. Selection of this option was found to correlate with the selection of narrowest option on the proper antecedent parameter—that antecedents are limited to subjects. These findings do not support the now standard parametric approach to the acquisition of binding theory based on the subset principle. A different approach is needed and, for this purpose, an approach that assumes that anaphors move at LF seems more appropriate.

Children's and Adults' Initial Assumptions about the Meaning of Novel Motion Verbs

James N. Forbes & Michael J. Farrar, University of Florida

The roles change-of-motion (e.g., to begin, to finish), direction (e.g., away from, around), instrument (e.g., by foot, in a box), and causation (e.g., self- or not self-propelled) play in children's and adults' assumptions about the meaning of novel motion verbs was examined. Seven year olds and adults were first taught nonsense motion verbs labeling novel video-taped motions and then asked whether the verbs labeled events in which only one of the above components had been changed. Adults generalized the nonsense verbs significantly more often than did the children. Both adults and children generalized the nonsense verb significantly less often for causation than all other change trials, except instrument changes for children. Results are discussed in terms of learning biases, current categorization theory and research, as well as semantic differences between nouns and verbs.

Lexical Biases in Dynamic and Static Locative Contexts

Ida Stockman, Michigan State University

Children's use of spatial locative words (e.g. up, down, in, on) in multi-word dynamic and static referential contexts was tracked longitudinally in the age range of 1;5 to 3;0 years. The significant context differences observed among locative words in the age of emergence and frequency of use showed that the children were selective about which ones were used to talk about dynamic and static locative events. While the children were learning to use directional (e.g. up, down, to, back) and positional (e.g., in, on, here, there) word types in both grammatical contexts, they started out with words in just one of these classes within each context. Moreover, they focused on different types of words in dynamic and static contexts. Theoretical and practical implications of these findings are discussed.

General Nominals and Categories in the Early Lexicon: Evidence from Blind Children

Carolyn Johnson and Kimberley Kearns, University of British Columbia, Canada

This paper reports results of two studies of lexical extension and overextension by young blind children. We argue that data concerning blind children's semantic development is crucial to constructing and evaluating theories that—implicitly or explicitly—connect visual perception, category formation and development of the lexicon. Observational, diary and experimental studies of 4 blind children at the one-word stage (and the identical twin of one of them) indicate that blind children readily both extend and overextend their early general nominals, and that they have age-appropriate classification skills. We conclude that differences between blind and sighted children observed by other researchers is due to the language learning environment rather than differences in category formation.

The Development of Word-Learning Strategies in Delayed Children

Jean E. Hutchinson & Jacqueline P. Herman, University of Nevada

The goal of this study was to explore how the Mutual Exclusivity assumption is acquired in developmentally delayed children. Under this assumption, each object has only one category label and each label refers to only one category of objects. A possible precursor to Mutual Exclusivity is the Lexical Gap strategy, in which children are motivated to find names for objects that don't have them, but are willing to accept two names for the same object if no unnamed object is present. Subjects included 16 developmentally delayed children functioning at the 16-24 month level on receptive language and 7 at the 28 month level. When presented with a screen covering one object and a visible object with a known name and asked to "touch the metronome", the 16-24 month level children picked the screen 24.5% of the time whereas the 28 month level children did so 71.4% of the time. These results show a developmental progression from use of the Lexical Gap strategy in the 16-24 month level children to use of Mutual Exclusivity in the 28 month level children.

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Morphological Deficits of Specific Language Impairment: A Matter of Missing Functional Categories

Mabel L. Rice & Janna B. Oetting, University of Kansas

Several explanations have been proposed for the grammatical problems of children with specific language impairment. Linguistic accounts conclude that the children are missing abstract grammatical morphemes; input processing accounts posit that the linguistic system is not defective but instead the children have problems processing verbal input. Both accounts predict that English-speaking SLI children will have difficulty with -s plural markings. In this study, this prediction is evaluated via analyses of a large transcript database of the spontaneous utterances of 5 year old SLI children and younger MLU-matched normally developing children. Acquisition of the plural, -s, -ing progressive and 3rd person singular agreement are examined. Contrary to the predictions, SLI children in this sample demonstrate control of plural -s, as well as -ing progressive. In contrast, 3rd person singular is missing. The findings are consistent with a model in which lexical categories are available to the SLI children at a time when functional categories are not mastered.

Specific Language Impairment and the Maturation of Functional Categories

Eithne Guilfoyle, University of Calgary, Canada
Shanley Allen & Siobhan Moss, McGill University, Canada

Recent proposals in the language acquisition literature have suggested that maturation plays a role in the development of functional categories in normal language acquisition (Radford (1990); Guilfoyle & Noonan (1988)). As yet none of these authors have satisfactorily addressed the question of what exactly matures and why? In this paper we consider how studies of Specific Language Impairment (SLI) (also referred to as dysphasia) can shed some light on these questions. We consider the analyses of SLI presented in Clahsen (1989), Gopnik (1990), and Leonard et al. (1990), and propose that the results of these studies can be reinterpreted under the structure building model of acquisition proposed in Guilfoyle & Noonan (1988). In particular we argue that SLI individuals lack or have defective functional categories and this can explain many of the characteristics of the speech of SLI individuals. We show that considered in this light, data from SLI can give us insight into the role of maturation of language acquisition in normal individuals.

Determinants of Structural Complexity: Functional Categories and the Role of Government – Evidence from Aphasia

Jo-Ann Gendron, McGill University and UQAM, Canada

Ease of processing is defined as the syntactic transparency of thematic role order, i.e. D-structure positions maintained throughout the derivation; chain formations whether caused by movement of maximal projections or governed heads are the locus of difficulty since the landing site of movement may not be available due to the increasing processing load construction of such structures entails. All chains would thus consist vacuously of one member only. This approach has the advantage of unifying what have appeared to be disparate phenomena—problems with chain formations (NP and Wh-movement) and the difficulty caused by inflectional morphology into one by adopting Pollock's analysis of the necessity of verb movement to INFL to get tense creating a verbal chain. This explains why infinitives which need not do so are often default forms.

An unselected sample of 9 aphasic French subjects participated in this study (only a subset of 5 could be tested on the clitic versions). The only criterion was that they show sufficient comprehension at the single word level. Ten normal controls roughly matched for age were also tested. Sentences were presented auditorily and a subject's comprehension was evaluated by an object manipulation paradigm. Statistically significant main effects were found for both types of sentences and types of experimental subjects with a significant interaction between the two. As predicted, causatives patterned with monoclausal structures. Additionally, sentence types with more branching structures, e.g. transitive vs. intransitive counterparts led to reduced accuracy rates. The relation of government is crucial since it is complementation rather than coordination or adjunction which is directly responsible for establishing structural complexity, which cannot be reduced to the simple counting of syntactic nodes. By locating the initial problems with lexical retrieval of both lexical and especially functional categories which under new assumptions head their own projections, a new hypothesis is proposed, that of Head Accessibility. The head of a phrase dictates the nature of its complements. In addition, its properties will dictate the presence or absence of Specifier positions.

Linguistic Properties of Genetic Dysphasia

Myrna Gopnik, McGill University, Canada

This paper has two interconnected aims: to review the evidence that has led geneticists to conclude that some cases of dysphasia are associated with an autosomally dominant gene and to provide a principled linguistic account of several dysphasic subjects in the same family who have been diagnosed as having this genetic disorder. Evidence from tests and from spontaneous speech show that though these dysphasics can learn to mark some features, such as *plural* and *past*, with the correct morphological marker, they do not appear to be able to use the abstract categories underlying these markers, such as NUMBER and TENSE, to construct agreement rules in the syntax. Test results show that even when the dysphasics do produce the correct surface forms, these forms are derived from very different underlying rules and representations than those in the normal grammar. The importance of this finding is that it indicates that specific genetic deficit has direct consequences on the way in which the grammatical properties of language develop.

Quantification over Events in Early Universal Quantification

William Philip, University of Massachusetts, Amherst

Although appearing to have acquired the basic meanings of words like *all* and *every*, preschoolers reveal a distinctly non-adult-like interpretation of universal quantification in that they require of it symmetrical distribution. If asked *Is every girl driving a car?* they will only say “yes” if there is a one-to-one correspondence of girls to cars. Recent studies have provided evidence that this phenomenon is linguistic in etiology. In this study it is shown that the transitivity/intransitivity of the verb in the quantified question is a crucial factor. The phenomenon virtually disappears if an intransitive verb is used. This blocking effect persists even when a locative adjunct is included in the VP (e.g., *Is every girl waving in a car?*). The phenomenon is explained in terms of quantification over events.

Interpretation of Plural Pronouns: Collective vs. Distributive

Yoichi Miyamoto, University of Connecticut

Stephen Crain, University of Connecticut and Haskins Laboratories

This paper reports the findings of two experiments investigating children’s knowledge of the collective and distributive interpretations of plural pronouns. Children participated in a Truth Value Judgment Task (TVJT) and a Picture Verification Task (PVT). The results were that the youngest children (ages 3-4) consistently preferred the distributive interpretation over the collective interpretation in both tasks. (However, there were more acceptances of the collective interpretation in the PVT). Another finding was that the distributive interpretation is sometimes available before a child can count. Finally, the distributive interpretation is preferred irrespective of verb type (action versus stative). Based on the findings, we conclude that both the collective and distributive interpretation of plural pronouns are available to children by the age of 3, but that children assign the distributive interpretation of plural pronouns as the default.

Resumptive Pronouns as Spelling Out of Traces in French Relative Clauses

Paul Law, Massachusetts Institute of Technology

Drawing on the experimental results from Labelle (1990), and contrary to her claim that (Ottawa) French children do not have movement in relative clauses, I argue that the data suggest a movement analysis with resumptive pronouns being instances of spelling out of traces. The movement analysis readily explains the conspicuous absence of resumptive pronouns as objects of prepositions: extraction out of PP’s is impossible, therefore there are no traces to spell out as resumptive pronouns. One major conceptual problem with the non-movement analysis of constructions involving gaps is that semantically there would be no variable for the lambda-abstractor to bind, which should result in a violation of the constraint against vacuous quantification. The lack of resumptive pronouns in questions may be explained by the presence of the phonetically overt wh-phrases indicating clearly the operator-variable binding relationship. Resumptive pronouns are necessary in relative clauses since the operators are phonetically null.

Universal Properties in the L2 Acquisition of Wh-Questions: A Comparison of Learners from Movement and Non-Movement L1 Backgrounds

Gita Martohardjono, Massachusetts Institute of Technology

In a study investigating the acquisition of wh-questions in English, 3 groups of adult L2 learners (L1=Indonesian, Chinese, and Italian) were asked to judge different types of movement constraint violations (Subjacency and ECP). Sentences varied in the domain of extraction (e.g., Relative Clauses, Adjuncts, Noun Complements, Wh-Islands and Sentential Subjects) and in type of extraction (Subject vs. Object).

Three significant results emerge from our study:

1. Extractions out of Relative Clauses, Adjuncts, and Sentential Subjects which constitute "strong" violations were rejected at a higher rate than extractions out of Noun Complements and Wh-Islands, which constitute "weak" violations (cf. Chomsky 1986). Furthermore, Subject extractions were rejected at a higher rate than Object extractions.
2. Though they tend to perform at lower levels, the two groups of L2 learners whose L1 does not instantiate movement in questions (Chinese and Indonesian) show the same overall pattern as those L2 learners whose L1 does instantiate movement in questions (Italian).
3. On those structures which involve parameter-resetting (e.g., Extractions out of Wh-Islands) learners whose L1 instantiates movement (Italian) tend to perform at lower levels of accuracy than the other two groups coming from non-movement languages.

We take our results as strong evidence for the role of UG in SLA and argue that the particular pattern we observed cannot be explained by a theory of SLA which relies exclusively or primarily on the learner's knowledge of L1 as the source of knowledge for the L2. The results from the Italian group, on the other hand, suggest that parameter-setting constitutes a more difficult task in L2 acquisition than setting a parameter for the first time.

Constraints on Wh-question Formation in Malagasy Learners of English

Lydia White, Lisa Travis, and Anna Maclachlan, McGill University, Canada

Evidence will be presented that the L1 is not the only source of L2 learners' UG-like knowledge. In Malagasy, wh-question formation is restricted to extraction of subjects and out of subjects. Thus, it is not clear how Malagasy learners of English should come to know subject-object asymmetries, or that extractions out of subjects are not permitted, or what constraints apply to extracted objects, unless UG is still available.

A low intermediate and an advanced group of Malagasy learners of English took two tests, a grammaticality judgment task and an elicited production task. Both tasks tapped learners' knowledge of grammatical wh-question formation in English, as well as relevant UG constraints. Results show that the low intermediate learners had not mastered ungrammatical violations. In contrast, the advanced group showed a clear grasp of grammatical wh-movement, as well as unconscious knowledge of relevant constraints. In general, their performance was very similar to a control group of native speakers of English, suggesting the availability of UG.

Automatic Syntactic Analysis of Longitudinal L2 Production Data

Margriet Jagtman & Theo Bongaerts, University of Nijmegen, The Netherlands

The research reported on in this paper aims at providing a formal integrated description of syntactic development in language acquisition with the aid of a computer system, called COMOLA. Using the system it is possible to chart both variation between different L2 learners and developmental stages within one learner in one, overall grammar. Within COMOLA, we have developed a grammar of L2 Dutch based on L2 production data from 9 subjects.

In this paper, we will discuss the word order rules in this grammar which describe verb placement and topicalization of elements. Changes over time in the structure of the utterances from 2 Moroccan and 2 Turkish learners of L2 Dutch will be considered and the analyses yielded by the COMOLA system will be used in order to illustrate how it can handle syntactic development over time.

Ultimate Attainment in SLA

David Birdsong, University of Texas, Austin

Think-aloud data on sentence grammaticality, complementary to quantitative data reported previously, suggest that near-native speakers (NNS) can attain linguistic knowledge comparable to that of native speakers (NS). Analysis of comments by 20 adult native speakers of English who had begun study of French past puberty reveals no systematic divergences from comments by 20 adult native speakers of French, and scarce evidence of non-native grammars. Independent evidence for convergence of NNS and NS linguistic competence is provided by the interpretations of decontextualized sentences in two additional tasks. Thus, unlike the subjects in Coppieters (1987), many NNS and NS in the present study appear identical along both syntactic and semantic dimensions. Post hoc correlational analyses are suggestive of several measures which may be useful in future investigations of ultimate attainment. It is argued that Long's (1990) call for demonstration that a single adult learner can attain native competence has been met, and that a reformulated version of maturational effects on ultimate attainment should allow for such exceptional learners.

The Eroding Interlanguage: L1 Loss in Bilingual Children

Dorit Kaufman, State University of New York, Stony Brook

Attrition patterns in the first language (L1) display new restructured patterns that are attributed to crosslinguistic interaction between the languages in contact. These are triggered by the typological differences between the two languages and constitute the eroding interlanguage.

Currently there is little data available about the eroding interlanguage. Reduction in L1 input causes disintegration and restructuring. The current study investigates verb structure in the eroding interlanguage of Hebrew-English bilinguals in the U.S., and the innovative verb construction instrument (Berman (1989)) is used.

The results of the bilingual study attest to extensive erosion in the children's L1 verb construction. The younger subjects display multiple non-native strategies, and the eroding interlanguage displays dramatic fragmentation in the ability for innovative verb formation.

Lexical and Conceptual Determinants of Translation Performance

Judith Kroll, Mount Holyoke College

Alexandra Sholl, University of Massachusetts, Amherst and Mount Holyoke College

Erika Stewart, Mount Holyoke College

In two experiments fluent bilinguals were asked to translate from one language to the other, or to name words in both languages, in lists that were either semantically categorized or randomly mixed. The results show that the speed and accuracy of translation is determined by the direction of translation: translating from the first language into the second language is longer and less accurate than translating from the second language into the first. Beyond an asymmetry in the speed of translation, the data also show a difference in the reliance on conceptual information: translation from L1 into L2 is influenced by the semantic context in which translation is performed whereas translation from L2 into L1 is not. The pattern of results is similar for cognates although cognates are translated more rapidly in both directions. The implications of asymmetric mappings between lexical and conceptual representations in bilingual memory will be discussed.

Bilingual Children's Acquisition of "Before" and "After" Sentences: Evidence for Positive Effect of Bilingualism in Terms of Syntactic Flexibility

Stella Yu-Mei Kwoh, Maria Estella Brisk and Paula Menyuk, Boston University

This paper compares the acquisition of the complex temporal sentences containing "before" and "after" among three groups of 5 to 7 year old children: monolingual English, monolingual Chinese, and English-Chinese bilinguals. Data from this study suggested that the more flexible sentence structure (English, in this case) is easier to learn than the less flexible one (i.e., Chinese). The bilingual subjects actually did significantly better in English, not in Chinese. The comparison between monolingual English and monolingual Chinese showed that the English group did significantly better. Finally, the results showed that the 5 year old bilingual children, who relied heavily on the non-linguistic "order-of-mention strategy" and who went to English preschool part-time and thus had more use of Chinese at home, did significantly better in Chinese than their monolingual Chinese counterparts; they did not do significantly better in English than their monolingual English speaking peers.

Presyntactic Devices in the Acquisition of Italian Morphology

Paola Cipriani, Anna Maria Chilosi & Piero Bottari, Institute of Child Neuropsychiatry, University of Pisa, Italy

In the course of acquisition of many languages, a peculiar phenomenon has been observed which consists of the insertion of a [-tense; -rounded] vocalic segment, mainly a schwa, in front of lexical elements of various types. In the present study, which is based on a corpus of 6 Italian children longitudinally followed from 19 to 36 months, we will show that the occurrence of these vocalic segments in the various syntactic positions appears to be in complementary distribution with the presence of full free morphemes in those same positions. Notwithstanding that, we will argue that in most cases the vocalic segments are not to be regarded as imperfect realizations of specific morphemes, but that they are better to be seen as the outcome of some sort of inference a child has made about the structural organization of the sentence or of its parts: from the phonetic experience the child extracts structural patterns which neither can be considered barely phonetic nor morphological. This idea will be illustrated with a survey of significant empirical findings and with a detailed analysis of the acquisition of the system of the definite article in Italian. Indeed, we will show that there are reasons to assume that the general category "determinant" - or the position "determinant"- is learned before the specific morphological items that realize it.

The Acquisition of Italian Definite Articles: Insights from the Study of Natural Language and Neural Networks

Elena Pizzuto & Maria Cristina Caselli, Istituto di Psicologia, C.N.R., Rome, Italy
Tonia Tangorra, Bari, Italy

This study explores how Italian definite articles, marked for gender and number, can be learned in natural language and in artificial, neural network systems. Longitudinal, free speech samples of 3 children's productions are examined, using standard criteria (Brown (1973)) to evaluate performance. Regularities in adult input are also identified. This information is then used to model the learning process in a 3-layer, back-propagation network. Results show that the network can successfully reproduce the patterns observed in children, and provide insights on the role that different regularities in the input may play in language learning. The implications for research on natural and simulated language are briefly discussed.

Irregularization

Virginia Marchman, University of Wisconsin, Madison
Kim Plunkett, University of Oxford, United Kingdom

It is generally acknowledged that children learning the English past tense sometimes apply a suffix to an irregular stem, generating regularized forms, such as *threwed*. The course of past tense learning is considered a "micro" (vs. a "macro") developmental phenomenon: (a) error onset is best characterized on a verb-by-verb basis, and (b) subsequent recovery is protracted, as children produce errors as well as correct forms across an extended period of development (Plunkett & Marchman (1991)). Interestingly, another type of past tense error, *irregularizations* (e.g., past tense forms which are identical to the stem, *sit*==>*sit*, or which differ via a vowel change, *fly* ==>*flow*) are also produced across a wide age range and are used by children producing correct irregulars as well as regularization errors (e.g., Bybee & Slobin (1982);

Marchman (1984, 1988)).

In this paper, we report on the relative frequency of irregularization errors, and point to the set of phonological subregularities that might support the presence of these errors across acquisition. Second, we outline how a dual-mechanism, hybrid architecture (e.g., Pinker & Prince (1988)) might account for these data. Finally, we compare this account with an exclusively connectionist approach which adopts the principles of similarity, mapping strength, competition, and critical mass within the confines of a single mechanism system. In our view, the data support a connectionist interpretation of the mechanisms guiding the production of irregularizations, as well as those guiding the acquisition of the past tense system in general.

Regular vs. Irregular Inflection in the Acquisition of Verbs in German

Monika Rothweiler and Harald Clahsen, University of Düsseldorf, Germany

In psycholinguistics, there is an ongoing debate on how to represent regular and irregular inflection. The connectionist approach (cf. Rumelhart & McClelland (1987)) proposes a unitary representation of inflection. As opposed to that there is the dual-mechanism model (Pinker & Prince (1988)) which assumes two qualitatively different ways of inflection; one is rule-based, whereas the other is rote-based and involves storing inflected word forms in the lexicon.

Since German has a complex system of strong, weak and so-called mixed classes of verbs as well as suppletives, it provides an interesting test case in the debate over regular and irregular inflection.

In our paper, we will study the acquisition of present tense morphology and of past participles in German child language of normally developing children and of language-impaired children. Our results support the view that a qualitative distinction should be made between regular and irregular inflection. The particular linguistic framework we adopt is Lexical Morphology (Kiparsky (1985)) which may be regarded as a variant of a dual-mechanism model.

Plurals-Inside-Compounds: Morphological Constraints and their Implications for Acquisition

Ann Senghas, John J. Kim, Steven Pinker & Chris Collins, Massachusetts Institute of Technology

Gordon (1986) showed that children don't utter compounds containing regular plurals (*rats-eater*), though they utter semantically similar compounds containing irregular plurals (*mice-eater*). He used this finding to argue that the organization of morphology into ordered levels (Kiparsky (1982)) is innate. However, there are counterexamples to this constraint (publications catalog). This challenge was addressed by having adults rate novel compounds containing regular and irregular nouns (*geese-feeder*, *ducks-feeder*). Irregular plurals were rated far better than regular plurals; this effect is not an epiphenomenon of semantic collectivity, nor restricted to "synthetic" compounds. Though these (and Gordon's) results show that irregular and regular inflected forms are qualitatively different, the fact that compounds *can* contain true regular plurals in Dutch weakens the claim that these effects are best explained by level-ordering. We suggest that children initially allow derivational rules to apply only to simple listed words (including listed irregular forms), and that the child relaxes this restriction on a rule-by-rule basis in response to positive evidence.

Development of Binding and LF Movement in Russian

Sergey Avrutin & Kenneth Wexler, Massachusetts Institute of Technology

This paper reports experimental research on the development of binding in Russian-speaking children between 4 and 7 years of age. Children allowed a local antecedent for pronouns with a quantifier antecedent significantly less often than for pronouns with a definite NP antecedent. This finding is consistent with a theory in which children know Principle B, but lack a pragmatic constraint which preempts a referential reading of a pronoun when a bound variable reading is possible. This analysis is consistent with an independently motivated theory in which pronouns as bound variables undergo LF movement, which may result in a Principle B violation. Since children do not know this pragmatic strategy, i) the bound variable reading of pronouns is not required, ii) therefore LF movement is not forced, and iii) Principle B is not violated. Consequently, children accept sentences which are ruled out by Principle B at LF in the adult grammar. When the antecedent is a quantifier, i) the bound variable reading is required, ii) therefore LF movement is forced, iii) Principle B is violated and children correctly reject the sentence.

LF Movement of Anaphors and Acquisition of Embedded Clauses in Russian

John F. Bailyn, Cornell University

Recent theoretical work on binding theory has suggested two general directions in accounting for language variation in “long-distance” (L-D) reflexivization effects. One approach, taken by Harbert (1987), Manzini and Wexler (1987) and others, posits a parameterized governing category, whose exact “size” is to be determined by the child on the basis of positive evidence. The other approach, conceived in Lebeaux (1983), is extended to Chinese in Battistella (1988) and involves LF movement of certain anaphoric elements to INFL, thus reducing L-D effects to local binding, and obviating the need for parametrization of the actual governing category. This paper will address the theoretical and developmental implications of the two accounts for Russian, and show how experimental acquisition data strongly support the movement account.

It is proposed in this paper that the movement rule and constraints are part of UG, which is continuously available to the child. This general theory only necessitates learning the subcategorization frames and feature composition of complementizers before correctly allowing for the adult range of L-D effects. Experimental data from 2 studies of 38 and 15 Leningrad school children (ages 4-9) show consistent acceptance of L-D binding out of embedded subjunctive clauses, which adults do not allow, a fact that is troublesome for any parameterized gc account. The L-D readings are shown to be caused by a complication in learning the feature composition of the complementizer *ctoby*, which serves to introduce infinitival purpose clauses as well as subjunctives in adult Russian (cf. Nishigauchi and Roeper (1985) on English *for*). This complication determines a stage at which the INFL features selected by *ctoby* are misanalyzed as tenseless and thus the L-D effects found in the experiments are reduced to local binding after movement is made possible by incomplete knowledge of the COMP-INFL relationship.

The Acquisition of Binding in Icelandic

Sigríður Sigurjónsdóttir & Nina Hyams, University of California, Los Angeles

In this paper we report the results of an experimental study on the interpretation of the local reflexive *sjálfan sig*, the “long-distance” reflexive *sig*, and pronouns by Icelandic-speaking children. We tested 55 children between the ages of 3;0-6;0, and 10 adults, on 92 sentences, using both an act-out task and a modified judgement task.

Our results provide evidence for the developmental interpretation of the Subset Principle and replicate the results of many other studies which have found a delay of Principle B as compared to Principle A. The present results differ in certain respects from the study reported in Hyams and Sigurjónsdóttir (1990). These differences are discussed in the talk.

This is the first comprehensive study on the acquisition of binding in Icelandic and the first study to use Crain & McKee’s (1987) modified judgement task to probe children’s comprehension of long distance anaphora. The results of our study emphasize the importance of crosslinguistic studies on the acquisition of binding and the importance of using different techniques to reveal children’s understanding of anaphors and pronouns.

Zibun in Japanese Acquisition

Yukio Otsu, Massachusetts Institute of Technology and Keio University, Japan

Japanese reflexive *zibun* exhibits subject-orientation (SUBJ). Katada (1991) claims that SUBJ is a consequence of its being an operator anaphor and of its morphological structure. If this is correct, it is predicted that SUBJ becomes available from an early period since there is little that the child has to learn. Our primary aim is to show that children as young as 3 know SUBJ, thereby giving developmental support to the above claim.

We tested forty-five 3 to 5 year olds. Each subject is given a pair of “very short stories,” and asked to tell the experimenter which story sounds “funny.”

- 1) a. Otoosan ga okaasan ni zibun no sukaato o misemasita
daddy NOM mommy DAT self GEN skirt ACC showed
“(Lit.) Daddy showed Mommy self’s skirt.”
- b. Okaasan ga otoosan ni zibun no sukaato o misemasita.
“(Lit.) Mommy showed Daddy self’s skirt.”

If the subject has SUBJ as well as extra-grammatical knowledge that a skirt normally belongs to women, which is tested separately, s/he should be able to find (1a) sounds funny.

The results strongly suggest that children as young as 3 know SUBJ, thus giving support to the claim that it follows from UG and requires minimal experience.

Memory Representation in Unbalanced Korean English Bilinguals: A Test of the Dual-Coding Model

Hyekyung Sung & Amado M. Padilla, Stanford University

This study examines memory representation of unbalanced Korean-English bilinguals based on the dual-coding theoretical framework. Dual-coding theory, which was originally proposed to explain cognitive and language processing in monolinguals, assumes that memory and cognition are served by two separate symbolic (verbal and imagery) systems. The dual-coding model has been tested with balanced bilinguals by means of an incidental recall task and was supported. In this study, the model was tested, but with unbalanced bilingual subjects. The dual-coding hypothesis was also supported with the unbalanced bilinguals. Furthermore, the findings suggested an explanation of how degree of bilingualism and manner of second language acquisition affected the pattern of the bilingual's memory representation. This study showed that unbalanced Korean-English bilinguals (dominant in Korean) who had learned English without much exposure to the language in natural contexts relied heavily on translation between Korean and English.

Electrophysiological Evidence of Sentence Comprehension: A Comparison of Native and Non-Native Speakers of English

Sonja A. Kotz, Lee Osterhout & Phillip J. Holcomb, Tufts University

Behavioral measures and ERPs were obtained in a sentence judgment task to assess possible computational and neural processing differences in native and non-native speakers of English. Previous ERP research with native English speakers has shown that syntactic anomalies (e.g. verb subcategorization errors and phrase structure violations) elicit a positive-going component (P600) quite distinct from the N400 found for semantic anomalies.

Both groups displayed P600 effects to syntactic anomalies. However, the non-native speakers had a smaller and broader P600 with a different scalp distribution. An N400 elicited by semantic anomaly was found in both groups, but the N400 was significantly reduced in the non-native group. These results suggest that non-native speakers of English compute syntactic and semantic representations and that sentence computation in the non-native language may be moderated by different sets of "neural representations."

Durational Properties in Speech Production and Speech Perception of Native and Non-Native Speakers

Marnie Reed Murphy, Middlesex Community College

Temporal variables differ significantly for non-native speakers. Speech Rate, Articulation Rate, and Phonation-Time Ratio were significantly slower for Native Chinese speakers. Silent pause duration was identical for native and non-native speakers, suggesting a universal tendency not to indulge in long silent pauses.

Hesitation phenomena for both native and non-native speakers act as overt traces of prospective and retrospective speech-processing tasks which function to forestall errors, and to permit detection and repair of errors once they are committed. Hesitations facilitate the presumed objective of speech processing, viz., the production of maximally comprehensible speech output. Hesitations are quality control devices; native and non-native speakers are highly successful at forestalling errors.

Hesitation phenomena pose perception problems for non-native speakers who show little evidence of recognizing them as such; rather they attempt to assign meaning to speakers' faulty output or to discourse markers. Silent pauses serve listener convenience by chunking speech. Results of a transcript marking task indicate this important part of the acoustic signal is untapped by, and perhaps inaccessible to non-native speakers.

Proficiency Differences in the Immediate Representation of Sentences

David J. Townsend, Montclair State College

Caroline Carrithers, Rutgers University

Thomas Bever, University of Rochester

We compared listeners' immediate access to words, word order, phrase structure, propositional meaning, and discourse-level meaning around the clause boundaries of sentences. Our subjects were 10-13 versus 18-23 years of age. In each age group, the subjects were either skilled or average in verbal achievement, but subjects in the two proficiency groups were matched for mathematical skill. Increased proficiency for the younger group involved greater sensitivity to the sentence-level properties of phrase structure and propositional meaning, but for the older group, it involved greater sensitivity to the discourse-level properties of causal relations and greater sensitivity to word order. We interpret these results to show that 1) speech perception involves simultaneous and independent processing at several levels of representation, 2) representations at different levels compete for attention, and 3) some of the variation in verbal proficiency depends on how listeners allocate attentional resources to representations at different levels.

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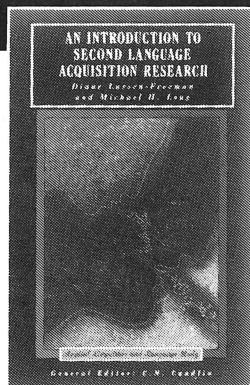
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Dispelling Myths about Language Bootstrapping

Jeffrey Mark Siskind, Massachusetts Institute of Technology

This paper addresses the issue of language bootstrapping: how children begin acquiring word meanings, lexical categories and syntax without any prior knowledge of any of the above, from multiword utterances in a context where the utterance meaning is uncertain. A formal model of a simplified version of this task is described which combines a set of syntactic and semantic principles based on a small subset of current linguistic theory. These principles have been incorporated into a working computer program called DAVRA, which takes as input a corpus of utterances, each one paired with a set of potential utterance meanings represented as Jackendovian conceptual structures, and searches for both a lexicon, mapping words to their lexical categories and meanings, and parameters for the syntactic theory, that allow the utterances to consistently explain the nonlinguistic input. DAVRA has successfully processed small corpora in English and Japanese. This demonstrates that neither the semantic nor the syntactic bootstrapping hypothesis is logically necessary.

An Empirical Investigation of the Information Sources for Language Acquisition: Cross-situational vs. Cross-syntactic Observation

Anne Lederer, Lila Gleitman, Henry Gleitman & Sheira Ariel,
University of Pennsylvania

All theories of verb learning agree that there is an observational source of evidence for verb learning. Where theories disagree is in the linguistic representation that gets mapped onto the event representation. The Semantic Bootstrapping Hypothesis (Pinker (1984, 1989); Grimshaw (1981)) asserts that a word gets mapped onto the event representation. The Syntactic Bootstrapping Hypothesis (Landau and Gleitman (1985); Gleitman 1990) asserts that a sentence under a certain analysis is mapped onto the world.

In this paper we directly compare the information available from the cross-syntactic observations in the input to language acquisition and the cross-situational evidence available during the verb learning process.

We find three main results:

- 1) Overall, the syntactic formats are a very precise information source for deducing the identity of a verb.
- 2) Cross-syntactic analysis narrows down the verb set in a more semantically relevant way than cross-situational analysis.
- 3) Those verbs that the subjects do perform well on in the observational condition are just those verbs that subjects do poorly on in the syntactic condition—suggesting a complementarity between the two information sources.

These results have clear implications for language acquisition. Given the design of the language, the child disposed to map sentences onto the world will be at an advantage over a child disposed to map words onto the world.

Ontological Categories in Early Word Learning

Sandeep Prasada, Massachusetts Institute of Technology

Previous research has found that young children take the first word used to name a solid entity to refer to the entity's object kind. In contrast, children do not learn names for solid substances until they are 3 1/2 or 4 years of age. There is also some evidence that children younger than this age cannot be taught names for solid substances. These data suggest that the ontological distinction used to bootstrap the count-mass distinction and constrain word meanings may actually be the distinction between solids and non-solids rather than between objects and substances. A word learning task, an elicitation task and a non-linguistic induction task investigated 64 2 1/2 to 3 1/2 year old children's ability to learn names for solid substances and their non-linguistic knowledge of solid substances.

It was found that even 2 1/2 year olds can learn names for solid substances and know some properties of various solid substances. There was also evidence that the substance words refer to kind of substance rather than properties of objects and that the words are represented as nouns rather than as adjectives. Children learn the meaning of the phrase *made of* in the context of a familiar substance and can then use the phrase to learn names for substances that they don't know much about. The findings of the current study suggest that children as young as 2 1/2 years old do represent the concept of solid substance. This is consistent with theories of language acquisition which presuppose a conceptual distinction between objects and substances.

Principles vs. Criteria: The Lexical Semantics of Overgeneralization

James Pustejovsky, Brandeis University

In recent work Randall (1990, 1991) has reexamined the question of overgeneralization of lexical rules for Baker's paradox. Her main thesis is that the conventional assumptions about how to analyze the problem, what Pinker (1989) terms the "criteria approach," can be abandoned in favor of general principles of X'-theory, without necessitating specific mechanisms for reevaluating the status of the child's grammar and lexicon. In this paper I hope to demonstrate two points: first, these principles can be seen as consistent with other, independent mechanisms which permit overgeneralizations at one point, followed by a retreat (i.e., unlearning) of these forms at a later stage. I show that, in making this particular step explicit, we in fact come close to what is essentially the argument put forward by Pinker (1989). Nevertheless, Randall's observation concerning the application of principles to the argument structures of lexical items (i.e. the *Catapult Hypothesis*) is supported by independent motivations from lexical semantic theory. I show that in certain verb-complement constructions, a relation termed *cospecification* obtains, whereby the meaning of the verb is changed. When cospecification exists between two expressions, the argument structure within the phrase is modified. That is, the meaning of the verb is systematically distinct in such cases, thereby giving support for certain principle-based approaches for unlearning based on lexical semantic distinctions. These data suggest that any independent criterion for discrimination between lexical forms must be consistent with global principles in the grammar in order for it to be learnable.

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SPEAKERS' ADDRESSES

Shanley Allen
McGill University
Department of Linguistics
1001 Sherbrook Street W.
Montreal, Quebec H3A 1G5
Canada

John Archibald
University of Calgary
Department of Linguistics
2500 University Drive NW
Calgary, Alberta T2N 1N4
Canada

Sheira Ariel
University of Pennsylvania
Department of Psychology
3815 Walnut Street
Philadelphia, PA 19104

Peter Avery
University of Toronto
Department of Linguistics
Toronto, Ontario M5S 1A1
Canada

Sergey Avrutin
MIT E-10, Room 106
Brain & Cognitive Sciences
Cambridge, MA 02139

John Bailyn
603 E. Seneca Street #4
Ithaca, NY 14850

Andrew Barss
University of Arizona
Department of Linguistics
Douglass 200E
Tucson, AZ 85721

Thomas Bever
University of Rochester
Department of Psychology
Rochester, NY 14627

David Birdsong
U. of Texas, OMB 2.110
Dept. of French and Italian
Austin, TX 78712

Paul Bloom
University of Arizona
Department of Psychology
Tucson, AZ 85721

David Bloome
U. Mass., Amherst
223 Furcolo Hall
Amherst, MA 01003

Theo Bongaerts
University of Nijmegen
Dept. of Applied Linguistics
and Research Methodology
PO Box 9103
6500 HD Nijmegen
The Netherlands

Katharina Boser
Cornell University
Dept. of Human Development
MV Rensselaer Hall
Ithaca, NY 14850

Piero Bottari
v. le xx Settembre 297
Marine di Cavrera
54036 MS
Italy

Maria Brisk
Boston University
School of Education
605 Commonwealth Avenue
Boston, MA 02215

Nancy Budwig
Clark University
Department of Psychology
950 Main Street
Worcester, MA 01610

Marketa Caravolas
6985 Stuart, #8
Montreal, Quebec H3N 2P9
Canada

Caroline Carrithers
Rutgers University
Department of Psychology
Newark, NJ 08903

Maria Cristina Caselli
Institute of Psychology CNR
Viale Marx, 15
00137 Roma
Italy

Anna Maria Chilosi
U. of Pisa "Stella Maris"
Institute of Child
Neuropsychiatry
via dei Giacinti 2
Calambrone (Pisa)
Italy

Susan Chaplick
Bryn Mawr College
Human Development
Bryn Mawr, PA 19010

Steven B. Chin
Indiana University
Department of Linguistics
Memorial Hall 322
Bloomington, IN 47405

Paola Cipriani
U. of Pisa "Stella Maris"
Institute of Child
Neuropsychiatry
via dei Giacinti 2
Calambrone (Pisa)
Italy

Harald Clahsen
University of Düsseldorf
Allgemeine Sprach-
wissenschaft
Universitätsstr. 1
D-4000 Düsseldorf 1
Germany

Chris Collins
MIT
Linguistics and Philosophy
Cambridge, MA 02139

Phil Connell
Indiana University
Speech & Hearing Sciences
Bloomington, IN 47405

Laura Conway
University of Arizona
Department of Linguistics
Tucson, AZ 85721

Karen Craddock-Willis
Boston Children's Museum
Museum Wharf
Boston, MA 02210-1034

Stephen Crain
271 Paine Road
Pomfret Center, CT 06259

Ann Daubney-Davis
321 Adams Street
Sierra Madre, CA 91024

Jeanne De Temple
1611 Main Street
Concord, MA 01742

Margaret Deuchar
University of Cambridge
Department of Linguistics
Newnham College
Cambridge, CB3 9DF
UK

Jill de Villiers
Smith College
Department of Psychology
Northampton, MA 01063

Daniel Dinnsen
Indiana University
Department of Linguistics
Memorial Hall 322
Bloomington, IN 47405

Walter Edwards
Wayne State University
4055 FAB
Detroit, MI 48202

Lynn Eubank
University of North Texas
Department of English
Denton, TX 76203

Michael Farrar
University of Florida
Department of Psychology
Gainesville, FL 32611

E. Jane Fee
Dalhousie University
Communication Disorders
5599 Fenwick Street
Halifax, NS B3H 1R2
Canada

Liane Feldman
Brown University
Cognitive & Linguistic
Sciences
Providence, RI 02912

James Forbes
University of Florida
Department of Psychology
Gainesville, FL 32611

Steven Franks
Indiana University
Department of Slavic
Languages and Literatures
Bloomington, IN 47405

Joseph Friedman
Brown University
Department of Clinical
Neurosciences
Providence, RI 02912

Jo-Ann Gendron
7707 Berri Street
Montreal, Quebec H2R 2H1
Canada

Cindy Gimbert
871 Cambridge Street
Cambridge, MA 02141

Henry Gleitman
University of Pennsylvania
Department of Psychology
3815 Walnut Street
Philadelphia, PA 19104-6196

Lila Gleitman
University of Pennsylvania
Department of Psychology
3700 Walnut Street
Philadelphia, PA 19174

Barbara Gomes
63 Barberrry Court
Lawrenceville, NJ 08648

Myma Gopnik
McGill University
Department of Linguistics
1001 Sherbrooke St. W.
Montreal, Quebec H3A 1G5
Canada

Lisa Gregory
HGSE
316 Larsen Hall
Appian Way
Cambridge, MA 02138

Maria Teresa Guasti
University of Geneva
Linguistique Générale
3 Place Université
1211 Geneva
Switzerland

Eithne Guilfoyle
University of Calgary
Department of Linguistics
2500 University Drive NW
Calgary, Alberta T2N 1N4
Canada

Marco Haverkort
Tilburg University
Department of Linguistics
Postbus 90153
5000 LE Tilburg
The Netherlands

Jacqueline Herman
University of Nevada, Reno
Dept. of Psychology
Reno, NV 89557-0062

Julie Hirschler
1381 Main Street
Concord, MA 01742

James Hodgson
MGH Neurolinguistics Lab
15 River Street
Boston, MA 02108

Teun Hoekstra
University of Leiden
Department of Linguistics
PO Box 9515
2300 RA Leiden
The Netherlands

Erika Hoff-Ginsberg
U. of Wisconsin, Parkside
Department of Psychology
Kenosha, WI 53141

Phillip Holcomb
Tufts University
Department of Psychology
Paige Hall
Medford, MA 02155

Jean Hutchinson
University of Nevada
Department of Psychology
Reno, NV 89557-0062

Nina Hyams
UCLA
Department of Linguistics
405 Hilgard Avenue
Los Angeles, CA 90024

Margriet M. Jagtman
University of Nijmegen
Dept. of Language & Speech
PO Box 9103
6500 HD Nijmegen
The Netherlands

Lisa Jimenez
Brown University
Cognitive & Linguistic
Sciences
Providence, RI 02912

Carolyn Johnson
U. of British Columbia
School of Audiology &
Speech Sciences
5804 Fairview Avenue
Vancouver, BC V6T 1W5
Canada

Edward Kako
Yale University
Department of Psychology
New Haven, CT 06510

Dorit Kaufman
SUNY at Stony Brook
Department of Linguistics
Stony Brook, NY 11794-4376

Kimberley Kearns
U. British Columbia
School of Audiology &
Speech Sciences
5804 Fairview Avenue
Vancouver, BC V6T 1W5
Canada

John Kim
MIT E10-108
Brain & Cognitive Sciences
Cambridge, MA 02139

Jo Anne Kleifgen
Columbia University
Teachers College, Box 66
New York, NY 10027

Sonja Kotz
Tufts University
Department of Psychology
Paige Hall
Medford, MA 02155

Judith Kroll
Mount Holyoke College
Dept. of Psychology & Ed.
South Hadley, MA 01075

Stella Yu-Mei Kwoh
63 Crescent Drive
Palo Alto, CA 94301

William Labov
University of Pennsylvania
Department of Linguistics
Philadelphia, PA 19104-6305

Paul Law
MIT 20D-219
Linguistics and Philosophy
Cambridge, MA 02139

Anne Lederer
University of Pennsylvania
Department of Psychology
3815 Walnut Street
Philadelphia, PA 19104-6196

Andrea Levitt
Wellesley College
Language Studies Program
Wellesley, MA 02181

Philip Lieberman
Brown University
Cognitive & Ling. Sciences
Providence, RI 02912

Barbara Lust
Cornell University
HDFS, NG-29, MVR Hall
Ithaca, NY 14850

Anna Maclachlan
McGill University
Department of Linguistics
1001 Sherbrooke West
Montreal, Quebec H3A 1G5
Canada

Diana L. Mahony
University of California
Dept. of Cognitive Science
Irvine, CA 92717

Virginia Marchman
University of Wisconsin
Department of Psychology
1202 W. Johnson Street
Madison, WI 53706

Gita Martohardjono
MIT 14N-324, Dept. of
Foreign Languages & Lit.
Cambridge, MA 02139

Thomas Maxfield
U. of Southern Maine
Language Sciences Lab.
96 Falmouth Street
Portland, ME 04103

Allyssa McCabe
HGSE, Larsen Hall
Appian Way
Cambridge, MA 02138

Dana McDaniel
U. of Southern Maine
Language Sciences Lab.
96 Falmouth Street
Portland, Maine 04103

Paula Menyuk
Boston University
School of Education
605 Commonwealth Ave.
Boston, MA 02215

Anne E. Mills
U. of Amsterdam
General Linguistics
Spuistraat 210
1012 VT Amsterdam
The Netherlands

Masahiko Minami
Gutman Library Suite 349
6 Appian Way
Cambridge, MA 02138

Yoichi Miyamoto
University of Connecticut
Department of Linguistics
U-145, 341 Mansfield Road
Storrs, CT 06269-1145

- Siobhan Moss
McGill University
Department of Linguistics
1001 Sherbrooke St. W.
Montreal, Quebec H3A 1G5
Canada
- Natascha Müller
University of Hamburg
Romanisches Seminar
Von-Melle-Park 6
2000 Hamburg 13
Germany
- Marnie Reed Murphy
35 Winter Street
Framingham, MA 01701
- Janet Nicol
University of Arizona
Cognitive Science Program
Tucson, AZ 85721
- Janna Oetting
University of Kansas
Child Language Program
1082 Dole Center
Lawrence, KS 66045
- Diane Ohala
University of Arizona
Department of Linguistics
Douglass 200E
Tucson, AZ 85719
- Lee Osterhout
Tufts University
Department of Psychology
Paige Hall
Medford, MA 02155
- Yukio Otsu
MIT 20B-221
Brain & Cognitive Sciences
Cambridge, MA 02139
- Amado M. Padilla
Stanford University
School of Education
Stanford, CA 94305
- Carmella Perez
U. Mass., Boston
Department of Psychology
Harbor Campus
Boston, MA 02125
- William Philip
PO Box 11
Northampton, MA 01060
- Steven Pinker
MIT E10-018
Brain & Cognitive Sciences
Cambridge, MA 02139
- Elena Pizzuto
Institute of Psychology CNR
Viale Marx, 15
00137 Roma
Italy
- Kim Plunkett
University of Oxford
Experimental Psychology
South Parks Road
Oxford OX1 3UD UK
- David Poeppel
MIT E10-105B
Cambridge, MA 02139
- Livia Polanyi
Rice University
Department of Linguistics
PO Box 1892
Houston, TX 77251
- Sandeep Prasada
MIT E10-104 A
Brain & Cognitive Sciences
Cambridge, MA 02139
- James Pustejovsky
Brandeis University
Computer Science
131 Ford Hall
Waltham, MA 02254
- Nan Bernstein Ratner
University of Maryland
Speech & Hearing Sciences
College Park, MD 20742
- Leslie Rescorla
Bryn Mawr College
Human Development
Bryn Mawr, PA 19010
- Keren Rice
University of Toronto
Department of Linguistics
Toronto, Ontario M5S 1A1
Canada
- Mabel Rice
University of Kansas
Child Language Program
1082 Dole Center
Lawrence, KS 66045
- Julie Roberts
1003 S. 46 St.
Philadelphia, PA 19143
- Ana Maria Rodino
PO Box 390565
Cambridge, MA 02139
- Thomas Roeper
U. Mass., Amherst
Department of Linguistics
South College
Amherst, MA 01003
- Monika Rothweiler
University of Düsseldorf
Allgemeine Sprach-
wissenschaft
Universitätsstr. 1
D-4000 Düsseldorf 1
Germany
- Anjum P. Saleemi
MIT
Department of Linguistics
Cambridge, MA 02139
- Lynn Santelmann
Cornell University
DMLL, Morrill Hall
Ithaca, NY 14850
- Bonnie Schwartz
Boston University
718 Commonwealth Avenue
Boston, MA 02215
- Ann Senghas
MIT E10-108
Brain & Cognitive Sciences
Cambridge, MA 02139
- Alexandra Sholl
University of Massachusetts
Department of Psychology
Amherst, MA 01003
- Sigrídur Sigurjónsdóttir
UCLA
405 Hilgard Avenue
Los Angeles, CA 90024

Jeffrey Siskind
 MIT – AI Lab.
 545 Technology Sq. 800B
 Cambridge, MA 02139

Neil V. Smith
 Department of Phonetics and
 Linguistics
 University College London
 Gower Street
 London WC1E 5BT
 UK

Antonella Sorace
 University of Edinburgh
 Dept. of Applied Linguistics
 14 Buccleuch Place
 Edinburgh EH8 9LN
 UK

Rex Sprouse
 Harvard University
 Germanic Langs. & Lits.
 Boylston Hall
 Cambridge, MA 02138

Achim Stenzel
 University of Hamburg
 Romanisches Seminar
 Von-Melle-Park 6
 2000 Hamburg 13
 Germany

Erika Stewart
 Mount Holyoke College
 Dept. of Psych. & Ed.
 South Hadley, MA 01075

Ida Stockman
 Michigan State University
 Dept. of Audiology and
 Speech Sciences
 378 Communication Arts
 East Lansing, MI 48824

Hyekyung Sung
 107E Escondido Village
 Stanford, CA 94305

Patton Tabors
 HGSE
 316 Larsen Hall
 Appian Way
 Cambridge, MA 02138

Tonia Tangorra
 via Bachelet, 19/B
 Adelfia (BA)
 Italy

Gary Tajchman
 Brown University
 Cognitive & Linguistic
 Sciences
 Providence, RI 02912

Margaret Thomas
 24 Hemlock Road
 Newton, MA 02164

Rosalind Thornton
 MIT E10-246
 Brain & Cognitive Sciences
 Cambridge, MA 02139

Chikako Toma
 Clark University
 School of Psychology
 950 Main Street
 Worcester, MA 01610

David Townsend
 159 Midland Avenue
 Montclair, NJ 07042

Lisa Travis
 McGill University
 Department of Linguistics
 1001 Sherbrooke West
 Montreal, Quebec H3A 1G5
 Canada

Beppie van den Bogaerde
 University of Amsterdam
 General Linguistics
 Spuistraat 210
 1012 VT Amsterdam
 The Netherlands

Maaïke Verrips
 Max Planck Institute
 Postbus 310
 6500 AH Nijmegen
 The Netherlands

Qi Wang
 University of Connecticut
 Department of Linguistics
 U-145, 341 Mansfield Road
 Storrs, CT 06269-1145

Jürgen Weissenborn
 Max Planck Institute
 Postbus 310
 6500 AH Nijmegen
 The Netherlands

Kenneth Wexler
 MIT E10-020
 Brain & Cognitive Sciences
 Cambridge, MA 02139

Lydia White
 McGill University
 Department of Linguistics
 1001 Sherbrooke W.
 Montreal, Quebec H3A 1G5
 Canada

John Whitman
 Cornell University
 DMLL Morrill Hall
 Ithaca, NY 14850

Susan Wilcoxon
 University of Illinois
 Dept. of Psychology
 603 E. Daniel
 Champaign, IL 61820

Angela Wiley
 Clark University
 Department of Psychology
 950 Main Street
 Worcester, MA 01610

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