

The 38th Annual

Boston University
Conference on
Language Development

November 1-3, 2013

BOSTON UNIVERSITY

Map of George Sherman Union (Second Floor)

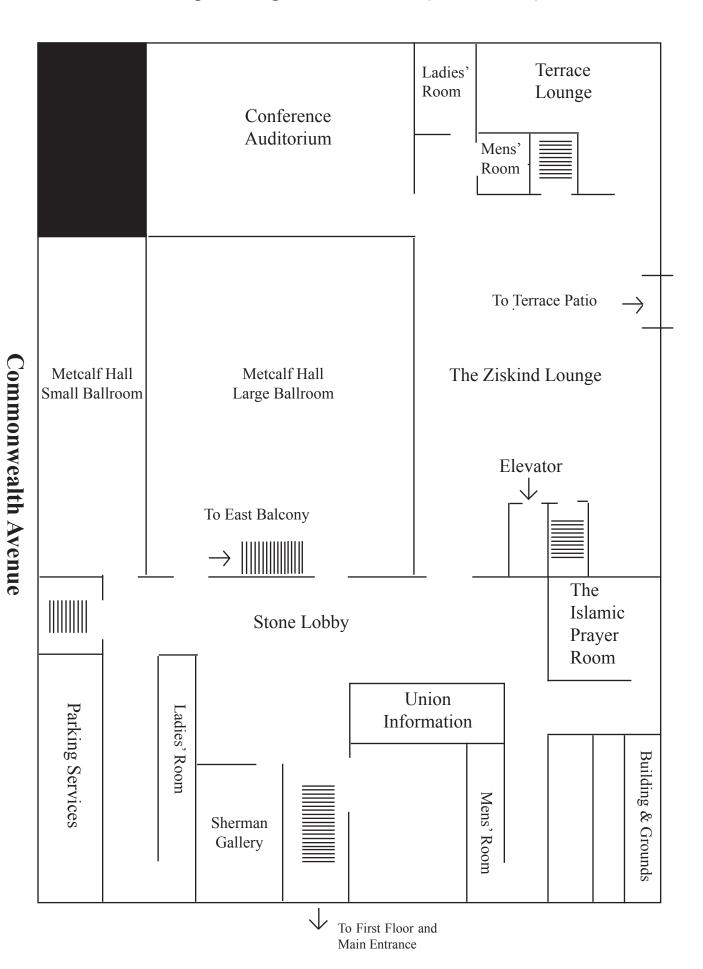


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Welcome

Our 38th Year

Welcome to the thirty-eighth Annual Boston University Conference On Language Development. Since 1976, BUCLD has been organized by graduate students in Boston University's Program in Applied Linguistics. With years of student work and the help of faculty advisors, the conference has become an international gathering of linguists, psychologists, and other researchers of language acquisition and development. We thank our participants for the research accomplishments they have shared with us over the past thirty-seven years.

Invited Speakers

At this year's conference, we are honored to have Elena Lieven as our featured speaker. She will present Friday's keynote address, entitled "Towards a constructivist account of language development: How far have we got?" This year's Saturday lunch symposium is entitled "Resolving A Learnability Paradox in the Acquisition of Verb Argument Structure: What have we learned in the last 25 years" and will feature speakers Ben Ambridge, Adele Goldberg, Joshua Hartshorne, Jesse Snedeker, and Steven Pinker. The Sunday closing symposium is entitled "A new approach to language learning: filtering through the processor" and will feature speakers Helen Goodluck, Lyn Frazier, and Colin Phillips.

Paper and Poster Presentations

The rest of the program is devoted to a wide range of papers and posters chosen from submitted abstracts. This year we received 447 submissions, each of which was sent out to five reviewers for anonymous review. Of these, 69 papers and 85 posters were selected for presentation, with an acceptance rate of 34%. We are sorry not to have had space to include more of the many excellent submissions we received. We have also included abstracts for those who generously agreed to serve as alternates in case of cancellations.

Proceedings

Once again this year we will be publishing the Proceedings of the Conference, which includes papers presented and those selected for alternate status. You can order the proceedings from Cascadilla Press at www.cascadilla.com. We will also have an online supplement to the proceedings for papers given as posters, which will be published on the web by BUCLD.

Here at Boston University, we are committed to providing an ongoing forum for work in the diverse field of language development. We hope you will enjoy the conference!

The 2013 Conference Organizing Committee

Will Orman Matthew James Valleau

Faculty Advisors

Paul Hagstrom

Chairs

Hannah Baker Rachel Benedict Joanna Bruso Chris Crim Elizabeth Grillo Kyle Jepson Pengfei Li Leo Rosenstein

Boston University Conference on Language Development 96 Cummington Street, Room 244 Boston, MA 02215 e-mail: langconf@bu.edu phone: (617) 353-3085

For general information about the conference, visit our website at http://www.bu.edu/bucld.

Acknowledgements

The Boston University Conference on Language Development is organized each year by students from the Program in Applied Linguistics. Every year, we depend upon the proceeds generated by registration and exhibition fees to cover the costs of hosting the conference, and we are very grateful to all of our participants for providing this support. In addition, this year's conference is supported in part by the National Science Foundation under Grant No. BCS-1147863, for which we are also grateful.

We would like to thank the many graduate and undergraduate students who contributed their time and effort both throughout the past year and during this weekend. We are particularly thankful to the faculty and staff of the Program in Applied Linguistics and the School of Education for their support and encouragement.

We extend special thanks to our faculty advisor, Paul Hagstrom, for the care and guidance during the planning process and for all his work in designing and developing a new web-based system that automated parts of the conference organization, particularly the review system. His expertise and support have been invaluable.

We would also like to acknowledge the efforts of several vital offices at Boston University. Our thanks go to Erin Flaherty of Events and Conferences, whose skill and experience have provided us with the proper equipment, facilities, and refreshments for the conference. We would also like to thank Nick Vale of Student Production Services for providing the lighting system for our American Sign Language interpreters. Finally, our thanks go to Liz Politis for her support in managing the conference finances, and to Elizabeth McGuire and Lisa Wong for collaborating in the maintenance of our online registration system.

Finally, we would like to thank the 161 reviewers listed below who read and rated the abstract submissions we received this year. The high quality of the abstracts makes it especially difficult to assemble a program of just 69 papers and 85 posters. We are particularly grateful for their thoughtful attention to each submission.

Nameera Akhtar Tania Ionin Luisa Meroni Michael Frank Shanley Allen Ivan Ivanov Maria Mody Maria Joao Freitas Ben Ambridge Michael Iverson Silvina Montrul Alison Gabriele Inbal Arnon Annie Gagliardi Elizabeth K. Johnson James L. Morgan Sudha Arunachalam Kalliopi Katsika Alan Munn Anna Gavarró Dorit Kaufman Richard Aslin Dedre Gentner Julien Musolino David Barner Evan Kidd Letitia Naigles Lisa Gershkoff-Stowe Lilia Bartolome Wolfgang Klein Thierry Nazzi Judit Gervain Edith Bavin Heather Goad Grzegorz Krajewski Elissa L. Newport Tanja Kupisch Ira Noveck Misha Becker Adele Goldberg Usha Lakshmanan Gerard Bol Roberta Golinkoff Rama Novogrodsky Patrick Bolger Laura Lakusta William O'Grady Helen Goodluck Ellen Broselow Donna Lardiere Akira Omaki Janet Grijzenhout Ann Bunger Theres Gruter Thomas Lee Mitsuhiko Ota Helen Cairns Claartie Levelt Sevda Özcalıskan Maria Teresa Guasti Catherine Caldwell-Harris Anna Papafragou Beth Levin Avse Gurel Johanne Paradis **Kyle Chambers** Paul Hagstrom Casey Lew-Williams Erin Conwell Juana Liceras Lisa Pearl Cornelia Hamann Peter Coopmans Gabriella Hermon Jeffrey Lidz Sharon Peperkamp Elena Lieven Ana Pérez-Leroux Julie Coppola Makiko Hirakawa Suzanne Curtin Sarah Liszka William Philip Kathy Hirsh-Pasek Colin Phillips Barbara Davis Barbara Höhle Heather Littlefield Cecile De Cat Conxita Lleo Philippe Prévost Bart Hollebrandse Jan De Jong Holger Hopp Barbara Lust Rachel Pulverman Kamil Deen Theodoros Marinis Marnie Reed Yi Ting Huang Ken Drozd Lori Markson Claire Renaud Mary Hughes Danielle Matthews Mabel Rice Catharine Echols Nina Hyams Inge-Marie Eigsti David Ingram Rachel Mayberry Judith Rispens

Acknowledgements

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Carson Schütze
Bonnie D. Schwartz
Amanda Seidl
Ludovica Serratrice
Rushen Shi

Anna Shusterman

Leher Singh

Barbora Skarabela William Snyder Melanie Soderstrom Hyun-joo Song Rex Sprouse Jeffrey Steele Daniel Swingley Kristen Syrett Anne-Michelle Tessier Rosalind Thornton Ruth Tincoff Almeida Jacqueline Toribio John Trueswell Ianthi Maria Tsimpli Sigal Uziel-karl Elena Valenzuela

Virginia Valian

Daniel Valois
Angeliek van Hout
Spyridoula Varlokosta
Marilyn Vihman
Laura Wagner
Lydia White
Charles Yang
Hanako Yoshida
W. Quin Yow
Chen Yu
Daniel Yurovsky
Tania Zamuner
Andrea Zukowski
Kie Zuraw
Barbara Zurer Pearson

General Information

Registration and Session Locations

All sessions will be held in the George Sherman Union located at 775 Commonwealth Avenue. Registration will take place in the second floor lobby (see diagram on the back of the front cover). You may register on Friday starting at 8:00 AM, or Saturday and Sunday starting at 8:30 AM. Please register before attending any sessions. We rely greatly upon registration fees to cover the costs of the conference. We appreciate your willingness to wear your name badge; you may be asked to present it before entering sessions.

Plenary Events

- The **Keynote Address** will be delivered by Elena Lieven on Friday at 7:45 PM in Metcalf Large. Poster Session I (unattended) will immediately follow in Metcalf Large. Desserts will be served in the Ziskind Lounge.
- The **Lunchtime Symposium** entitled "Resolving A Learnability Paradox in the Acquisition of Verb Argument Structure: What have we learned in the last 25 years" with presentations from Ben Ambridge, Adele Goldberg, Joshua Hartshorne, Jesse Snedeker, and Steven Pinker will be held on Saturday at 12:15 PM in Metcalf Large.
- The **Closing Symposium** entitled "A new approach to language learning: filtering through the processor" with presentations from Helen Goodluck, Lyn Frazier, and Colin Phillips will be held on Sunday at 11:00 AM in Metcalf Large.

Poster Sessions

- **Poster Session I:** On Friday, 40 posters will be on display in Metcalf Large. There will be one attended Poster Session at 3:00 PM, and an additional unattended session at 9:00 PM. Refreshments will be available at both sessions.
- **Poster Session II:** On Saturday, 39 posters will be on display in Metcalf Large. There will be one attended Poster Session at 3:15 PM, and an additional unattended session at 6:00 PM. Refreshments will be available at both sessions.

Special Sessions

- A special session entitled "What's Hot and How to Apply" will be facilitated by Lisa Freund (NIH) and Joan Maling (NSF) on Saturday at 8:00 AM in the Conference Auditorium.
- The Society for Language Development will hold its annual symposium, "Mechanisms of Word Learning," on Thursday,
 October 31st at 1:00 PM in Metcalf Large, with a reception following immediately in Metcalf Small. Speakers include Luca
 Bonatti, Michael Frank, and John Trueswell.
- NSF and NIH consultation hours will be held in the Ziskind Lounge on Saturday from 9:30 AM to 12:00 PM and from 2:30 to 5:00 PM.
- A BUCLD Business Meeting will be held on Friday from 12:30 to 1:45 PM in the Conference Auditorium.

Additional Information

- Parking is available at the Granby Lot (665 Commonwealth Avenue) for \$12 per day on Thursday and Friday and \$10 per day on Saturday and Sunday, with overflow parking in the Warren Towers Garage (700 Commonwealth Avenue) if necessary. Please mention that you are with BUCLD, if asked. Free on-street parking is also available on Sunday. More information can be found at http://www.bu.edu/parking.
- **Temporary luggage storage space** is available next to the registration desk. The area will be staffed during conference sessions only. Although a student volunteer will be present in the registration area, participants leave their luggage at their own risk.

General Information

- A nursing room will be available for nursing mothers in GSU 320-321.
- Wireless internet access is available throughout the GSU using the BU Guest (unencrypted) network. Information for connecting is given in the box below.
- **Refreshments** will be served in Ziskind Lounge before the morning sessions and during breaks, and during poster sessions. A list of local restaurants is available at the information table. The Food Court on the ground floor of the George Sherman Union offers a wide selection, but is cash-only.
- The 39th Annual Boston University Conference on Language Development is tentatively scheduled for November 7-9, 2014, at Boston University.

The Registration desk provides the following services:

ASL Interpreters (Please inquire when you arrive) * Lost and Found * Campus Maps * MBTA Maps * General Information

INTERNET INFO

Guest ID: 129391

Account Name: bucld38

NIH/NSF Consultation Hours

Lisa Freund (NIH) and Joan Maling (NSF)

Saturday 9:30 AM - 12:00 PM & 2:30 - 5:00 PM

Schedule at a Glance

Thursday, October 31

1:00 PM - 5:00 PM	Society for Language Development Annual Symposium
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Friday, November 1

8:00 AM	Registration begins
9:00 AM - 5:00 PM	Book exhibits
9:00 AM - 10:30 AM	Talks
10:30 AM - 11:00 AM	Morning break with refreshments
11:00 AM - 12:30 PM	Talks
12:30 PM - 2:00 PM	Lunch break / BUCLD business meeting
2:00 PM - 3:00 PM	Talks
3:00 PM - 4:15 PM	Poster Session I attended with refreshments and afternoon break with refreshments
4:15 PM - 5:45 PM	Talks
5:45 PM - 7:45 PM	Dinner break
7:45 PM - 9:00 PM	Keynote Address
9:00 PM - 9:45 PM	Poster Session I unattended with refreshments

Saturday, November 2

8:30 AM	Registration begins
8:00 AM - 9:00 AM	Funding Symposium
9:00 AM - 10:30 AM	Talks
10:00 AM - 6:00 PM	Book exhibits
10:30 AM - 11:00 PM	Morning break with refreshments
11:00 AM - 12:00 PM	Talks
12:15 PM - 2:15 PM	Lunch Symposium
2:15 PM - 3:15 PM	Talks
3:15 PM - 4:30 PM	Poster Session II attended with refreshments and afternoon break with refreshments
4:30 PM - 5:30 PM	Talks
6:00 PM - 6:45 PM	Poster Session II unattended with refreshments

Sunday, November 3

8:30 AM	Registration begins
9:00 AM - 10:30 AM	Talks
10:30 AM - 11:00 AM	Morning break with refreshments
11:00 AM - 12:45 PM	Closing Symposium

FRIDAY, NOVEMBER 1

Time	Session A (Metcalf Small)	Session B (East Balcony)	Session C (Conference Auditorium)
9:00 - 5:00		BOOK EXHIBIT	
9:00	Scalar inferences in 5-year-olds: the role of alternatives D. Skordos, A. Papafragou	Processing effects on grammar acquisition: Evidence from an artificial language study L. Pozzan, J. Trueswell	A computational model of generalization in phonetic category learning B. Pajak, K. Bicknell, R. Levy
9:30	The partner-specific effect of referential pacts on children's lexical choices B. Koymen, D. Schmerse, E. Lieven, M. Tomasello	Individual differences in L2 sentence processing O. Lee, W. O'Grady, L. Onnis	Role of perceptual similarity in the acquisition of phonological alternations: A biased Maximum Entropy learning model <i>J. White</i>
10:00	Logic and felicity in the face of mental retardation: evidence from linguistic quantification in Williams Syndrome <i>J. Musolino, A. Achimova, B. Landau</i>	Effects of statistical learning on the acquisition of grammatical categories through Qur'anic memorization: A natural experiment <i>M. Zuhurudeen, Y. Huang</i>	Learning from multiple acoustic cues for phoneme acquisition: Infants' input, infants' perception, and neural network simulations <i>T. Benders, P. Boersma</i>
10:30		BREAK (Ziskind Lounge)	
11:00	Speech-processing efficiency is related to statistical learning ability in 16-20-monthold infants <i>J. Lany</i>	Principle C effects are structural, not linear, in 30 month-olds M. Sutton, M. Fetters, J. Lidz	Do Turkish-Dutch bilingual children show memory benefits despite lower linguistic proficiency? E. Blom, A. Küntay, M. Messer, J. Verhagen, P. Leseman
11:30	A cross-linguistic study of the labialcoronal perceptual asymmetry: evidence from Dutch and Japanese infants <i>S. Tsuji, R. Mazuka, A. Cristia, P. Fikkert</i>	Children seem to know Raising: Raising and intervention in child language J. Choe	Is bilectalism similar to bilingualism? An investigation into children's vocabulary and Executive Control skills. K. Antoniou, N. Katsos
12:00	There is no pat in patting: Acquisition of phonological alternations by Englishlearning 12-month-olds M. Sundara, Y. Kim, J. White, A. Chong	The lack of nominative-orientation for a Japanese anaphor zibun in L1 acquisition and its implications <i>T. Sano, H. Shimada, Y. Fujiwara</i>	The performance of internationally-adopted children from China on sentence recall: A detailed analysis A. Delcenserie, F. Genesee
12:30	LUNCH BREAK	/ BUCLD BUSINESS MEETING (Confe	rence Auditorium)
2:00	The Compounding Parameter: New evidence from IPL L. Naigles, K. Guerrera, V. Petroj, J. Riqueros Morantes, D. Lillo-Martin, W. Snyder	Shared book reading: keeping it simple T. Cameron-Faulkner, C. Noble, E. Lieven	Tracking brain responses to morphosyntax: A longitudinal ERP study of novice learners of Spanish A. Gabriele, R. Fiorentino, J. Aleman-Banon, A. Rossomondo
2:30	African American English and the development of tense <i>C. Yang, A. Ellman, J. Legate</i>	Exploring infant engagement and vocabulary development in non-industrial communities – Who's doing what? J. Mastin, P. Vogt	ERP correlates of cue dependence in L2 sentence comprehension D. Tanner, E. Rossi, J. Van Hell
3:00	ATTENDED	POSTER SESSION I (Metcalf Large and Zis	skind Lounge)
4:15	Use of morphosyntactic cues in learning novel transitive verbs by Japanese-speaking 20-month-old children <i>T. Kobayashi, Y. Oshima-Takane</i>	Factivity in three-year-olds' understanding of "know" and "think" R. Dudley, N. Orita, M. Moyer, V. Hacquard, J. Lidz	Spoken language development in native signing children with cochlear implants <i>K. Davidson, D. Lillo-Martin, D. Chen Pichler</i>
4:45	30-month-olds use verb agreement features in online sentence processing <i>C. Lukyanenko, C. Fisher</i>	Fast syntactic mapping W. O'Grady, C. Kim, K. Deen, K. Kim	Phonological memory and phonological acquisition in bimodal bilingual children C. Rebello Cruz, R. Quadros, V. Kozak, D. Chen Pichler, A. Lemos Pizzio
5:15	Revealing early comprehension of subject- verb agreement in Spanish N. Gonzalez-Gomez, L. Hsin, J. Culbertson, I. Barriere, T. Nazzi, G. Legendre	The trouble children haven't got with 'not' W. Philip, A. Westerik	ASL dominant code-blending in the whispering of bimodal bilingual children V. Petroj, K. Guerrera, K. Davidson
5:45	DINNER BREAK		
7:45	KEYNOTE ADDRESS: (Metcalf Large) "Towards a constructivist account of language development: How far have we got?" Elena Lieven (Max Planck Institute for Evolutionary Anthropology / University of Manchester)		
9:00	UNATTENDED POSTER SESSION I (Metcalf Large and Ziskind Lounge)		

SATURDAY, NOVEMBER 2

Time	Session A (Metcalf Small)	Session B (East Balcony)	Session C (Conference Auditorium)
*8:00	NSF/NIH Funding Symposium: What's hot and how to apply (Conference Auditorium)		
10:00 - 6:00			
9:00	The effect of recent L1 exposure on Spanish attrition: An eye-tracking study <i>G. Chamorro</i>	Processing of long-distance dependencies at the syntax-discourse interface: Clitic Left Dislocation in L2 Spanish T. Leal Mendez, R. Slabakova, T. Farmer	Children are more formulaic as they develop <i>E. Quirk, V. Valian</i>
9:30	Rethinking the linguistic threshold hypothesis E. Feinauer, K. Hall-Kenyon, K. Everson	Computational cycles in (second) language processing: cyclic versus noncyclic integration in French M. Black, R. Frimu, A. Panwitz, L. Dekydtspotter, A. Lorente Lapole	The roles of entrenchment, preemption and semantics in the retreat from causative overgeneralisation errors: A combined production and judgment study A. Bidgood, B. Ambridge, J. Pine, C. Rowland, F. Chang
10:00	Comprehension of wh-questions in German- speaking typically developing simultaneous and (early) sequential bilingual children A. Roesch, V. Chondrogianni	Variable binding and coreference in nonnative pronoun resolution <i>C. Felser, H. Trompelt</i>	The roles of semantic fit and statistics in children's retreat from overgeneralizations of verbal un-prefixation: a production study <i>R. Blything, E. Lieven, B. Ambridge</i>
10:30		BREAK (Ziskind Lounge)	
11:00	Case marking as a predictive cue to argument structure in Turkish preschoolers D. Özge, A. Küntay, J. Snedeker	Islands and non-islands in heritage Korean B. Kim, G. Goodall	Effects of early language experience on real- time processing of ASL signs in deaf adults A. Lieberman, A. Borovsky, M. Hatrak, R. Mayberry
11:30	The relation between theory of mind and word order variations in Turkish S. Kacmaz, S. Tek	Past tense productivity in bilingualism and SLI J. Rispens, E. de Bree	Modeling emergence of natural language lexicons R. Richie, C. Yang, M. Coppola
12:15	LUNCH SYMPOSIUM: (Metcalf Large) "Resolving A Learnability Paradox in the Acquisition of Verb Argument Structure: What have we learned in the last 25 years" Ben Ambridge (University of Liverpool) (organizer) Adele Goldberg (Princeton University) Joshua Hartshorne (Massachusetts Institute of Technology) & Jesse Snedeker (Harvard University) Steven Pinker (Harvard University)		zer)
2:15	Three-year-olds use prosody online to constrain syntactic analysis A. Carvalho, I. Dautriche, A. Christophe	Why are some words learned before others? Predictors of lexical production in infants and children learning English J. Snedeker, M. Zeitlin, J. Crawford	Non-similar grammatical gender systems in the mental lexicon: A study of Spanish-German bilinguals R. Klassen, J. Muñoz-Liceras
2:45	Infants' ability to discriminate between statements and questions S. Geffen, T. Mintz	The ins and outs of spatial language: Places, paths and negative spatial prepositions <i>A. Papafragou, J. Viau, B. Landau</i>	Accessing cross language categories in learning a third language P. Piccinini, A. Arvaniti
3:15	ATTENDED POSTER SESSION II (Metcalf Large and Ziskind Lounge)		
4:30	Personal pronoun avoidance in deaf children with autism A. Shield, R. P. Meier The acquisition of relative clauses in Q'anjob'al Mayan A. Gagliardi, P. Mateo Pedro, M. Polinsky Specifying event reference in version of the structure of the second of the		Specifying event reference in verb learning S. Arunachalam, K. Syrett
5:00	Preference for child-directed speech at 12 months is related to Autism diagnostic assignment at ages 2 and 3 in high risk infants R. Paul, E. Simmons, G. McRoberts	Acquisition of Tagalog relative clauses N. Tanaka, W. O'Grady, K. Deen, C. Kim, R. Hattori	Acquisition of conjoined agent intransitive argument structure: A training study C. Noble, E. Lieven
	UNATTENDED POSTER SESSION II (Metcalf Large and Ziskind Lounge)		

SUNDAY, NOVEMBER 3

Time	Session A (Metcalf Small)	Session B (East Balcony)	Session C (Conference Auditorium)
9:00	What pirate stories reveal about children's representation of unaccusatives L. Koring, P. Mak, E. Reuland	Perceptually constrained statistics in toddlers' word learning S. Suanda, S. Foster, L. Smith, C. Yu	Do children outgrow the null subject stage? Pragmatic effects on subject-drop in internationally-adopted children – A longitudinal corpus analysis R. Novogrodsky, Z. Gersten, J. Snedeker
9:30	The role of experience in linking sounds and meaning in language acquisition D. Perszyk, S. Waxman	Active hypothesis testing and cooccurrence tracking work together in cross-situational word learning D. Yurovsky, M. Frank	Null arguments in bimodal bilingualism: Codeblending and (lack of) effects in American Sign Language E. Koulidobrova
10:00	Acoustic characteristics of compound stress in child language A. Athanasopoulou, I. Vogel	Speak for yourself: Simultaneous learning of words and talkers' preferences S. Creel	Clitic omission in Spanish-speaking children: Evaluating the roles of competence and performance <i>V. Mateu</i>
10:30	BREAK (Ziskind Lounge)		
11:00-	CLOSING SYMPOSIUM (Metcalf Large)		
12:45	A new approach to language learning: filtering through the processor		
	Helen Goodluck (University of York) (organizer) Lyn Frazier (University of Massachusetts, Amherst)		
	Colin Phillips (University of Maryland, College Park)		

ALTERNATES

M. Armstrong	Comprehension of belief state intonation in Puerto Rican Spanish (or Friday poster)
R. Bijeljac-Babic, J. Serres, T. Nazzi	Processing of lexical stress at the phonological level in French/stresscontrasted languages 10-month-old bilinguals
T. Gruter, H. Rohde, A. Schafer	The role of discourse-level expectations in non-native speakers' referential choices (or Friday poster)
Y. Huang, A. Kowalski	Baseball bats & butterflies: Context effects of on pragmatic inferencing in adults and children (or Friday poster)
T. Judy, J. Rothman	Persian-Spanish bilingual subject-processing data (or Friday poster)
E. Kelty-Stephen, S. Tek, D. Fein, L. Naigles	Specific effects of joint attention on language development in children with ASD (or Friday poster)
R. Orfitelli, T. Gruter	Transfer of null arguments in adult L2 (or Saturday poster)
E. Shimanskaya, R. Slabakova	Re-assembling objects: a new look at the L2 acquisition of pronominal clitics (or Saturday poster)
F. Smolík	The use of gender information in lexical processing in Czech 23-month-olds: an eyetracking study (or Saturday poster)

Friday, November 1 Metcalf Large and Ziskind Lounge Posters will be attended from 3:00 PM - 4:15 PM and unattended from 9:00 PM - 9:45 PM

Authors	Title
M. Armstrong	Comprehension of belief state intonation in Puerto Rican Spanish (alternate talk)
S. Bello, M. Pirvulescu	The acquisition of direct and indirect object clitics in Quebec French
E. Bennett, Y. Kronrod, N. Feldman	Modeling effects of input variability in phonetic acquisition
T. Bent, E. Atagi	Bilingual children's perception of native- and foreign-accented speech in noise
F. Blanchette, I. Montoya	Using elicited repetition to test copula knowledge in bilingual and monolingual two-year olds
M. Blume, C. Foley, J. Whitlock, S. Flynn, B. Lust	A new data management cybertool supports cross-linguistic collaborative research and student training
C. Chu, U. Minai	Examining the role of theory of mind and executive function in the first language acquisition of demonstratives
J. Crawford, I. Monich	Children's early passives are verbal passives: More evidence from Sesotho
E. Davis	Mental verbs in Nicaraguan Sign Language and the role of language in theory of mind
S. Fan, M. Babel, J. Russell, K. Kinzler	Social influences on children's vocal accommodation
B. Ferguson, S. Waxman	What the [beep]? Infants accept non-speech communicative signals as object labels
I. Gangopadhyay, M. Gross, M. Buac, E. Haebig, M. Davidson	Is there a relationship between domain-general working memory skills and grammatical processing in children?
D. Gibson, T. Berkowitz, S. Melvin, A. Shusterman	Exact understanding of the number "two" in toddlers
K. Gor, A. Lukyanchenko	Lexical access of inflected nouns in L2: What is the role of the inflectional paradigm?
T. Gruter, H. Rohde, A. Schafer	The role of discourse-level expectations in non-native speakers' referential choices (alternate talk)
A. He, A. Wellwood, J. Lidz, A. Williams	Assessing event perception in adults and prelinguistic children: A prelude to syntactic bootstrapping
C. Hilliard, E. O'Neal, J. Plumert, S. Cook	Parents' use of hand gesture to communicate about safety
R. Hoffmeister, R. Novogrodsky, C. Caldwell-Harris, S. Fish, R. Benedict	ASL vocabulary knowledge eliminates the advantage of Deaf parents for English reading comprehension
M. Hrabic, R. Williamson, Ş. Özçalışkan	Does language influence the way children understand gesture-speech combinations?
Y. Huang, A. Kowalski	Baseball bats & butterflies: Context effects of on pragmatic inferencing in adults and children (alternate talk)

Friday, November 1 Metcalf Large and Ziskind Lounge Posters will be attended from 3:00 PM - 4:15 PM and unattended from 9:00 PM - 9:45 PM

Authors	Title	
T. Ionin, E. Grolla, H. Santos, S. Montrul	Plural NP interpretation in third language acquisition of Brazilian Portuguese	
K. Jin, C. Fisher	Early evidence for syntactic bootstrapping: 15-month-olds use sentence structure in verb learning	
A. Johnson, R. Fiorentino, A. Gabriele	An examination of syntactic constraints and the role of individual differences in native and nonnative processing of wh-movement	
T. Judy, J. Rothman	Persian-Spanish bilingual subject-processing data (alternate talk)	
E. Kelty-Stephen, S. Tek, D. Fein, L. Naigles	Specific effects of joint attention on language development in children with ASD	
J. Klassen	Acquisition of English focus prosody: Evidence from native speakers of Spanish	
N. Kolb	Crosslinguistic influence and exposure effects in child second language acquisition	
C. Kurumada	Contextual inferences in comprehension and acquisition of contrastive prosody	
Y. Lin, B. Armstrong, E. Cartmill, L. Gleitman, S. Goldin-Meadow	Perceiving referential intent: Dynamics of reference in parent-child interactions	
K. Miller	Efficiencies in second language sentence processing: Does lexical access matter?	
K. Miller, M. Ramos	Subsegmental evidence for the acquisition of variable rules in young children	
J. Montag, M. MacDonald	Emergence of literacy predicts children's production of relative clauses	
P. Requena, A. Roman- Hernandez, K. Miller	The role of the Spanish copula verbs in preschoolers' interpretation of novel adjectives	
M. Rosner, C. Bannard, D. Matthews	3-year-old's referring expressions balance familiarity with informativity	
A. Seidl, R. Tincoff, C. Baker, A. Cristia	Why the body comes first: Effects of touch on infants' word finding	
N. Shin, D. Erker	The acquisition of a variable grammar: Evidence from Spanish morphosyntax	
J. Thorson, J. Morgan	Directing toddler attention: Intonation contours and information structure	
Y. Wang, A. Seidl	The learnability of phonotactic restrictions in onset and coda positions	
J. Willits, M. Jones	What are the units in statistical learning? The importance of inflectional morphology for learning about verb meaning and verb semantics.	
K. Woodard, L. Pozzan, J. Trueswell	Unraveling the kindergarten-path effect: Cognitive and linguistic predictors of children's language processing abilities	

Saturday, November 2 Metcalf Large and Ziskind Lounge Posters will be attended from 3:15 PM - 4:30 PM and unattended from 7:00 PM - 7:45 PM

Authors	Title
A. Bentea, S. Durrleman-Tame	Children don't like restrictions: Evidence from the acquisition of object A'-dependencies in French
V. Bláhová, F. Smolík	Early comprehension of verb number morphemes in Czech: evidence for a pragmatic account
C. Bouchon, T. Nazzi	At 5 months, vowels weigh more than consonants for own name recognition in French-learning infants
C. Christodoulou, K. Grohmann	Morphosyntactic issues in the development of Cypriot Greek individuals with Down Syndrome
C. Contemori, T. Marinis	Online processing of English Which-questions by children and adults: a visual world study
R. Eitan, J. Schaeffer	Ditransitive complement orders in Hebrew adult and child language
M. Flaherty, S. Goldin-Meadow, A. Senghas, M. Coppola, L. Gleitman	Animacy and verb classes in Nicaraguan Sign Language
M. Graziano, M. Gullberg	Do language learners (and competent speakers) gesture during expressive difficulties?
M. Gulian, C. Junge, C. Levelt	Two-year-olds distinguish snakes from nakes, but not trains from tains
A. Gurel, S. Uygun	A psycholinguistic account of morphological variability in the second language
A. H. Romøren, A. Chen	Silence is golden: 4-5 year-olds vary pause length to highlight focus in Dutch
Y. Haendler, F. Adani	The processing of German passives: A study with 4- and 5-year-old children
G. Jacob, K. Katsika, M. Calley, L. Martinek, N. Family, S. Allen	The role of surface and global syntactic structure in cross-linguistic priming
B. Keij, R. Kager	Early acquisition of word stress: a cross-linguistic infant study
E. Krikhaar, B. Maassen, P. Fikkert	Patterns in lexical and morpho-syntactic acquisition as precursors or predictors of developmental dyslexia in Dutch at-risk children
M. Laguardia, C. Name, R. Shi	Sensitivity to non-adjacent dependencies and grammatical category relations in 11-month-old infants
S. Mcknight, A. Theakston, E. Lieven	Children's my-for-I errors: A corpus analysis
M. Molnar, M. Pena, I. Quinones, M. Baart, C. Caballero, M. Carreiras	Monolingual and bilingual infants follow different developmental patterns in neural specialization of native speech processing
V. Moscati, L. Zhan, P. Zhou	Reasoning on possibilities – an eye tracking study on modal knowledge

Saturday, November 2 Metcalf Large and Ziskind Lounge Posters will be attended from 3:15 PM - 4:30 PM and from 7:00 PM - 7:45 PM

Authors	Title
R. Orfitelli, T. Gruter	Transfer of null arguments in adult L2 (alternate talk)
G. Ortega, I. Zwitserlood, B. Sümer, A. Özyürek	Bias for action over shape in learning sign-referent links: Evidence from Turkish Sign Language (TİD)
D. Pascual y Cabo	If not attrition or incomplete acquisition then what?: Back to the basics of the input in heritage speaker bilingualism
K. Read	Preschoolers' use of rhyming features to learn the names of novel creatures: Rhyme, pausing and prediction in vocabulary acquisition
K. Sekine, S. Kita	Children's comprehension of cohesive use of space by gestures accompanying spoken discourse
E. Shimanskaya, R. Slabakova	Re-assembling objects: a new look at the L2 acquisition of pronominal clitics (alternate talk)
Y. Shin	A new look at determiners in early grammar: Phrasal quantifiers
F. Smolík	The use of gender information in lexical processing in Czech 23-month-olds: an eyetracking study (alternate talk)
M. Stegenwallner-Schütz, F. Adani	Processing spatial statements in children with SLI: Language deficit, visual attention deficit or both?
Y. Su, L. Su	Interpretation of logical words in Mandarin-speaking children with and without Autism Spectrum Disorders: Comparing knowledge of semantics and pragmatics
J. Sullivan, D. Barner	Preschoolers use relevance inferences to learn new words
A. Takeda, C. Kim	The influence of intervening NP type on long distance dependencies in L2 English
M. van Heugten, A. Christophe	The role of speaker reliability in toddlers' syntactic processing
K. Wagner, D. Storage, K. Dobkins, D. Barner	Children's acquisition of subsective and intersective adjectives
K. White, R. Suresh	Simultaneous learning of competing phonotactic constraints
C. Wilsenach	Phonological processing and literacy in Northern Sotho
A. Woollams, G. Krajewski, S. Keeble, A. Theakston	Prior discourse effects in the production of the English past tense – the role of priming in children's errors
Z. Zhang, R. Shi, A. LI	Grammatical categorization of nouns and verbs in Mandarin-learning infants
P. Zhou, S. Crain, L. Zhan	Anticipatory eye movements in children's processing of grammatical aspect

Scalar inferences in 5-year-olds: the role of alternatives

Dimitrios Skordos, University of Delaware Anna Papafragou, University of Delaware

Children have difficulty generating scalar implicatures (SIs; "Some elephants have trunks" -> Not all elephants have trunks). Part of this difficulty lies with generating stronger scalar alternatives (e.g., all when hearing some). It remains unclear how the accessibility of lexical alternatives helps children compute SIs. One possibility is that this happens through a pragmatic process integrating lexical alternatives into the conversational goal. Another possibility is that scalar alternatives trigger a shallow, mutual-exclusivity computation (some -> 'not all') leading to SIs without considering the conversational goal. Here we test these two possibilities in 5-year-olds using an Acceptability Judgment Task. We conclude that the presence of the stronger alternative (e.g., all) is not sufficient to facilitate SIs in children, unless it is relevant to the conversational goal. Crucially, children (unlike adults) cannot flexibly switch conversational goals. We argue that prior demonstrations of the potency of scalar alternatives involved stable, specific conversational goals.

Session B--East Balcony

Processing effects on grammar acquisition: Evidence from an artificial language study

Lucia Pozzan, University of Pennsylvania John Trueswell, University of Pennsylvania

To acquire a language, learners must first be able to apply a meaningful analysis to the linguistic input. Here we explore how sentence parsing limitations, in particular difficulties revising initial syntactic/semantic commitments during comprehension, shape learners' ability to acquire morphological cues to argument structure. Results from a three-day artificiallanguage learning experiment with adult participants show that both comprehension and production of morphology are delayed when morphological cues to argument structure appear at the end, rather than at the beginning, of sentences, in otherwise identical grammatical systems. This suggest that real-time processing constraints impact acquisition; morphological cues that guide are easier to learn than cues that revise interpretation. Parallel performance in production and comprehension indicates that parsing constraints affect grammatical acquisition, not just real-time commitments. Properties of the linguistic system (e.g., ordering of cues within a sentence) interact with the properties of the cognitive system (conflict-resolution) and together affect language acquisition.

Session C--Conference Auditorium

A computational model of generalization in phonetic category learning

Bozena Pajak, University of Rochester Klinton Bicknell, University of California - San Diego Roger Levy, University of California - San Diego

Computational work in the past decade has produced several models accounting for phonetic category learning from distributional and lexical cues. However, there have been no computational proposals for how people might use another powerful learning mechanism: generalization from learned to analogous distinctions (e.g., from /b/-/p/ to /g/-/k/). Here, we present a new simple model of generalization in phonetic category learning, formalized in a hierarchical Bayesian framework. The model captures our proposal that linguistic knowledge includes the possibility that category types in a language (such as voiced and voiceless) can be shared across sound classes (such as labial and velar), thus naturally leading to generalization. We present two sets of simulations that reproduce key features of human performance. We argue that the model is applicable to both infant and adult learning, and discuss future research implementing the natural predictions this framework makes for the native-language influence on second-language learning.

Notes

The partner-specific effect of referential pacts on children's lexical choices

Bahar Koymen, Max Planck Institute for Evolutionary Anthropology

Daniel Schmerse, Max Planck Institute for Evolutionary
Anthropology

Elena Lieven, Max Planck Institute for Evolutionary Anthropology, University of Manchester Michael Tomasello, Max Planck Institute for Evolutionary Anthropology

Two studies investigated how peers establish a "referential pact" to call something, for example, a pony versus a horse (both equally felicitous). In Study 1, pairs of 4- and 6-year-old German-speaking peers established a referential pact for an artifact, e.g. man's shoe, in a referential communication task. Six-year-olds, but not 4-year-olds, continued to use these same expressions with the same partner (even when they were over-informative), but shifted to simpler expressions, e.g. shoe, with a new partner. In Study 2, 4-year-old children were successful in establishing such partner-specific referential pacts with a peer when using a proper name. These results suggest that even preschool children appreciate something of the conventional nature of linguistic expressions, with significant flexibility emerging between ages 4 and 6.

Session B--East Balcony

Individual differences in L2 sentence processing

On-Soon Lee, University of Hawaii - Manoa Luca Onnis, Nanyang Technological University William O'Grady, University of Hawaii - Manoa

This study reports a statistically significant correlation between individuals' ability to learn an artificial grammar involving nonadjacent dependencies and their ability to process English relative clauses (RCs). Results show a significant difference in comprehension accuracy between advanced L2 learners with high learning scores and those with low learning scores. In a linear regression analysis, the former group were similar to native speakers in showing better comprehension of all both subject and object RCs. These findings indicate that success on the nonadjacent dependency learning task correlates with variation in RC processing ability. They also highlight the relevance of individual differences in statistical learning ability for L2 sentence processing.

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Session C--Conference Auditorium

Role of perceptual similarity in the acquisition of phonological alternations: A biased Maximum Entropy learning model

James White, University of Ottawa

The question of whether phonetic similarity plays a role during phonological learning has been of great interest in the literature. To investigate this question, I implement a Maximum Entropy learning model (e.g., Goldwater & Johnson, 2003) containing traditional OT-style markedness constraints (Prince & Smolensky 1993/2004), but a more powerful set of *MAP outputoutput correspondence constraints (Zuraw, 2007). The *MAP constraints can apply variable penalties to correspondences between different pairs of segments. Predictions from three different versions of the model were compared to results from artificial language learning experiments. One version contained a substantive bias, implemented via the model's prior, which assigned greater penalties to alternations between perceptually dissimilar sounds. The second version had a general bias disfavoring any alternations (regardless of similarity), and the third had no such bias. The model with a substantive bias based on perceptual similarity outperformed each of the two models without a substantive bias.

Logic and felicity in the face of mental retardation: Evidence from linguistic quantification in Williams Syndrome

> Julien Musolino, Rutgers University Asya Achimova, Rutgers University Barbara Landau, Johns Hopkins University

We test the predictions of two competing views regarding the nature of linguistic abilities in individuals with Williams Syndrome (WS): the neuroconstructivist view, according to which knowledge of grammar and semantics in WS is impaired (Thomas and Karmiloff-Smith, 2003), and the intact grammar view (Clahsen and Almazan, 1998) which claims that knowledge of core semantic principles in WS is indistinguishable from that of typically developing individuals (Musolino and Landau, 2012). We examine knowledge of the abstract properties associated with the use of English quantifiers (e.g., some, all), as well as their logical and pragmatic consequences. The analysis revealed that individuals with WS did not differ from MA in the Pragmatics condition. In the Entailment condition, WS significantly outperformed MA and did not differ from adults. These results support the intact grammar view. Broader implications of these findings for the relevance of WS to the study of cognitive architecture and development are discussed.

Session B--East Balcony

Effects of statistical learning on the acquisition of grammatical categories through Qur'anic memorization: A natural experiment

Manaar Zuhurudeen, University of Maryland - College Park Yi Ting Huang, University of Maryland - College Park

Previous research has demonstrated statistical learning using brief artificial language tasks. However, it is unclear how these effects extend to cases where learners are exposed only to statistical properties for several years. This is the situation facing non-Arabic-speaking Muslims habitually memorizing the Qur'an. These contexts provide statistical regularities of the language but minimal information about its semantics. To examine how this experience influences the acquisition of Arabic grammar, this study presented memorizers and non-memorizers with grammatical phrases (high transitional probabilities) and examined generalizations to novel phrases. Higher accuracy was found in memorizers compared to non-memorizers, with no effect of classroom experience. Accuracy was also correlated with age of first exposure to Arabic. These results demonstrate that extended exposure to Arabic facilitates the acquisition of grammar, even in the absence of semantic cues. They also suggest that earlier exposure to the statistical properties of a language may promote more effective learning.

Session C--Conference Auditorium

Learning from multiple acoustic cues for phoneme acquisition: Infants' input, infants' perception, and neural network simulations

Titia Benders, Radboud University Nijmegen, University of Amsterdam

Paul Boersma, University of Amsterdam

Most current theories on infants' speech perception assume that distributional learning underlies infants' acquisition of language-specic phoneme acquisition (Werker & Curtin, 2005; Kuhl et al., 2008). If this is indeed the case, it must be possible to directly explain infants' perception of native-language speech sounds from the distributions in their input. We test this predicted relation for the Dutch vowels /a/ and /a:/, which differ in duration and vowel quality (F2). Three interrelated studies were conducted on

- 1) the distribution of /a/and/a:/in Dutch infant-directed speech;
- 2) Dutch infants' discrimination of /a/ and /a:/; and
- 3) the capacities of a neural network model (Boersma et al., in prep) to acquire the /q/-/a:/ contrast from Dutch infants' input and replicate Dutch infants' perception.

The results show that infants' perception of nativelanguage speech sounds can be understood as a direct result of distributional learning from multiple cues.

Notes

Speech-processing efficiency is related to statistical learning ability in 16-20-month-old infants

Jill Lany, University of Notre Dame

Children who encode speech rapidly, an ability referred to as speech-processing efficiency (SPE), also learn language more successfully. Critically, it is unknown how SPE supports language development, as efficiently encoding speech is not equivalent to learning language structure. The current experiment tested the hypothesis that SPE is related to statistical learning ability in infants. SPE was assessed by testing how quickly infants, aged 16- to 20-months, found the referents of familiar words. Statistical-learning ability was assessed with an artificial language incorporating statistical cues previously shown to facilitate learning word-referent mappings. Vocabulary size and grammatical development were assessed with the MacArthur-Bates Communicative Development Inventory (MCDI). Infants' who processed speech more rapidly performed better on the statistical-learning task, even when controlling for MCDI scores and age. These findings provide insight into the relationship between SPE and language development: Infants who encode language efficiently are better able to learn its statistical structure.

Session B--East Balcony

Principle C effects are structural, not linear, in 30 month-olds

Megan Sutton, University of Maryland - College Park Michael Fetters, University of Maryland - College Park Jeffrey Lidz, University of Maryland - College Park

Previous research has shown that by 30 months children begin to show adult-like interpretations in Principle C contexts, correctly interpreting sentences like "she's patting Katie" as non-reflexive. Here, we argue that this behavior is motivated by accurate grammatical knowledge based on structural constraints and not a linear constraint against backwards anaphora in general. We show that children's behavioral patterns at 30 months cannot be accurately captured by attributing alternate interpretive strategies, suggesting that children appropriately represent Principle C by 30 months.

Notes

Session C--Conference Auditorium

Do Turkish-Dutch bilingual children show memory benefits despite lower linguistic proficiency?

Elma Blom, University of Utrecht Aylin Küntay, Koç University, Utrecht University Mariëlle Messer, University of Utrecht Josje Verhagen, University of Utrecht Paul Leseman, University of Utrecht

Simultaneous bilingual children outperform monolinguals on tasks that require inhibitory control and the allocation of working memory resources, especially those involving executive control processes, not merely storage. However, studies failed to show advantages for sequential bilinguals who often have limited proficiency in one (or both) of their languages. For this study, we investigated whether bilingual children's cognitive advantages are related to linguistic proficiency, in a sample of Turkish-Dutch bilingual children with varying levels of Turkish and Dutch. We expected (1) bilinguals to outperform monolinguals on working memory (processing) tasks, but not short-term memory (storage only) tasks, and (2) relationships between bilingual proficiency and working memory. Despite their lower linguistic proficiency, Turkish-Dutch bilingual children outperformed Dutch monolinguals on memory tasks. Bilingual advantages were most clear for verbal and visuospatial processing. Memory performance in the bilingual group was related to level of bilingual proficiency.

A cross-linguistic study of the labial-coronal perceptual asymmetry: Evidence from Dutch and Japanese infants

Sho Tsuji, Radboud University Nijmegen, International Max Planck Research School for Language Sciences Reiko Mazuka, RIKEN Brain Science Institute, Duke University

> Alejandrina Cristia, CNRS Paula Fikkert, Radboud University Nijmegen

Coronals have a special status in many phonological systems. This special status affects speech processing in the form of a labial-coronal perceptual asymmetry, but whether or not this asymmetry is based on language-general properties or arises from language-specific experience has been a matter of debate. The current study provides evidence for a languageindependent, pre-lexical basis of the asymmetry in 4- to 6-month-old Dutch and Japanese infants. It further suggests that the acquisition of the native language phonology shapes perception beyond pre-lexical biases, with pre-lexical biases declining when coronals do not behave special in the native language: Eighteen-month-old Dutch children continue to show the asymmetry in a word learning task, while Japanese children do not. Overall, this work suggests a role of prelexical, language-independent factors, as well as languagespecific effects on the asymmetry. These findings suggest that language may both shape and be shaped by phonological biases.

Session B--East Balcony

Children seem to know Raising: Raising and intervention in child language

Jinsun Choe, Sogang University

This research investigates English-speaking children's comprehension of subject-to-subject raising - The boy seems to the girl to be happy, in which the NP 'the boy' is semantically linked to the VP to be happy in the embedded clause, but is syntactically realized as the subject of the matrix clause. One corpus study and five experiments show that children's difficulty with such sentences stems not from a grammatical deficit (as is often claimed), but from a performance limitation involving intervention effects, an explanation which draws on discourse-based interference in adult-sentence processing (Gibson, 2000). Not only do the findings of this research contribute to research on the acquisition of raising, they also add to the growing body of literature demonstrating the presence of intervention effects in structures involving a broader range of dependencies, suggesting that this phenomenon is not limited to a single structure.

Session C--Conference Auditorium

Is bilectalism similar to bilingualism? An investigation into children's vocabulary and Executive Control skills.

Kyriakos Antoniou, Cambridge University Kleanthes Grohmann, University of Cyprus, Cyprus Acquisition Team (CAT)

> Maria Cambanaros, Cyprus Acquisition Team Napoleon Katsos, Cambridge University

Research on bilingual children's linguistic and cognitive development has by now revealed two major trends. First, bilingualism has been found to have a negative effect on some aspects of children's linguistic performance. Contrary to this pattern, recent research has reported beneficial effects of bilingualism for children's executive control (EC) abilities. In this, study we aimed to investigate whether bilectalism, the linguistic situation of speaking two different varieties of the same language, has a similar effect on children's language and EC skills. Performance in (1) a battery of EC tasks and (2) a vocabulary test was compared in three groups: bilectal, multilingual and monolingual children. We found no differences between multilinguals and bilectals for any of the EC measures used. Bilectals (and multilinguals, but only marginally so) were significantly better than monolinguals in a measure of task-switching. Bilectals also showed the typical deficit in their vocabulary skills when compared to monolinguals.

Notes

There is no pat in patting: Acquisition of phonological alternations by English-learning 12-month-olds

Megha Sundara, University of California - Los Angeles YunJung Kim, University of California - Los Angeles James White, University of Ottawa Adam J. Chong, University of California - Los Angeles

Phonemes have variant surface forms depending on context. For instance, in American English, the [t] in pat [pæt] and the [d] in pad [pæd] are realized with a tap [Γ] when the – ing morpheme is attached [pærin]. We know that 12-montholds can use distributional information to learn phonological alternations (White et al., 2008). We tested whether, additionally, they are biased to favor alternations between perceptually similar segments (Steriade, 2001/2008). Using the Headturn Preference Procedure we show that despite the greater frequency of verbs ending in –ting compared to – ding, infants successfully map taps to the perceptually-similar [d], not the dissimilar [t]. Thus, distributional differences alone cannot account for infants' learning of alternations. Instead, distributional learning is constrained by infants' preference for the alternation of perceptually similar segments. Our results also show that 12-month-old English-learning infant scan segment the frequently occurring functional morpheme -ing from the verb root, and track its distribution.

Session B--East Balcony

The lack of nominative-orientation for a Japanese anaphor zibun in L1 acquisition and its implications

Tetsuya Sano, Meiji Gakuin University Hiroyuki Shimada, Meiji Gakuin University Yoshiki Fujiwara, Meiji Gakuin University

In this paper, we show that Japanese-speaking children's anaphora with a reflexive anaphor zibun is NOT nominativeoriented, although the child-directed speech from adults do not seem to include counterexamples. Our finding suggests that a nominative-orientation for zibun is excluded from possible grammars due to some guidance by innateness. It also implies that children around age 5 are adult-like regarding Case checking for nominative objects; T, which checks nominative Case, can enter into Agree relation with a direct object, which is within a VP domain lower than a vP, even when children are around age 5. This raises a question for Wexler's (2004) Universal Phase Requirement (UPR), which states that young children are not able to conduct syntactic operations (e.g., Agree) across a vP, which is an absolute phase boundary for children until age 7 (Hirsch and Wexler 2007), no matter the vP lacks External Argument or accusative Case.

Notes

Session C--Conference Auditorium

The performance of internationally-adopted children from China on sentence recall: A detailed analysis

Audrey Delcenserie, McGill University Fred Genesee, McGill University

IA children from China (M=10;8 years), adopted before 24 months of age, were compared to non-adopted Frenchspeaking children matched on age, gender, and SES, on tests of sentence recall, vocabulary, grammar, verbal short-term (STM), working (WM), and long-term memory. The performance of each group on sentence recall was analyzed and compared in detail with respect to overall accuracy, types of errors, and linguistic categories of their errors. The IA children performed significantly worse than the controls on overall accuracy; they made significantly more errors of all types (transpositions, omissions, insertions, and substitutions), and they omitted significantly more articles, clitics, and pronouns. Regression analyses suggest that adoptees' verbal STM and WM abilities predict their overall performance on sentence recall and that their performance on sentence recall might be due to verbal memory difficulties. Results also indicate that they experience morpho-syntactic difficulties that have been found in other populations, such as children with SLI (Paradis, 2004).

The Compounding Parameter: New evidence from IPL

Letitia Naigles, University of Connecticut - Storrs
Katelyn Guerrera, State University of New York at New Paltz
Vanessa Petroj, University of Connecticut - Storrs
Jose Riqueros Morantes, University of Connecticut - Storrs
Diane Lillo-Martin, University of Connecticut - Storrs
William Snyder, University of Connecticut - Storrs

The Compounding Parameter ([+/-TCP]; Snyder 1995, 2011) captures cross-linguistic variation in availability of "creative" N-N compounding (NNC, e.g. zoo book), and [+TCP] may be a "prerequisite" for separable-particle constructions (pull the lid off). Here we test TCP with Intermodal Preferential Looking (Hirsh-Pasek & Golinkoff, 1996). Children (N=28, 23-38 months, mean 31.35) saw side-by-side images for NNC that contrasted (e.g.) a hand-shaped chair vs. a hand on a chair, as a match for hand chair; and for V-Particle items, saw videos contrasting two motion events. Children who looked longer at the matching video for particles looked longer at the NNC match (r=.390, p<.05), and looked more quickly to the NNC match (r=-.462, p=.037). Those who looked longer at the NNC match looked more quickly to the particles match (r=-.404, p<.05). Such facilitation was found only between particles and compounds. The results thus provide a new type of support for TCP.

Session B--East Balcony

Shared book reading: keeping it simple

Thea Cameron-Faulkner, University of Manchester Claire Noble, University of Manchester Elena Lieven, Max Planck Institute for Evolutionary Anthropology, University of Manchester

In the current study, we investigated the grammatical characteristics associated with reading books to young children. In Study 1, we analysed the grammatical profile of preschool picture books. 75% of the books (referred to as SVheavy) contained significantly more subject-predicate and complex constructions than everyday child-directed speech (CDS), while 25% of the books contained significantly less canonical and complex utterances than CDS (referred to in our study as SV-light). In Study 2, we investigated the effect of book type (i.e. SV-heavy/light) on the grammatical characteristics of caregiver speech during the book reading activity. We found that the SV-light book generated more subject-predicate constructions than either the SVheavy book or free play CDS, and that both books generated more complex constructions than free play CDS. Our findings suggest that shared book reading can be viewed as a form of enriched linguistic input to young children.

Session C--Conference Auditorium

Tracking brain responses to morphosyntax: A longitudinal ERP study of novice learners of Spanish

Alison Gabriele, University of Kansas Robert Fiorentino, University of Kansas Jose Aleman-Banon, University of Kansas Amy Rossomondo, University of Kansas

We examine the role of the L1 and individual differences in the processing of gender and number agreement in Englishspeaking learners of Spanish, using ERPs to track development at three points during the first year of university Spanish. The experiment targeted number agreement on verbs, which is similar in Spanish and English, number agreement on adjectives, a context in which agreement is not realized in English, and gender agreement on adjectives, which is unique to Spanish. Learners were also tested on a range of verbal and nonverbal cognitive measures. The results showed that sensitivity emerges only for number, but emerges both in contexts where English does and does not instantiate agreement, suggesting that at early stages of development, processing is modulated by the similarity in the inventory of features in the L1/L2. Our results also suggest that verbal aptitude is a strong and consistent predictor of sensitivity to agreement overall.

Notes

African American English and the development of tense

Charles Yang, University of Pennsylvania Allison Ellman, University of Pennsylvania Julie Legate, University of Pennsylvania

Mainstream American English and African American English (AAE) have different marking systems. AAE is well known for its missing copula and third person singular agreement, but the rates of past tense marking do not differ significantly between the dialects. We show that children's rates of past tense usage across dialects and socioeconomic background show no correlation with the amount of past tense in the adult input, but correlate strongly with the rates of overall tense marking (Legate & Yang 2007, Lg. Acq.) This suggests that the morphosyntax of (past) tense is not learned piecemeal, but reflects an abstract and overarching property of the language.

Session B--East Balcony

Exploring infant engagement and vocabulary development in non-industrial communities – Who's doing what?

J. Douglas Mastin, Tilburg University Paul Vogt, Tilburg University

A recent analysis of infant engagement in urban and rural nonindustrial prototypical learning environments showed dyadic Persons engagement had significant positive relations to infants' reported vocabulary in both sites, whereas Coordinated Joint Attention had conflicting significant correlations. To provide further clarification, a deeper analysis of these infants' social networks, as well as the amounts of communicative input contained in social interactions, was undertaken. Results of communication partner distributions show that engagement with rural caregivers decreased over the second year of life, and is compensated for by a corresponding increase in sibling interactions, whereas urban caregivers are continuously the most frequent interactant. In regard to speech, gestures, and co-speech gestures, all three occurred significantly more in the urban area. These results imply that the caregiving network of rural non-industrial infants is more variable, and less child-centered, than urban non-industrial infants. In turn, differences in communicative input, and from whom, help explain significant differences in vocabulary development.

Notes	

Session C--Conference Auditorium

ERP correlates of cue dependence in L2 sentence comprehension

Darren Tanner, University of Illinois - Urbana-Champaign Eleonora Rossi, Pennsylvania State University Janet Van Hell, Pennsylvania State University

We investigated how L2 speakers weigh semantic and morphosyntactic cues to thematic role assignment during sentence comprehension using ERPs. L1 Spanish speakers of L2 English read sentences that were well-formed, syntactically anomalous, semantically anomalous, or contained a thematic role reversal signaled by both semantic and morphosyntactic cues. Previous research in English monolinguals has shown that these semantic role reversals elicit a robust P600effect, indicating that the syntactic representation becomes vulnerable to reanalysis in the face of a strong semantic attraction between the subject noun and verb. However, in addition to showing standard N400- and P600- effects in the semantic and syntactic conditions, results in the conflict condition showed only an N400-effect in our L2 users. This suggests not only that bilinguals attend to L2 morphosyntactic information, but also that the strength of the syntactic cue can 'win' over lexical-semantic information, leading to vulnerability and reanalysis of the semantic representation.

Use of morphosyntactic cues in learning novel transitive verbs by Japanese-speaking 20-month-old children

Tessei Kobayashi, NTT Communication Science Laboratories Yuriko Oshima-Takane, McGill University

The present study investigated whether 20-month-old Japanese learners can use morphosyntactic cues to map novel transitive verbs onto causative actions in a habituation switch task where both action and object interpretations are equally possible. Thirty-two children were habituated to two cartoon-animated movies in which a bunny engaged in a causative action toward an object. Each event was paired with a novel word (moke/seta) embedded in a transitive verb sentence frame with a null subject (e.g., "omocha o moke-shiteru yo", meaning "ø is moke-ing (a) toy"). At test, they looked significantly longer at the action switch trial (but not at the object switch trial) than at the baseline. These findings demonstrate that Japanese learners can map novel transitive verbs onto causative actions using morphosyntactic cues available in the input by 20 months, providing evidence that 20-month-olds' representations of transitive verb morphosyntactic cues are strong enough to guide verb learning.

Session B--East Balcony

Factivity in three-year-olds' understanding of "know" and "think"

Rachel Dudley, University of Maryland - College Park Naho Orita, University of Maryland - College Park Morgan Moyer, University of Maryland - College Park Valentine Hacquard, University of Maryland - College Park Jeffrey Lidz, University of Maryland - College Park

"Think" and "know" both express a belief of their subject, but only "know" is factive in that it further presupposes the truth of that belief. Previous research indicates that children do not distinguish the two verbs until at least four years of age. In this study, we investigated three-year-olds' understanding of the two verbs by testing whether they differentiate them based on factivity, in particular under negation, an environment diagnostic of factivity. Our data suggests that, as a group, three-year-olds do distinguish these two verbs. All three-year-olds seem to have a mature understanding of "think" under negation. They, however, split into two groups in their understanding of "know", with 40% recognizing its factivity, and the rest not. Thus, children never treat "think" as a factive, but some may start out with a non-factive representation of "know", raising the question of how they come to acquire an adult-like representation.

Session C--Conference Auditorium

Spoken language development in native signing children with cochlear implants

Kathryn Davidson, Yale University Diane Lillo-Martin, University of Connecticut - Storrs Deborah Chen Pichler, Gallaudet University

Bilingualism is common throughout the world, and bilingual children regularly develop into fluently bilingual adults. In contrast, children with cochlear implants are frequently encouraged to focus on a spoken language to the exclusion of sign language. Here we investigate the spoken English language skills of five children with CIs who also have Deaf signing parents, and so receive exposure to a full natural sign language (ASL) from birth, in addition to spoken English after implantation. We compare their language skills with hearing ASL/English bilingual children of Deaf parents. Our results show comparable English scores for the CI and hearing groups on a variety of standardized language measures, exceeding previously reported scores for children with CIs with the same age of implantation and years of CI use. We conclude that natural sign language input does no harm and may mitigate negative effects of early auditory deprivation for spoken language development.

Notes

30-month-olds use verb agreement features in online sentence processing

Cynthia Lukyanenko, University of Illinois - Urbana-Champaign

Cynthia Fisher, University of Illinois - Urbana-Champaign

Children produce agreeing verb-forms long before they can use those forms alone to determine subject number in offline comprehension tasks. This suggests agreement is learned primarily as a syntactic dependency, and does not readily shoulder asemantic burden. We tested 30-month-olds' use of subject-verb agreement in an online comprehension task that taps knowledge of the predictive syntactic dependency between the verb-form and features of its subject. Children were faster and more likely to shift their gaze from a distractor picture to the named target when the target noun followed an agreeing verb (e.g., There are the good cookies!; pictured: two cookies, one apple) than when it did not (Look at the good cookies!). This effect disappeared in a control condition in which the distractor matched the target in number (two apples). Thus, even for 30-month-olds, agreement guides comprehension by indicating number features of the subject, not by carrying number meaning.

Session B--East Balcony

Fast syntactic mapping

William O'Grady, University of Hawaii - Manoa Chae-Eun Kim, University of Hawaii - Manoa Kamil Deen, University of Hawaii - Manoa Kitaek Kim, University of Hawaii - Manoa

The Korean distributive marker -tul indicates a one-to-one relationship between agents and recipients. The pattern with -tul allows only a distributive interpretation, whereas its counterpart without -tul allows either a collective or a distributive interpretation. Extending earlier work by Kim et al. (to appear) with monolingual children, we used a TVJT to confirm that the contrast is not made by Korean heritage learners (12 participants, aged 7 to 12). We then made use of a two-part intervention procedure in which children received minimum naturalistic feedback after making an error in the interpretation of -tul. A follow-up task demonstrated a dramatic advance in children's performance, pointing toward the viability of fast mapping in the case of even abstract and rarely instantiated syntactic phenomena.

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Session C--Conference Auditorium

Phonological memory and phonological acquisition in bimodal bilingual children

Carina Rebello Cruz, Universidade Federal do Rio Grande do Sul

Ronice Quadros, Universidade Federal de Santa Catarina Viola Kozak, Gallaudet University Deborah Chen Pichler, Gallaudet University Aline Lemos Pizzio, Univesidade Federal de Santa Catarina Diane Lillo-Martin, University of Connecticut - Storrs

This study analyzes the phonological production of hearing bimodal bilinguals (CODAs) and Deaf children using cochlear implants (CI), acquiring either American Sign Language (ASL) and English, or Brazilian Sign Language (Libras) and Brazilian Portuguese (BP). The following tests were used: a pseudo-word repetition task for English and BP and a pseudosign repetition task for ASL and Libras. The bimodal bilingual hearing children are acquiring two phonological systems at an age-appropriate pace. Sign language acquisition can be an advantage for deaf children who receive the CI early, because it reduces the possibilities of linguistic deprivation and the delay in the language acquisition process. We consider that early acquisition and unrestricted access to sign language may have determined these children's performance in the oral tests.

Revealing early comprehension of subject-verb agreement in Spanish

Nayeli Gonzalez-Gomez, Oxford Brookes University Lisa Hsin, Johns Hopkins University Jennifer Culbertson, George Mason University, Johns Hopkins University

Isabelle Barriere, City University of New York - Brooklyn College

Thierry Nazzi, University of Paris V, Laboratoire de Psychologie de la Perception CNRS Geraldine Legendre, Johns Hopkins University

Previous studies have shown that French-speaking children display comprehension of subject-verb agreement by 2;6. By contrast, Spanish-and-English-speaking children do not show evidence of comprehension before 4;8. To evaluate whether early comprehension in Spanish can be found when task demands are lowered, 3 experiments were conducted manipulating use of nonce forms and positional saliency of the agreement morpheme. Our results reveal that children as early as 3;4 show subject-verb agreement comprehension when nonce lexical items do not need to be processed. These findings underscore the importance of task/stimulus-specific features when testing early morphosyntactic development.

Session C--Conference Auditorium

ASL dominant code-blending in the whispering of bimodal bilingual children

Vanessa Petroj, University of Connecticut - Storrs Katelyn Guerrera, State University of New York at New Paltz Kathryn Davidson, Yale University

"Bimodal bilingual" children acquire both a spoken and a signed language at the same time. While unimodal bilinguals exhibit cross-linguistic influence between the two languages, bimodal bilinguals can uniquely produce utterances in both of their languages simultaneously, known as "code-blends". Here we discuss a common, but previously unexamined type of code-blending: whispering while signing. We argue, first, that whispered utterances are a hallmark of balanced or ASL-dominant bimodal bilinguals, and second, that they occur when bimodal bilinguals are in an ASL-dominant mode. To determine individual use, we examined a corpus containing longitudinal free-play sessions from 10 bimodal bilingual children. Of these, 8 children, including all 4 children in the corpus with cochlear implants and all of the children tested at Gallaudet University (the strongest signers), produced whispered English utterances while signing.

Session B--East Balcony

The trouble children haven't got with 'not'

William Philip, University of Utrecht Andrea Westerik, University of Utrecht

Several experimental studies using a TVJ task report that children have a strong tendency to assign to sentences like (1a) a non-adult-like reading paraphrasable as (1c), rather than the adult reading in (1b).

- (1) a. The thief did not steal some rabbits
 - b. 'there are some rabbits that the thief did not steal'
 - c. 'it is not the case that the thief stole some rabbits; i.e. he didn't steal any.'

In this talk, we present evidence that the principal factor causing this child performance is failure to master the experimental task. Using a picture-story TVJ paradigm, we tested 75 monolinugal Dutch five-year-olds on Dutch test sentences like (1a) preceded by several trials of control sentences like (2) matched with verifying and falsifying contexts.

(2) The farmer did not see the thief.

Simply by presenting control sentences like (2) before presenting test sentences like (1a), we obtained adult-like performance with the latter 90% of the time.

Notes	

FRIDAY 7:45 PM

KEYNOTE ADDRESS

Towards a constructivist account of language development: How far have we got?

Elena Lieven School of Psychological Sciences, University of Manchester Max Planck Institute for Evolutionary Anthropology, Leipzig

Children build grammar from what they hear: there is no other way. Of course this depends on innate factors, but I will suggest that these are interactive and cognitive, and that - insofar as linguistic representations become encapsulated in development and adulthood – this is arrived at, not pre-given. In the talk, I will argue that the uneven development that children manifest in all aspects of language learning is support for the constructivist position. I will discuss the early stages of English determiner acquisition before summarizing our major findings and their implications. Finally, I will outline the outstanding problems for this approach, and how we might address them.

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The acquisition of direct and indirect object clitics in Quebec French

Sophia Bello, University of Toronto Mihaela Pirvulescu, University of Toronto - Mississauga

We present a comparative analysis of direct and indirect object clitics (DO & IO) in spontaneous and elicited production. The spontaneous data (York corpus - CHILDES database) shows that in French DO appear 5 months prior to IO. The delay cannot be attributed to the late onset of ditransitives verbs nor to the omission of prepositional phrases as they appear early in child grammar. To compare both types of clitics in an obligatory context, we examined the production of children between 3;03 to 5;02 years in Quebec. The results show omissions with both clitics with IO omitted significantly more than DO (F(1,22)=30.33, p<.000). 3 year-olds have omissions of 86% for IO versus 34% for DO, while 4 year-olds' omissions are 56% and 16%, respectively. These results confirm what we had observed in spontaneous speech. We explain the results in terms of structural complexity differences in the derivation of object clitics.

POSTER SESSION I

Modeling effects of input variability in phonetic acquisition

Erin Bennett, University of Maryland - College Park Yakov Kronrod, University of Maryland - College Park Naomi Feldman, University of Maryland - College Park

Spanish-Catalan bilingual infants follow a U-shaped developmental curve. At eight months, they temporarily fail to distinguish the Catalan /e/-/ɛ/ vowel contrast in habituation tasks, while continuing to distinguish these vowels in anticipatory eye movement (AEM) tasks. Bilingual adults often interchange these same vowels at the lexical level in their productions, leading to the possibility that this variable input leads to infants' temporary loss of discrimination. We use a lexicalphonetic Bayesian model to explain how lexical variation can cause learners to partially conflate the /e/ and /ɛ/ categories. Further, we show how differences in task demands between the habituation and AEM paradigms can allow monolinguals and bilinguals to perform similarly in AEM tasks while exhibiting reliable differences in habituation tasks. These results highlight the significant role of input variability and provide a novel framework for relating quantitative characteristics of the input to infants' performance on experimental tasks.

POSTER SESSION I

Bilingual children's perception of native- and foreignaccented speech in noise

> Tessa Bent, Indiana University Eriko Atagi, Indiana University

Bilingualism in childhood confers many cognitive and linguistic advantages, but may also result in detriments, including a possible speech-in-noise deficit. The current study explores this possible deficit by assessing monolingual and bilingual children's recognition of English sentences mixed with noise produced by native, Korean-accented, and Spanish-accented talkers. The perception of foreign accents may require different processing strategies than the perception of familiar native dialects. Therefore, investigating speech perception under these conditions provides a broader view of how bilingualism influences speech perception. The results suggest that the potential detriment of bilingualism to speech-in-noise perception is modulated by the accent of the talker. Monolingual children outperformed bilingual children with the native talkers, but bilingual children outperformed the monolingual children for one of the foreign accents. Accurate perception of foreign-accented speech may rely on perceptual flexibility and metalinguistic awareness skills that are enhanced in bilingual children.

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Using elicited repetition to test copula knowledge in bilingual and monolingual two-year olds

Frances Blanchette, City University of New York - Graduate Center

Ignacio Montoya, City University of New York - Graduate Center

Why do children produce utterances with null copulas? We hypothesize that, to facilitate production, children exploit the fact that the copula carries little semantic information and drop it, regardless of predicate type (stage- or individuallevel) or language group (bilingual or monolingual). We conducted an elicited repetition task with English monolingual and Spanish/English bilingual two-year olds, predicting equal copula omission rates. Children imitated 20 fourword sentences, 10 with stage- and 10 with individual-level predicates. A 2 (predicate type) X 2 (language group) ANOVA found no main effects and no interaction. Children produced copulas 71% of the time with both predicate types (F(1, 18) = .07, ns). Although bilinguals appeared to include the copula more than monolinguals, this difference was not significant (F(1, 18) = .72, ns). Language proficiency (calculated on words imitated per sentence independent of the copula) and copula inclusion were highly correlated (r = .72, p < .01).

Notes

POSTER SESSION I

A new data management cybertool supports cross-linguistic collaborative research and student training

María Blume, University of Texas - El Paso Claire Foley, Boston College Jordan Whitlock, Harvard University, Massachusetts Institute of Technology

Suzanne Flynn, Massachusetts Institute of Technology Barbara Lust, Cornell University

Scientific use of cross-linguistic data requires access to both metadata and raw and structured linked data (Berners-Lee 2009, Chiarcos et al. 2012). We introduce the Data Transcription and Analysis tool (DTA) for language acquisition research and collaboration which can handle both natural speech and experimental data, and we describe the infrastructure of principles and best practices that underpin a Virtual Linguistic Lab, which serves as a platform tool. Then, we describe and illustrate the DTA tool, which offers four advantages to researchers not found together in other cybertools we know: (1) It guides users in primary metadata and data creation, for spontaneous speech or experiments. (2) Data entry automatically feeds a structured, calibrated, infinitely expandable relational database. (3) Its markup and retrieval capacities make highly specific crosslinguistic comparisons possible. (4) Its structure facilitates longdistance collaboration. We assess the tool's role in supporting collaborative research, project replication and data preservation.

POSTER SESSION I

Examining the role of theory of mind and executive function in the first language acquisition of demonstratives

Chia-Ying Chu, University of Kansas Utako Minai, University of Kansas

The comprehension of demonstrative words, 'this' and 'that', is context-dependent: 'this' points to an object near the speaker, while 'that' points to an object distant from the speaker; crucially, the speaker-object distance contrast is determined based on the speaker's perspective, which varies across contexts (Clark & Sengul, 1978). Previous studies suggested that children's non-adult-like comprehension of demonstratives may reflect their still-developing Theory of Mind (ToM) (de Villiers, 2007) and Executive Function (EF). However, such a speculation has not yet been directly tested. The present study thus aims to directly examine the relationship between Englishspeaking preschoolers' (mean age=4;4) comprehension of demonstrative and their development of ToM and EF, by conducting a multi-task study. The results of the across-task correlation analyses suggest that children's demonstrative comprehension may be related to their development of ToM and EF, which may be required in order to incorporate the contextual information about the speaker's perspective.

Children's early passives are verbal passives: More evidence from Sesotho

Jean Crawford, University of Connecticut - Storrs Irina Monich, University of Connecticut - Storrs

We present a new analysis of spontaneous speech data from Sesotho-speaking children showing children's short passives are verbal passives. The Bantu verb alternates between two forms: a conjoint form and a disjoint form (Buell 2009). In the present indicative form with final vowel [a], the disjoint/short verbal passive form has a non-optional intermediate [a] in tense. Copular adjectives and resultative adjectival passives do not take this [a]. If children's short passives are adjectival passives, we would expect an absence of intermediate [a].

We analyzed short passive utterances from 3 children from the Sesotho corpus (Demuth 1989). For the disjoint/short passive form, children produced [a] in all cases. The production of [a] in short passive forms indicates children are not assigning an adjectival or resultant state syntax to these forms. These results further support studies such as Crawford (2012), which show that young children produce and comprehend a verbal passive syntax.

POSTER SESSION I

Mental verbs in Nicaraguan Sign Language and the role of language in theory of mind

Emory Davis, Independent scholar

Research has increasingly indicated that language is needed to facilitate the development of theory of mind, the ability to understand the minds and mental processes of others. Members of the deaf community of Nicaragua, many of whom lacked exposure to full language until late in life, have provided a unique chance to study the precise role of language in theory of mind development. Prior research has shown that adult firstcohort Nicaraguan signers, who contributed to the emergence of Nicaraguan Sign Language, lack a fully mature theory of mind. The research here shows that their poor theory of mind abilities, due to disrupted language development, had several consequences. First, there is evidence that when these individuals began to create a language, it may have initially lacked a mental lexicon, particularly mental verbs. Second, first-cohort signers' use of mental verbs in the data examined here demonstrates that they have difficulty distinguishing different mental states and the terms that refer to them.

POSTER SESSION I

Social influences on children's vocal accommodation

Samantha Fan, University of Chicago Molly Babel, University of British Columbia Jamie Russell, University of British Columbia Katherine Kinzler, University of Chicago

Previous research has shown that adults are attentive to the linguistic cues and speech styles of others in guiding their own speech production. The tendency to mimic others' production can be differentially observed depending on the social identity of an interlocutor. Here we investigated 3-6-year-old children's vocal accommodation to the speech of a target individual who was either presented as being "Nice" or "Mean". Overall, children mimicked the target more when she was presented as "Nice" than when she was presented as "Mean". This effect of condition was observed among girls, but not boys. Our findings provide initial evidence for social influences on verbal mimicry in young children, whereby children's vocal accommodation depends on the social behavior presented by others. Like adults, children are also attentive to the linguistic cues, speech styles, and social identities of others in guiding their own speech production.

Notes

What the [beep]? Infants accept non-speech communicative signals as object labels

Brock Ferguson, Northwestern University Sandra Waxman, Northwestern University

Throughout the first year, infants form object categories more successfully when listening to human speech than nonlinguistic signals (e.g., sine-wave tone sequences). Here we reveal social-communicative conditions under which infants successfully relate non-speech sounds to categorization in the same manner. All infants participated in the standard categorization task while listening to sine-wave tones but, this time, it was preceded by a brief videotaped episode involving two adults engaged in a communicative exchange: one spoke (in English) and the other responded with tone sequences. At 6 months, infants categorized successfully after hearing tones used as a communicative signal but, at 12 months, evidence of communicative status alone did not influence categorization. Instead, tones facilitated categorization only if they had been introduced explicitly as object labels during pre-exposure. We interpret this developmental effect as evidence of infants' increasingly precise awareness of the distinct communicative functions of human language.

Notes

POSTER SESSION I

Is there a relationship between domain-general working memory skills and grammatical processing in children?

Ishanti Gangopadhyay, University of Wisconsin - Madison Megan Gross, University of Wisconsin - Madison Milijana Buac, University of Wisconsin - Madison Eileen Haebig, University of Wisconsin - Madison Meghan Davidson, University of Wisconsin - Madison Margarita Kaushanskaya, University of Wisconsin - Madison Susan Ellis Weismer, University of Wisconsin - Madison

The current study examined the relationship between morphosyntactic processing (using a Grammaticality-Judgment task) and non-verbal visual working memory (using an N-Back typically-developing task). Thirty-six English-speaking monolingual children (MeanAge=9.42 years) were tested. In the Grammaticality-Judgment task, ungrammatical sentences contained either an auxiliary or a tense omission, with manipulations in the placement of the error (early vs. late). Analyses revealed a significant effect of structure, with children's ability to detect auxiliary errors outpacing their ability to detect tense errors. Performance on sentences containing late auxiliary-omission errors was moderately correlated to overall N-Back performance, suggesting an association between working-memory capacity and morphosyntactic processing. We propose that since a non-verbal working memory task was employed, the working memory skills contributing to grammatical processing are likely domain-general.

POSTER SESSION I

Exact understanding of the number "two" in toddlers

Dominic Gibson, University of Chicago Talia Berkowitz, University of Chicago Samantha Melvin, Wesleyan University Anna Shusterman, Wesleyan University

When do children first comprehend the meanings of number words? Sixteen 18- to 22-month-olds (M=20.38, SD=1.09) participated in a violation of expectation study. On each trial, participants watched an experimenter label an occluded set of objects and then lower the occluder to reveal either 2 or 3 objects. On half of the test trials, the experimenter's label ("Look Two/Three!") matched the number of objects and on the other half there was a mismatch. A 2 (Label: "Two," "Three") x 2 (Set-Size: 2, 3) repeated-measures ANOVA on looking time revealed a significant interaction between Label and Set-Size, F(1,15)=6.29, p=.024. Pairwise comparisons revealed this was due to significantly longer looking when three objects were revealed than when two objects were revealed after each set was labeled "two" (p=.007). These results suggest that children as young as 18-22 months comprehend "two", calling into question canonical interpretations of children's entry into number word meanings.

Lexical access of inflected nouns in L2: What is the role of the inflectional paradigm?

Kira Gor, University of Maryland - College Park Anna Lukyanchenko, University of Maryland - College Park

An auditory lexical decision task addressed the impact of the inflectional paradigm on L1 and L2 lexical access. Participants included native speakers (L1) of Russian and English-speaking learners of Russian at the intermediate proficiency level. The materials consisted of three balanced lists of Russian nouns matched for surface and lemma frequency, and word length. The critical conditions were the citation form (Nominative case) and the oblique cases (Genitive, Prepositional, and Dative), with overt and zero inflections. Both L1 and L2 participants showed decomposition costs for oblique cases, which supports decomposition of inflectional morphology in L2 (and L1). Neither group decomposed the Nominative nouns signaling that they are stored and accessed as whole words. No decomposition costs in L2 (unlike L1) participants for the Genitive nouns with a zero overt inflection indicate that, unlike native speakers, L2 learners did not proceed to post-lexical rechecking once they accessed the stem.

POSTER SESSION I

Assessing event perception in adults and prelinguistic children: A prelude to syntactic bootstrapping

Angela Xiaoxue He, University of Maryland - College Park Alexis Wellwood, University of Maryland - College Park Jeffrey Lidz, University of Maryland - College Park Alexander Williams, University of Maryland - College Park

According to a prominent theory (Gleitman, 1990; Fisher et al, 2010), children's hypotheses about verb meanings are guided by Participant-to-Argument-Matching (PAM): the argument NPs in a sentence match the 'participants' implied by the construal of a scene one-to-one. We test PAM through three experiments examining nonlinguistic event construals. Exp.1 replicates Gordon's (2003) finding that prelinguistic infants distinguish whether an entity is a participant or bystander in giving and hugging scenes. Exp.2 demonstrates an implicit measure of the same distinction with adults. Exp.3 shows by this measure that adults perceive instruments as event participants, even though they are typically not expressed by an argument NP with verbs naturally describing such scenes (e.g., jimmy). If Exp.3 predicts how infants will construe similar scenes, this poses a problem for PAM: the represented event structure does not always align one-to-one with the argument structure of its most natural linguistic description.

POSTER SESSION I

Parents' use of hand gesture to communicate about safety

Caitlin Hilliard, University of Iowa Elizabeth O'Neal, University of Iowa Jodie Plumert, University of Iowa Susan Cook, University of Iowa

How do parents use their hands to communicate with their children about safety? Mother-child dyads individually viewed images depicting a child engaged in a dangerous activity. Both rated the safety of these images on a 4-point scale. They then discussed and jointly rated each image.

Mothers tended to produce two types of rationales in speech: features (e.g., "that burner is hot") and outcomes (e.g., "she could burn herself), and these were categorized as dangerous or non-dangerous. For individual ratings, mothers and children differed on 51% of trials.

For gesture, we analyzed the number of features/ outcomes in gesture as disparity in individual rating increased. Mothers produced more dangerous (but not non-dangerous) features in gesture with increasing disparity. For dangerous features/outcomes, mothers produced more deictic gestures with increasing disparity. For non-dangerous features, mothers produced fewer iconic gestures with increasing disparity. Mothers assess their children's needs and use gesture to highlight relevant information.

Notes

ASL vocabulary knowledge eliminates the advantage of Deaf parents for English reading comprehension

Robert Hoffmeister, Boston University
Rama Novogrodsky, Boston University, Harvard University
Catherine Caldwell-Harris, Boston University
Sarah Fish, Boston University
Rachel Benedict, Boston University
Jon Henner, Boston University
Patrick Rosenburg, Boston University

In this study, 138 deaf students aged 7-18 took both a test of ASL antonyms and the English SAT Reading Comprehension test. Results indicate that parental hearing status did relate to reading comprehension, showing higher correlation between age and reading scores for deaf students of deaf parents compared with deaf students of hearing parents. However, when ASL knowledge was taken into account, stepwise regression analysis indicated that scores on the antonyms task explained more of the variance than did age for the reading comprehension and parental status was not significant. These results suggest that vocabulary knowledge in ASL (L1) mediates English reading comprehension (L2), which is similar to findings with spoken languages demonstrating that language is the key for reading comprehension achievement.

POSTER SESSION I

Does language influence the way children understand gesturespeech combinations?

> Melissa Hrabic, Georgia State University Rebecca Williamson, Georgia State University Şeyda Özçalışkan, Georgia State University

Children understand iconic gesture+speech combinations by age 3. Is this understanding influenced by the structure of the language the child is learning? If children are sensitive to the semantic categories most frequently expressed in their native language, then we would predict that children will understand gesture+speech combinations with language-specific gestures earlier than the ones with gestures that are not language-specific. To test this hypothesis, we focused on motion, the expression of which shows strong crosslinguistic differences in gesture, particularly with respect to manner and path of motion. English speakers produce higher rates of conflated gestures (manner+path) than separated gestures (manner-only, path-only). We tested 60 3-to-4 year-old children—all native English speakers—in a comprehension task with motion animations. We presented children with gesture+speech combinations, involving a neutral verbal description, accompanied by an iconic gesture conveying either path-only, manner-only, or manner+path. Our results showed early sensitivity to language-specific gestures in comprehension.

Notes

POSTER SESSION I

Plural NP interpretation in third language acquisition of Brazilian Portuguese

Tania Ionin, University of Illinois - Urbana-Champaign Elaine Grolla, University of Sao Paulo Helade Santos, University of Illinois - Urbana-Champaign Silvina Montrul, University of Illinois - Urbana-Champaign

This study investigates transfer in L3-acquisition of genericity in Brazilian Portuguese (BrP) by speakers of English and Spanish. In English, bare plurals - but not definite plurals have generic interpretation, whereas the opposite is the case in Spanish; in BrP, both definite and bare plurals can have generic readings. Given these differences, transfer from English to BrP should lead learners to prefer bare plurals to definite plurals to express generic readings; the opposite is expected under transfer from Spanish to BrP. A context-based AJT and a language distance questionnaire were administered to L1-English L2-Spanish and L1-Spanish L2-English L3-learners of BrP. Results suggest that learners transfer from Spanish rather than English, regardless of whether Spanish is their L1 or L2, and that this is due to perceived structural similarity between Spanish and BrP. This provides evidence for the role of structural proximity in transfer to the L3 (Montrul et al., 2011).

Early evidence for syntactic bootstrapping: 15-month-olds use sentence structure in verb learning

Kyong-sun Jin, University of Illinois - Urbana-Champaign Cynthia Fisher, University of Illinois - Urbana-Champaign

Children use syntax to interpret verbs: this is syntactic bootstrapping. This study probed the developmental origins of this ability. The structure-mapping account proposes that children begin with an unlearned bias toward one-to-one mapping between nouns in sentences and participant-roles in events. This account makes a strong prediction: Infants should use the number of nouns to differentiate transitive from intransitive verbs as soon as they learn some nouns, and can identify multiple words per sentence. In 2 experiments, 15-month-olds heard novel verbs in simple transitive ("He's kradding him!") or intransitive sentences ("He's kradding!") differing in their number of nouns. Infants who heard transitive sentences looked longer at a two-participant event (as apposed to a one-participant event) than did those who heard intransitive sentences. These findings yield strong evidence for structure-mapping: Even 15-montholds, near the start of multi-word sentence comprehension, assign appropriately different interpretations to transitive and intransitive sentences containing unknown verbs.

POSTER SESSION I

An examination of syntactic constraints and the role of individual differences in native and non-native processing of wh-movement

Adrienne Johnson, University of Kansas Robert Fiorentino, University of Kansas Alison Gabriele, University of Kansas

We investigate the on-line processing of wh-dependencies in English native speakers and L1 Korean learners of English. Previous studies with natives have shown that the parser incrementally posits gaps, but avoids positing gaps within grammatically unlicensed positions, such as islands. Our results suggest that L2 learners show the same pattern of results. We also address the debate as to whether islands are 'grammatically' unlicensed structures (e.g. Sprouse et al., 2012) or simply structures, which result in processing bottlenecks (e.g. Kluender and Kutas, 1993). This latter position predicts that individual differences in processing resources will be related to the avoidance of gap-filling within islands. Thus, all participants completed two measures of working memory capacity (counting span and reading span). In line with Sprouse et al. (2012), our results did not support this relationship for either natives or learners, suggesting that islands are grammatically unlicensed structures and not processing bottlenecks.

POSTER SESSION I

Acquisition of English focus prosody: Evidence from native speakers of Spanish

Jeffrey Klassen, McGill University

This study examines the interpretation of English prosody by Spanish native speakers. A naturalness-rating task was carried out by an L2 group and an L1 control group on sentences with focus prosody that was either suitable or unsuitable to the preceding discourse. Participants listened to the sentences and rated them on a 5-point scale. The L2ers were capable of distinguishing sentences with suitable and unsuitable focus prosody although performance on the task correlated with proficiency scores. The responses were analyzed in relation to the acoustic properties of the stimuli sentences and it was found that L2ers were less sensitive to intensity as an acoustic cue than native speakers. These results were interpreted to mean that the L2 acoustic of English focus prosody is unproblematic once learners are sensitive to the correct acoustic cues.

Notes

Crosslinguistic influence and exposure effects in child second language acquisition

Nadine Kolb, University of Cologne

This study investigates crosslinguistic influence (CLI) at the syntax-semantics interface and exposure effects by examining the acquisition of [±generic] definite plural noun phrases in child L2 German and L2 French. Recent literature on language development discusses whether CLI occurs with the knowledge of further languages, and whether length of exposure affects the extent of CLI (e.g., Unsworth, 2012; Ionin & Montrul, 2010; Austin, 2009; Sorace & Serratrice, 2009). This study adds to the discussion since my developmental L2 French data suggest that CLI decreases with increasing exposure to the target language. However, the non-target syntactic performance by the L2 German learners can rather be explained by deficits at the syntax-semantics interface or by developmental patterns in L1 English and L1 German than by CLI. My data comes from native English-speaking children learning French or German in a full language immersion program.

POSTER SESSION I

Contextual inferences in comprehension and acquisition of contrastive prosody

Chigusa Kurumada, University of Rochester

We investigate pre-schoolers' ability in drawing pragmatic inferences based on prosodic information. Previous work has found that young children are generally oblivious to intonational meaning of utterances. In particular, the ability to comprehend contrastive prosody develops late during language acquisition (after the age of 6). In three experiments, we show that 4-year-olds can engage in prosody-based pragmatic inferences if the context provides supports for them. In particular, we find that their interpretation of prosody involves complex counter-factual reasoning ('what the speaker would have said if she had intended another meaning') (Experiment 1 and 2). Experiment 3 shows that children can generalize the contextually supported inference to a new environment. The picture emerging from our studies contrasts with previous work: Through rich contextual inferences, 4-year olds are able to bootstrap their interpretation of prosodic information, and achieve adult like performance in intonation interpretation.

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POSTER SESSION I

Perceiving referential intent: Dynamics of reference in parentchild interactions

> Yi Lin, University of Pennsylvania Benjamin Armstrong, Independent scholar Erica Cartmill, University of Chicago Lila Gleitman, University of Pennsylvania Susan Goldin-Meadow, University of Chicago John Trueswell, University of Pennsylvania

How do infants correctly map word occurrences with aspects of the ongoing referent world when both word and world events are fleeting and embedded within complex environments? In study 1, using annotations of 351 videos of everyday parent-child interactions in the home and naïve adult observers, we found that highly informative learning instances were characterized by the presence and precise timing (within 2-3 seconds of word onset) of a series of social-pragmatic referent focusing cues (i.e., sudden appearance of referent, joint attention, and parent gesture). In study 2, we surreptitiously moved word onset -4, -2, 0, +2, or +4 seconds from actual word onset, and showed that precise timing is crucial for observers to accurately infer referential intent. Children likely monitor for these precise relationships that allow them to infer an intentional link between events of the world and word; and, when spotted, these 'epiphany' moments push word learning forward.

Efficiencies in second language sentence processing: Does lexical access matter?

Kate Miller, Indiana University-Purdue University
Indianapolis

Much recent research has examined how second language (L2) learners process linguistic input in real time, focusing on the syntactic representations. The current study considers one aspect of L2 sentence processing that has largely been ignored in previous studies: retrieving the individual words from the mental lexicon. Lexical access is slower and less automatic in L2 (Favreau & Segalowitz, 1983; Segalowitz & Segalowitz, 1993), and so delays in retrieval from the lexicon could yield processing lags, masking the relevant effects in previous experimental studies.

The current study reports on a self-paced reading experiment in L2 French that involved sentences containing long-distance wh-dependencies and intermediate traces resulting from cyclic movement across clausal boundaries. Reading times are compared for sentences that used French-English cognates (e.g., lion) as antecedents in the dependency chain with those involving noncognate vocabulary (e.g., loup "wolf").

POSTER SESSION I

Subsegmental evidence for the acquisition of variable rules in young children

Karen Miller, Pennsylvania State University Miguel Ramos, Pennsylvania State University

Labov (1989) hypothesized a universal order to the acquisition of variable rules whereby phonological constraints are acquired before morphosyntactic constraints, which in turn are acquired before extralinguistic constraints. Smith, Durham, & Fortune (2009) and Roberts (1994) provide evidence in support of this proposal (for -t/-d deletion); Labov (1989) provides evidence against it. These studies relied on segmental analyses, coding -t/-d as either produced or omitted. There are no studies that have examined children's acquisition of variable rules at the subsegmental level. We argue that a subsegmental approach provides a better tool for determining children's sensitivity to variable rules. We show – through a subsegmental approach – that by 28 months of age children have acquired both linguistic and extralinguistic constraints on usage.

POSTER SESSION I

Emergence of literacy predicts children's production of relative clauses

Jessica Montag, University of Wisconsin - Madison Maryellen MacDonald, University of Wisconsin - Madison

If distributional differences between child-directed speech and text predict concurrent differences in children's language production, this would suggest the emergence of literacy is an important contributor to children's ability to produce complex sentences. Experiment 1 was a corpus analysis of childdirected speech (CHILDES) and text (COCA), establishing the relative frequencies of complex sentences – specifically object relative clauses and passive relative clauses. The corpus analysis showed that spoken language has a 96:1 ratio of ORCs to PRCs, compared to a 3:1 ratio in written language. Experiment 2 elicited sentences containing relative clauses from eight and twelve year-olds and adults in a picturedescription task. In this experiment, increases in children's passive use was independently predicted by increases in age, and by measures of the participant's quantity of text exposure. This suggests that the emergence of literacy may be associated to exposure to categorically different language statistics, potentially contributing to adult-like language behavior.

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The role of the Spanish copula verbs in preschoolers' interpretation of novel adjectives

Pablo Requena, Pennsylvania State University Astrid Roman-Hernandez, Pennsylvania State University Karen Miller, Pennsylvania State University

The acquisition of Spanish ser/estar+adjective constructions can be assumed to only imply learning the differences between ser and estar, or by following a usage-based account in which copula choice can be explained by semantic analogy to frequent copula+adjective constructions. This last hypothesis predicts that children will have difficulty interpreting copula meaning differences with novel adjectives that describe novel properties which are not semantically analogous to existing constructions. Two experiments (one with familiar adjectives and the other with novel adjectives) show that children associate adjectives occurring with estar to temporary properties more often than they do for ser. The results support the proposal that estar has aspectual properties even at early stages in acquisition and questions the usage-based account. In this paper we show that 4-year-old children associate both real adjectives and novel adjectives representing novel properties to a temporary interpretation when the adjective occurs with estar.

POSTER SESSION I

3-year-olds' referring expressions balance familiarity with informativity

Marla Rosner, University of Texas - Austin Colin Bannard, University of Texas - Austin Danielle Matthews, University of Sheffield

While frequent linguistic forms are quicker to be learned and easier to deploy than rare forms, rarer forms usually carry more information. This study investigated how 3-year-olds negotiate this tension. We paired 8 nouns with 2 adjectives each, varying frequencies so that one phrase for each noun was a collocation (e.g., old woman, pretty dress) and the other was not (e.g., kind woman, little dress). Children were shown pictures depicting the phrases while E1 described them. They were then shown them again and asked to tell E2 what they could see. Children's descriptions were more likely to include an adjective when E1's adjective had been high information (NOT part of a collocation). However, when children did produce an adjective, it was more likely to be the one used by E1 if it was part of a collocation. Thus they seemed to balance preference for familiarity with a drive to inform.

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POSTER SESSION I

Why the body comes first: Effects of touch on infants' word finding

Amanda Seidl, Purdue University Ruth Tincoff, Bucknell University Christopher Baker, Purdue University Alejandrina Cristia, CNRS

The 6-month-old lexicon is comprised of names and body part words. Unlike names, body part words do not often occur in isolation in the input. This presents a puzzle: How have infants been able to pull out these words from the continuous stream of speech at such a young age? We hypothesize that tactile information provided by caregivers may be at the root of the early acquisition of body part words. An artificial language segmentation study shows that synchronous tactile cues specifically help 4-month-olds to find words in continuous speech. Two follow-up studies suggest that this facilitation cannot be reduced to the informational value, or the highly social situation in which touch occurs, but likely involves consistency in touch location. Taken together, these studies suggest caregiver touch may play a key role in infants' ability to find word boundaries and that words linked with touches may comprise early vocabulary items.

The acquisition of a variable grammar: Evidence from Spanish morphosyntax

Naomi Lapidus Shin, University of New Mexico Daniel Erker, Boston University

The variable linguistic behavior of adults is highly systematic, yet little is known about how or when structured variability in morphosyntax emerges during childhood. The current study investigates variable subject pronoun expression (vo bailo ~ bailo 'I dance') in child Spanish. Over 2,500 variable contexts, i.e. cases where either an overt or null subject pronoun is possible, were extracted from sociolinguistic interviews conducted in Mexico with 24 monolingual Spanish-speaking children, ages six to eight. Results from a logistic regression examining the influence of six predictors on pronoun expression show that the children's pronominal behavior is conditioned by Person/number and Switch-reference - the two strongest predictors of adult pronoun expression - but by none of the other factors. These results suggest that the acquisition of adult-like patterns of morphosyntactic variation proceeds in a predictable sequence: the stronger the pattern among adults, the earlier it emerges in children.

POSTER SESSION I

Directing toddler attention: Intonation contours and information structure

Jill Thorson, Brown University James L. Morgan, Brown University

Toddlers are sensitive to native language rhythm and pitch patterns. From the beginnings of production, they approximate adult-like intonation contours and align them with appropriate semantic/pragmatic intentions. The motivation for our study is to investigate how English-acquiring 18-month-olds are guided by mappings from intonation to information structure during on-line reference resolution in a discourse. We ask whether specific pitch movements (deaccented/monotonal/bitonal) more systematically predict patterns of attention depending on the referring condition (new/given). Additionally, this experiment isolates the role of pitch in directing attention, keeping duration and intensity constant across conditions. Contrary to previous work, results show longer looking times to the target over a distractor in the deaccented condition if the referent is new to the discourse but not if it is given. Also, the bitonal pitch movement directs attention to the target even when it is given. Thus, pitch type interacts with information structure in directing toddler attention.

POSTER SESSION I

The learnability of phonotactic restrictions in onset and coda positions

Yuanyuan Wang, Purdue University Amanda Seidl, Purdue University

Two experiments were conducted to explore whether there is an asymmetry in infants' learning of novel phonotactic patterns in onset and coda positions. In Experiment 1, 8- and 12-montholds were familiarized with bisyllabic nonwords with voiced fricatives restricted to either word-medial onset (Onset condition) or word-medial coda positions (Coda condition). At test, infants heard novel words that either followed or violated the familiarized patterns. Twelve-month-olds in the Onset condition showed a preference for the familiarized pattern; however, 12-month-olds in Coda condition as well as 8-month-olds in both conditions displayed no preference. In order to explore the developmental pattern in attention to codas, in Experiment 2, 15-month-olds were tested on only the Coda condition. These toddlers showed a preference for the familiarized phonotactic pattern. These findings suggest that infants may develop the ability to learn phonotactic patterns first in wordmedial onset position, and then in word-medial coda position.

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What are the units in statistical learning? The importance of inflectional morphology for learning about verb meaning and verb semantics.

Jon Willits, Indiana University Michael Jones, Indiana University

Statistical learning mechanisms are important for many aspects of language acquisition. But what are the units over which statistical learning operates? Claims about the sufficiency of statistical learning mechanisms rest on which units are being used in statistical learning models. To address this issue, we present an analysis of toddlers' age of acquisition (AoA) of verbs, predicted by various statistics in child-directed speech. In these analyses, we find that these statistics significantly predict AoA. But which specific statistics predict AoA depends on whether verbs' inflectional morphemes are treated as separate units in the corpus. This study helps answer questions about factors contributing to vocabulary development – specifically, that inflectional morphology is playing an important role. It also addresses the scope of statistical learning-based theories of acquisition. By testing the predictions of models under different assumptions about the units over which the learning mechanism is operating, statistical learning models can be constrained.

POSTER SESSION 1

Unraveling the kindergarten-path effect: Cognitive and linguistic predictors of children's language processing abilities

Kristina Woodard, University of Pennsylvania Lucia Pozzan, University of Pennsylvania John Trueswell, University of Pennsylvania

An important issue in psycholinguistics concerns the extent to which processing capacities change across development and are influenced by the maturation of verbal and non-verbal skills. For example in contrast to adults, young children have difficulty revising their initial parses of syntactically ambiguous sentences, regardless of referential context. Potential contributors to this failure to revise and insensitivity to referential context include poor cognitive control because of delayed frontal lobe maturation, limited working memory, and limited linguistic experience. Here we examined whether individual differences in children's parsing abilities correlated with executive functions (conflict-monitoring/inhibition, cognitive flexibility, and verbal working memory) and receptive language skills. While performance in both ambiguous and unambiguous sentences was predicted by individual differences in age-mediated verbal abilities, successful interpretation of temporarily ambiguous sentences is linked to conflict-resolution skills, above and beyond the influence of age and verbal skills.

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The effect of recent L1 exposure on Spanish attrition: An eye-tracking study

Gloria Chamorro, Edinburgh University

Previous research has shown L1 attrition to be restricted to structures at the interfaces between syntax and semantics or pragmatics. The current hypothesis is that attrition affects the ability to process interface structures but not knowledge representations. This hypothesis was tested by investigating the effects of recent L1 exposure on attrition with an interface phenomenon, pronominal subjects, using offline and online measures. Participants included a group of Spanish attriters, another group of attriters exposed exclusively to Spanish and a group of Spanish monolinguals. Considering the offline data, which reveals no significant differences between the groups, and that monolinguals and "exposed" show no significant differences in their online task, results reveal that attrition decreases as a result of L1 exposure, and that bilinguals are sensitive to input changes. Taken together, the findings suggest that attrition affects online sensitivity with interface structures rather than causing a permanent change in speakers' L1 representations.

Session B--East Balcony

Processing of long-distance dependencies at the syntaxdiscourse interface: Clitic Left Dislocation in L2 Spanish

> Tania Leal Mendez, University of Iowa Roumyana Slabakova, University of Iowa Thomas Farmer, University of Iowa

Native speakers (NSs) actively generate predictions about incoming linguistic material. Predictions are generated from multiple cues available in linguistic and social contexts. The current study investigates prediction in L2learners. Based on L1 processing research, we hypothesize a significant relationship between L2 proficiency and increased prediction-generating abilities during on-line comprehension. Focusing on a long-distance dependency in Spanish, we test whether L2ers can predict later-occurring grammatical elements using preceding discourse context. In a self-paced reading experiment, 36 Spanish NSs and 93 Spanish L2-Learners read a discourse in which a dislocated NP was followed by a target sentence in which a pronoun appeared early (expected), or late (unexpected). With increasing proficiency, nonnative RTs appeared increasingly similar to NSs in terms of the magnitude of RTs elicited by the expectation violation. Thus L1 and L2 processing appear to be partially contingent on the ability to accurately generate predictions that are subsequently assessed during processing.

Session C--Conference Auditorium

Children are more formulaic as they develop

Erin Quirk, City University of New York - Graduate Center Virginia Valian, City University of New York - Graduate Center

How formulaic are children in their early linguistic productions? Prior studies examining formulaicity in children have lacked an adult baseline that is controlled for the child's smaller vocabulary and output. The present study addresses this gap via a new automated method for comparing controlled child and adult spontaneous speech data on an established similarity metric, the Dice coefficient. We make withinspeaker comparisons of multi-word sequences (bi-grams and tri-grams) produced by children and the adults they converse with, matching child and adult data for vocabulary size (n-gram types) and output (n-gram tokens). We find that children become more, not less, formulaic over time, while adults remain stable. These results suggest that children are not heavily reliant on formulas in earlier stages of acquisition, but instead, converge on adult-like levels of formulaicity as they master this strategy for reducing the processing burden.

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Rethinking the linguistic threshold hypothesis

Erika Feinauer, Brigham Young University Kendra Hall-Kenyon, Brigham Young University Kimberlee Everson, Brigham Young University

The purpose of this study is to provide empirical support for the Threshold Hypothesis, using a new methodological approach. Using change-point regression, this study investigates the following research hypotheses: (1) Transfer from L1 to L2 is a non-linear function of L2 oral language ability; (2) The rate of transfer from L1 to L2 is significantly higher when students cross a specified threshold of L2 language oral ability. Across most literacy skills the change-point regression models revealed specific levels of L2 oral language at which transfer from L1 literacy to L2 literacy was maximized. Further, change-point regression analyses were better supported statistically than linear interaction models for all but one of the literacy outcomes (sound awareness). These findings specifically support the hypotheses presented earlier, as well as provide new ways of thinking about the threshold hypothesis (Alderson, 1984; Clarke, 1980; Cummins, 1976, 1979; Yamashita, 2001, 2002).

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Session B--East Balcony

Computational cycles in (second) language processing: cyclic versus non-cyclic integration in French

Mark Black, Indiana University Rodica Frimu, Indiana University Amber Panwitz, Indiana University Laurent Dekydtspotter, Indiana University Amandine Lorente Lapole, University of Paris VII

Syntax is argued to constitute a good-design answer to computational demands. Focusing on the co-reference/ binding distinction, we investigate syntax-linked processes of interpretation for pronouns in the processing of Quel message [à propos de lui/le concernant] est-ce que François a dit pendant la semaine que Chloé avait envoyé sans hésitation? 'Which message about/concerning him did François say during the week that Chloé had sent without hesitation?' Hence, the subcategorized-for à propos de lui noun complement supports binding, whereby a contextual value assignment is modified when the pronoun becomes bound during processing. In contrast, anaphora with non-selected noun-phrase modifier le concernant relies on contextual referential assignments, given that structural conditions for binding are not met. In picture-probe classifications during reading, French native speakers and L1-English L2-French learners experienced processing load asymmetries suggestive of syntax-dependent processes in conceptual structure.

Session C--Conference Auditorium

The roles of entrenchment, preemption and semantics in the retreat from causative overgeneralisation errors: A combined production and judgment study

Amy Bidgood, University of Liverpool Ben Ambridge, University of Liverpool Julian Pine, University of Liverpool Caroline Rowland, University of Liverpool Franklin Chang, University of Liverpool

Productive language use depends on children first observing, and then generalising, grammatical patterns. For example, children hear pairs of sentences such as (a) and assume that other verbs heard in intransitive sentences can also alternate between the two structures. While this enables creative language use (b), it can also lead to overgeneralisation errors (c).

- (a) The ball rolled \rightarrow John rolled the ball
- (b) The plate broke → Sarah broke the plate
- (c) Sarah laughed → *John laughed Sarah (=made Sarah laugh)

The present study used production/priming (children) and grammaticality judgment tasks (adults and children) to test three theories of how children retreat from such overgeneralisation errors: entrenchment (Braine & Brookes, 1995), preemption (Goldberg, 1995) and semantics (Pinker, 1989).

Comprehension of wh-questions in German-speaking typically developing simultaneous and (early) sequential bilingual children

Anne-Dorothée Roesch, Bangor University Vasiliki Chondrogianni, Bangor University

Currently, it is controversial whether the acquisition pattern in early sequential bilingual (eL2) children (Age of Onset, AoO \leq 3 yrs.) resembles that of monolingual (L1) and simultaneous bilingual (2L1) children, or that of L2 children with a later AoO (\geq 4 yrs.). In this study, we addressed AoO effects by comparing the performance of L1, 2L1 and eL2 German-speaking children aged 4;0-5;11 years on the comprehension of referential and non-referential wh-questions carrying different morphological cues (case-marking).

All groups performed better on subject compared to object wh-questions, and on referential compared to non-referential conditions, as well as on wh-questions with case marking on both the wh-element and the 2nd compared to wh-questions with case marking only on the wh-element or only on the second NP. Although eL2 children showed poorer performance than the (2) L1 controls, they indicated similar error patterns to the (2)L1 children, indicating sensitivity to morpho-phonological cues.

Session B--East Balcony

Variable binding and coreference in nonnative pronoun resolution

Claudia Felser, University of Potsdam Helena Trompelt, University of Potsdam, Potsdam Research Institute for Multilingualism

To investigate whether nonnative speakers preferentially link ambiguous pronouns to quantificational (i.e. variable-binding) or to coreference antecedents, we carried out an eye-movement monitoring study with proficient L1 Russian/L2 German speakers and native German-speaking controls. Participants' reading time patterns revealed that the L2 speakers initially tried to link direct object pronouns to a non c-commanding coreference antecedent rather than to a c-commanding quantified noun phrase. Native German speakers, in contrast, were equally likely to consider either type of antecedent. Our results confirm and extend earlier findings suggesting that nonnative speakers have difficulty computing syntactically mediated referential dependencies. They also challenge the hypothesis that binding relations should generally be easier to compute than coreference relations.

Session C--Conference Auditorium

The roles of semantic fit and statistics in children's retreat from overgeneralizations of verbal un-prefixation: a production study

Ryan Blything, University of Manchester Elena Lieven, Max Planck Institute for Evolutionary Anthropology, University of Manchester Ben Ambridge, University of Liverpool

We used a priming methodology to examine children's (3-4; 5-6) grammatical constraints on verbal un-prefixation. To elicit production of un-prefixed verbs, test trials were preceded by prime sentences, which described reversal actions with grammatical un-prefixed verbs (e.g. Marge folded her arms and then she unfolded them). Children then described cartoon reversal actions corresponding to (potentially) un-prefixed verbs; half grammatical (e.g. unwrap), half ungrammatical (e.g. *unsqueeze). For each age-group, production of un-prefixed verb forms was (i) positively related to the extent to which each verb is semantically consistent with a "semantic cryptotype" of meanings hypothesised to be shared by verbs which take un- (e.g. covering, enclosing, attachment; Whorf, 1956), and (ii) negatively related to the frequency of a verb's bare form (e.g. squeeze/-s/-d/-ing), and the frequency of synonyms to its un-form (e.g. release/*unsqueeze). Both ages demonstrated graded effects of verb semantics and verb frequency.

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Case marking as a predictive cue to argument structure in Turkish preschoolers

Duygu Özge, Harvard University, Koç University Aylin Küntay, Koç University, Utrecht University Jesse Snedeker, Harvard University

English-speaking children use the verb to anticipate the upcoming argument structure. Do children of verb-final languages wait until the verb or use case-marking to determine how the remainder of the sentence will unfold? Adults use case-marking to predict the role of upcoming arguments in German and Japanese. This study explores whether Turkishspeaking preschoolers integrate case-marking, prior to the verb, to predict upcoming arguments. We used a visualworld eye-tracking paradigm to test whether nominative and accusative case on NP1 is used to predict NP2 in verb-medial (Experiment-1) and verb-final (Experiment-2) sentences. In Experiment-1, both groups had a greater Agent-Preference in the accusative condition, suggesting they used the casemarker to predict NP2 after the verb. This effect persisted in Experiment-2 even when the verb appeared sentence-finally. Thus, Turkish-speaking preschoolers utilize case-marking independently of the verb to predict upcoming arguments.

Session B--East Balcony

Islands and non-islands in heritage Korean

Boyoung Kim, University of California - San Diego Grant Goodall, University of California - San Diego

We examine what properties of the language show non-nativelike performance in heritage speakers (HS) and why, by exploring island effects in English-dominant HS of Korean, which has been claimed to show wh-island effects, but not adjunct island effects. In results off our acceptability judgment experiments on both canonically ordered and scrambled wh-island and adjunct islands with in-situ argument wh-phrases in Korean, both native and HS showed a robust island effect with wh-clauses, but not with adjunct clauses. We assume that the native-like behavior of HS in this case may stem from indefeasible properties of semantic composition and constraints on overt movement. The wh-island effect in Korean results from the semantic interaction of the in-situ wh-phrase and the embedded interrogative marker, while island effects in English result from universal constraints on overt wh-movement, and HS would have no reason to apply these to Korean, where overt wh-movement does not occur.

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Session C--Conference Auditorium

Effects of early language experience on real-time processing of ASL signs in deaf adults

Amy Lieberman, University of California - San Diego Arielle Borovsky, Florida State University Marla Hatrak, University of California - San Diego Rachel Mayberry, University of California - San Diego

Signed languages present a unique challenge for studying real-time lexical recognition, because the visual modality of sign requires the signer to interpret the linguistic and referential context simultaneously. Deaf individuals also vary widely in the timing and quality of initial language exposure. We measured real-time lexical recognition via eyetracking in adult deaf signers who varied in the age of initial exposure to sign language. Using a novel adaptation of the visual world paradigm, we measured the time course and accuracy of lexical recognition in four conditions in which the semantic and phonological relationships between the target and competitor items are systematically manipulated. Native signers were faster to look to the target than non-native signers. Furthermore, while native-signers showed sensitivity to the presence of phonological competitors, later-learning signers did not show the same pattern. Our findings indicate that the timing of early language experiences manifests in important differences in the speed and activation of lexical information.

The relation between theory of mind and word order variations in Turkish

Serife Kacmaz, Bilkent University Saime Tek, Bilkent University

Turkish has free scrambled word order, although the dominant word order in Turkish is Subject-Object-Verb (SOV). Which word order will be used in Turkish is mostly determined by the discourse context as the sentence constituent that is stressed by the speaker moves to the sentence-initial positions (Batman-Ratyosyan & Stromswold, 2002). Therefore, it is possible that the use of Non-SOV word orders is related to ToM skills in Turkish.

We tested 29 typically developing children between four and seven years of age. Wellman & Liu's (2004) Theory of Mind scale was used, and children were asked to generate a narrative for the wordless picture book "Frog, Where Are You?" (Mayer, 1969). The number of sentences with the SOV and Non-SOV word orders was extracted from these stories. Children predominantly formed sentences with the SOV word order. Children's performance on ToM tasks significantly correlated with the number of Non-SOV sentences.

Session B--East Balcony

Past tense productivity in bilingualism and SLI

Judith Rispens, University of Amsterdam Elise de Bree, University of Amsterdam

The Dutch regular past tense is expressed by the verb stem + allomorph 'te' or 'de'. The combination of stem + 'te' occurs more frequently than verb stem + 'de'. Past tense productivity was assessed by eliciting regular lexical verbs and novel verbs in 25 children with SLI (8 years old), 11 bilingual children (Hebrew-Dutch; 8 years old) and 21 monolingual (Dutch) TD children (5 years old matched on receptive vocabulary of the SLI and bilingual group). The children with SLI performed more poorly than the other groups (p <.001) and the bilingual children performed similarly to the younger monolingual group (p >.56). The verbs taking -te allomorphs rendered higher results than -de verbs (p <.001). Both the bilingual children and the children with SLI were as sensitive to the frequency cues as the younger TD children, but the error types were different between the groups.

Session C--Conference Auditorium

Modeling emergence of natural language lexicons

Russell Richie, University of Connecticut - Storrs Charles Yang, University of Pennsylvania Marie Coppola, University of Connecticut - Storrs

It is largely acknowledged that natural languages emerge from rich communities of interacting humans (de Boer, 2000; Galantucci et al., 2012, i.a.), but how exactly language emerges from interaction and from communities remains somewhat mysterious, largely owing to the disconnect between computational models and empirical data on this question. Here we take a step toward further specifying the role of community structure in language emergence with both naturalistic empirical data and an agent-based computational model. We find that four different homesign systems all conventionalized forms for basic concepts more slowly than did the recently emerging Nicaraguan Sign Language (NSL). Simulations of our agentbased model show that a richer social network, like that of NSL and other natural language communities, conventionalizes faster than a sparser social network, like that of homesign systems. We discuss these results in light of other work on language emergence and collective human behavior on complex networks.

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SATURDAY 12:15 PM

LUNCH SYMPOSIUM

Resolving a Learnability Paradox in the Acquisition of Verb Argument Structure: What have we learned in the last 25 years?

Ben Ambridge, University of Liverpool (organizer)
Adele Goldberg, Princeton University
Joshua Hartshorne, Massachusetts Institute of Technology
Jesse Snedeker, Harvard University
Steven Pinker, Harvard University

Together with a classic review paper published the previous year (Bowerman, 1988), Steven Pinker's landmark monograph Learnability and Cognition: The Acquisition of Argument Structure (Pinker, 1989) was largely responsible for drawing the attention of the field to a paradox that lies at the heart of children's language acquisition. In the year of the publication of a new and updated edition of Learnability and Cognition, this symposium asks what we have learned in the past 25 years, and whether a solution to this intriguing puzzle is in sight.

The paradox is one that was first highlighted by Braine (1971; see also Baker, 1979). While the child can use the fact that an utterance is attested as evidence that it is grammatical, she cannot assume that an unattested utterance is necessarily ungrammatical, since a defining characteristic of human language is its productivity: there are an infinite number of grammatical utterances, and one can only have heard so many. Thus, the child needs to learn - for example - that while many verbs that appear in the intransitive construction (e.g., The ball rolled) can also appear in the transitive causative construction (e.g., The man rolled the ball) – even if such utterance types are unattested - others cannot (e.g., The man laughed → *The joke laughed the man).

And in fact, while children do sometimes make "overgeneralization" errors – e.g., in the the transitive causative (e.g., I giggled \rightarrow *Don't giggle me), intransitive inchoative (He lost it \rightarrow *It lost), dative (*She suggested him the trip) and locative constructions (e.g., I poured water onto it \rightarrow *I poured it with water; I filled it with salt \rightarrow *I filled salt into it) – these errors eventually disappear during development (Lord, 1979; Bowerman, 1988; Pinker, 1989).

Given that this paradox relates to children's productivity with the basic sentence types that constitute the majority of all utterances, the issue is one that must be addressed by all accounts of acquisition, from whatever research tradition. This symposium therefore brings together four speakers with different theoretical perspectives, each of whom have conducted significant empirical research on the retreat from overgeneralization.

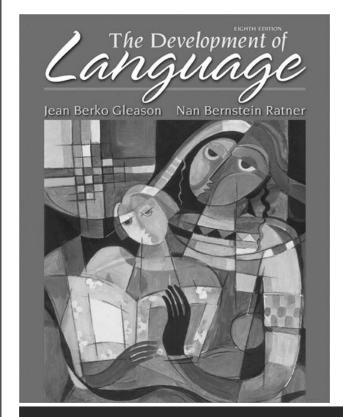
Adele Goldberg will present the findings of a number of studies that provide evidence for the importance of statistical learning; in particular statistical pre-emption. This is the process by which repeated presentation of a verb in a particular construction (e.g., The joke made the man laugh) leads to an ever-strengthening probabilistic inference that unattested alternative formulations that express the same idea are ungrammatical (e.g., *The joke laughed the man). The studies discussed investigate overgeneralizations of the transitive causative construction (as in the previous example), the dative construction (e.g., *She suggested him the trip) and pre-nominal use of a-adjectives (e.g., *the asleep man) (e.g., Goldberg, 2011; Boyd & Goldberg, 2011; Boyd, Ackerman & Kutas, in press). Together, these findings suggest that statistical pre-emption will play a central role in any complete account of the retreat from overgeneralization.

Joshua Hartshorne and Jesse Snedeker will present evidence that another part of the solution involves children's acquisition of fine-grained semantic properties of particular verbs. This talk focuses specifically on children's acquisition of the distinction between subject-experiencer verbs (e.g., see) and object-experiencer verbs (frighten), with regard to the mapping of semantic roles onto syntactic positions. This domain constitutes another scenario in which children must learn to restrict certain argument structure patterns to particular verbs. For example, the overgeneralization of the object-experiencer pattern to subject-experiencer verbs would result in children using a sentence such as John feared Mary to mean that Mary frightened John; indeed there is some evidence to suggest that children make such errors (Bowerman, 1990). A series of judgment, novel word, and eyetracking experiments in English, Mandarin, Japanese and other languages suggest that both adults and children make use of fine-grained semantic differences between subject-experiencer and object-experiencer verbs, in order to restrict each to the appropriate construction.

LUNCH SYMPOSIUM

Ben Ambridge will summarize the results of fifteen empirical studies investigating the retreat from overgeneralization (all conducted together with his colleagues at the University of Liverpool). The studies use grammaticality judgment, elicited production and comprehension paradigms – all with both children and adults – to investigate the retreat from errors involving the transitive, intransitive, dative, ditransitive, locative and passive argument structure constructions, as well as overgeneralizations of derivational morphology (comparative and un-prefixation constructions). Also discussed are some preliminary findings of studies conducted with Welsh speakers, and with L2 learners of English. It will be argued that a successful resolution of this learnability paradox will include roles for both statistical learning procedures such as pre-emption (and a related process, entrenchment) and fine-grained semantic learning at the verband construction level.

Following these three talks (each 20-25 minutes), **Steven Pinker** will present a commentary response. This discussion takes as its starting point Pinker's recently-republished monograph (and a number of related empirical studies: Gropen, Pinker, Hollander, Goldberg & Wilson, 1989; Gropen, Pinker, Hollander & Goldberg, 1991a, 1991b; Pinker, Lebeaux & Frost, 1987) and summarizes what we have learned about the retreat from overgeneralization in the past quarter century, and what key issues still require further investigation.



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ALWAYS LEARNING

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Three-year-olds use prosody online to constrain syntactic analysis

Alex Carvalho, CNRS, Ecole Normale Supérieure, Paris Isabelle Dautriche, CNRS, Ecole Normale Supérieure Anne Christophe, CNRS, Ecole Normale Supérieure

In two experiments we investigated whether young children are able to use the position of a word within the prosodic structure to compute its syntactic category (noun vs. verb). Pairs of noun/verb homophones in French were used to create locally ambiguous sentences: [la petite ferme] [est jolie] the small farm is nice vs. [la petite] [ferme la fenêtre] the little girl closes the window, where brackets indicate phonological phrase boundaries. Crucially, following the homophone were masked, such that prosodic disambiguating information. were only Children successfully exploited prosody to assign the appropriate syntactic category to the target word in both an oral completion task (4-year-olds, Experiment 1) and in a preferential looking paradigm with an eye-tracker (3-and 5-year-olds, Experiment 2). Altogether, results show that upon hearing the first words of a sentence, even 3-year olds exploit prosody online to constrain their syntactic analysis.

Session B--East Balcony

Why are some words learned before others? Predictors of lexical production in infants and children learning English

Jesse Snedeker, Harvard University Margarita Zeitlin, Harvard University Jean Crawford, University of Connecticut - Storrs

This study explores the predictors of early vocabulary acquisition in two populations: typically developing infants acquiring English as a first language, and internationallyadopted preschoolers who who are acquiring English as they lose their first language (2;6 - 5;6). We collected imageability and concreteness ratings for all words on the CDI-2 (disambiguated for syntactic category) and computed the frequency of each word in CHILDES. We found that the order in which words were acquired was strongly correlated in the two groups. Early acquisition was predicted by both imageability and concreteness, which were highly correlated with each other, and frequency. There was an interaction between frequency and imageability/concreteness: it is the words that are high in both that are learned first. We conclude that children initially learn the words that can most readily be paired with a concrete referent, for reasons that are independent of age but tightly linked to linguistic knowledge.

No	otes

Session C--Conference Auditorium

Non-similar grammatical gender systems in the mental lexicon: A study of Spanish-German bilinguals

Rachel Klassen, University of Ottawa Juana M. Liceras, University of Ottawa

Previous research has led to conflicting notions of the representation of L1 and L2 grammatical gender systems in the mental lexicon: in the gender-integrated representation hypothesis (Salamoura & Williams, 2007) the L1 and L2 gender nodes are shared, while nodes are language-specific in the gender autonomous representation hypothesis (Costa et al, 2003). We address this debate, extending this research to L1 and L2 systems mismatched in number of gender classes. L1 Spanish-L2 German speakers performed an L2 picture-naming task in which gender congruency (congruent, incongruent and neuter) between L1 and L2 nouns was manipulated. Latencies were shorter for gender-congruent nouns, and neuter nouns were named even faster than gender-congruent ones. These gender congruency effects support the genderintegrated representation hypothesis and indicate a unique representation of the gender not present in the L1 which interferes with the response significantly less than when the incongruency is between genders present in both languages.

Infants' ability to discriminate between statements and questions

Susan Geffen, University of Southern California Toben Mintz, University of Southern California

Children must distinguish between statements and questions in order to accurately acquire language, but it is unclear when or how they do it. Experiment 1 examined whether prosodic characteristics of infant-directed questions and statements could differentiate them. Statements and yes/no questions differed on several dimensions, but statements and whquestions did not. Experiment 2 tested whether 11-13-montholds could nevertheless distinguish sentence types using lexical information. Half the infants were familiarized to statements, the remainder to questions. All infants were tested on new sentences of both types. Sentences were resynthesized to have monotone pitch and matched utterance-final vowel length, neutralizing any prosodic differences. Overall, there was a significant novelty preference and no interaction of trial type with familiarization type. Thus, while prosody is insufficient for distinguishing wh-questions from statements, by 11-months infants can use word order to distinguish statements and questions. This ability could provide an important foundation for acquiring syntactic knowledge.

Session B--East Balcony

The ins and outs of spatial language: Places, paths and negative spatial prepositions

Anna Papafragou, University of Delaware Joshua Viau, University of Delaware, Johns Hopkins University

Barbara Landau, Johns Hopkins University

Among the earliest learned spatial prepositions Containment *in/out* and Support *on/off*. These prepositions denote both static locations ('places':be in/out of X) and dynamic motions ('paths': go in/out of X). In three experiments, we show that out/off (unlike in/on) are more frequently used to mark paths than places, even by 3-year-old children, and this asymmetry surfaces cross-linguistically. We propose that this distribution follows from the fact that, unlike other prepositions, *out/off* have negative spatial semantics (e.g., out means 'not in'). Negative statements in language are usually not informative unless they are denials of prior positive statements. As path, but not place expressions, out/ off function as denials in ordinary, neutral contexts, as both young and more mature language users seem to realize. Thus prepositional semantics and the place/path distinction conspire to produce subtle and universal properties of spatial language.

Session C--Conference Auditorium

Accessing cross language categories in learning a third language

Page Piccinini, University of California - San Diego Amalia Arvaniti, University of Kent

Some theories claim bilinguals have constant access to both sound systems, while others say bilinguals are limited to one system at a time. To test these theories early Spanish-English bilinguals were exposed to Eastern Armenian, which includes a three-way voice onset time (VOT) contrast (negative, shortlag, long-lag). In a production task speakers significantly produced all three contrasts differently. However, balanced bilinguals differentiated the contrasts better than English dominant bilinguals, using a larger range of VOT values. In an AX discrimination task participants were best at discriminating negative versus long-lag VOT, followed by short-lag versus long-lag and negative versus short-lag which were not significantly different. Results suggest there is a mismatch between production and perception, in that bilinguals are better at producing than detecting differences in VOT when exposed to a third language. Bilinguals were influenced by their dominant language in production, but in perception performed similarly regardless of language dominance.

Notes

Personal pronoun avoidance in deaf children with autism

Aaron Shield, Boston University Richard P. Meier, University of Texas - Austin

Children with autism spectrum disorder (ASD) often have difficulty with personal pronouns, either reversing them or avoiding their use altogether, instead referring to themselves or others by name. The personal pronouns 'I/me' and 'you' in American Sign Language (ASL) are points with the index finger to self and other, respectively. Thus, they transparently pick out the person to whom they refer, which could support their use by deaf signing children with ASD. To test this hypothesis, 18 deaf children with ASD (all of deaf parents; ages 5;1-14;4; M=9;9), matched for chronological and mental age with a group of typically-developing deaf children, were tested on a sign pronoun elicitation task. The children with ASD tended to avoid sign pronouns, instead referring to themselves and others by name. Personal pronouns thus appear to pose a particular challenge to ASD learners in both sign and speech, despite the transparency of sign pronouns.

Session B--East Balcony

The acquisition of relative clauses in Q'anjob'al Mayan

Annie Gagliardi, Harvard University Pedro Mateo Pedro, Harvard University Maria Polinsky, Harvard University

Q'anjob'al (Mayan) is argued to be syntactically ergative, meaning that ergative-marked subjects of transitives cannot be extracted. To extract an ergative argument to form a relative clause headed by the subject of a transitive ('agent RC'), speakers use the 'agent focus' (AF) construction, turning ergativemarked subjects into absolutive arguments. To form an object RC ('theme RC'), speakers have two options: extraction of the object from a simple transitive, or extraction of the subject of a passive. As no work has investigated the acquisition of RCs in syntactically ergative languages we looked at the comprehension of RCs in Q'anjob'al. We found that Q'anjob'al children first acquire subject relatives, despite the added complexity of AF. Adult data suggest that the status of AF (and concomitantly, of syntactic ergativity) is less categorical in Q'anjob'al than has been reported, as transitive forms are also sometimes used for extracting agents, complicating the acquisition problem.

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Session C--Conference Auditorium

Specifying event reference in verb learning

Sudha Arunachalam, Boston University Kristen Syrett, Rutgers University

By age two, children map novel verbs in transitive SVO frames to causative events. However, they do not consistently map verbs in conjoined-subject intransitive frames to scenes depicting non-causative, synchronous events. Although some have suggested that children's ability to understand this frame is still developing, adults also perform at chance when choosing between causative and synchronous referents for verbs in this frame. This suggests that the semantics associated with this frame are compatible with both scenes, and that it is underinformative for the intended event referent. We asked whether adding supplemental semantic information in the form of the adverb "together," which can signal spatiotemporal event contiguity, could help learners zero in on the synchronous event interpretation. We found that "together" directs both adults and 2.5-year-olds to choose a synchronous event as the referent of a novel verb in an intransitive, conjoined-subject frame, demonstrating how event semantics can complement syntax.

Preference for child-directed speech at 12 months is related to autism diagnostic assignment at ages 2 and 3 in high risk infants

Rhea Paul, Yale University, Sacred Heart University Elizabeth Simmons, Yale University Gerald McRoberts, Yale University

Preference for child-directed speech was examined in infants at high risk (HR) for autism, those with a full sibling with ASD. HR infants were seen at 12 months for preference testing and at 24 months for diagnosis of ASD. Stimuli included nursery rhymes read:

• with child-directed (CD) intonation and

• in neutral intonation

All stimuli were low-passed filtered.

There were significant relations between time spent attending to CD speech at 12 months and scores on language measures at 24 months for the HR infants. Time spent orienting to CD speech was significant in discriminating HR infants who received diagnoses of ASD from those that did not at 24 months. These findings suggest reduced orientation to CD speech at the end of the first year may be a marker of prognosis during the preschool period, and may also help to explain some of the language deficits seen in children with ASD.

Session B--East Balcony

Acquisition of Tagalog relative clauses

Nozomi Tanaka, University of Hawaii - Manoa William O'Grady, University of Hawaii - Manoa Kamil Deen, University of Hawaii - Manoa Chae-Eun Kim, University of Hawaii - Manoa Ryoko Hattori, University of Hawaii - Manoa Jennifer Soriano, University of the Philippines Ivan Bondoc, University of the Philippines

While the preference for subject relatives (SRs) over object relatives (ORs) has been attested in many nominative-accusative languages, including English, only a very few studies have examined the acquisition of relative clauses in ergative-absolutive languages. Gutierrez-Mangado's (2011) study on Basque children reports that the SR preference is not maintained in ergative-absolutive languages. The current study makes use of an elicited production task to examine relativization in Tagalog, an ergative verb-initial language with post-nominal relative clauses. Results suggest a higher success rate on SRs, despite the need for an extra antipassivization operation. This confirms the relevance of production tests to the evaluation of developmental preferences in relative clauses and raises the possibility that work along these lines on other ergative languages may yet uncover a universal preference for subject relative clauses.

Session C--Conference Auditorium

Acquisition of conjoined agent intransitive argument structure:
A training study

Claire Noble, University of Manchester Elena Lieven, Max Planck Institute for Evolutionary Anthropology, University of Manchester

A clear pattern has emerged in the literature regarding the acquisition of simple syntactic structures with knowledge of the transitive emerging before knowledge of the conjoined agent intransitive (CAI).

We investigate whether this later acquisition of the CAI is due to a) the low frequency of the CAI in the input or b) children relying on an (incompatible) sentence processing bias to assume the first noun in all structures is a causal agent.

The results indicate that children who were given increased exposure to the CAI in a training phase performed significantly better in a second pointing task. In contrast, children in a control condition and children given increased exposure to structures in which the first noun is not a causal agent showed no improvement in performance.

The results suggest that children develop the ability to comprehend the CAI later than the transitive because it is infrequent in the input.

Notes



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Children don't like restrictions: Evidence from the acquisition of object A'-dependencies in French

Anamaria Bentea, University of Geneva Stephanie Durrleman-Tame, CNRS, University of Geneva, Université de Lyon

Children's difficulties with headed object A'-dependencies are considered to stem from the intervention of a stucturally similar element (the subject) in the interpretive chain formed by the moved object and the gap. This study taps into the notion of similarity by assessing the effect of set-restriction and its interaction with animacy on the comprehension of wh-questions and relative clauses. The link between the computation of these structures and working memory (WM) capacities is also explored. 119 French-speaking children were tested on a character-selection task with structure-type, animacy and set-restriction as variables. WM was assessed through a digit-span task. Results show significantly better performance for -Set-restricted object A'-dependencies than for +Set-restricted ones. We argue that an analysis purely in terms of syntactic similarity cannot capture these effects. Moreover, weaker correlations between WM and accuracy for -Set-restriction structures show that the soliciting of WM resources depends on the nature of the disambiguating information.

POSTER SESSION II

Early comprehension of verb number morphemes in Czech: Evidence for a pragmatic account

Veronika Bláhová, Academy of Sciences of the Czech Republic, Institute of Psychology Filip Smolík, Academy of Sciences of the Czech Republic

Comprehension of verb number inflections appears to be a difficult task for children in various languages, including English and Spanish. We tested whether this would also be the case in Czech, where children use grammatical morphology from the earliest age. Using a picture-pointing task, we examined 72 monolingual children aged 3;0 to 4;7. Twenty comprehension items of 4 different types were presented, half in singular and half in plural, counterbalanced in 2 versions. The sentence types differed in whether number was marked on the verb only, on the verb and subject nouns, or on nouns only. Children showed above-chance performance in plural sentences from the earliest age, but singular sentences were initially comprehended below chance level, which improved with age. No effects of sentence type were observed. Overall, the findings suggest that the 3-year-olds have some knowledge of verb number, but still must acquire important aspects of the system.

POSTER SESSION II

At 5 months, vowels weigh more than consonants for own name recognition in French-learning infants

Camillia Bouchon, University of Paris V, Laboratoire de Psychologie de la Perception CNRS Thierry Nazzi, University of Paris V, Laboratoire de Psychologie de la Perception CNRS

Do consonants and vowels contribute differentially to early lexical recognition, given that consonants have been proposed to carry more information at the lexical level (Nespor et al., 2003)? Preferential processing in lexical tasks switches from vowels to consonants between 6 and 12 months, according to two recent findings both using unfamiliar words (Hochmann et al., 2011; Nishibayashi & Nazzi, 2012). Using HPP, the present study investigates the possibility that a consonantal bias might be found at 5 months in familiar words by testing 60 French-learning infants' sensitivity to a word-initial minimal mispronunciation occurring either on a consonant (e.g. /viktor/-/zictor/) or a vowel (e.g. /ygo/-/ugo/) in their own name (Mandel et al., 1995). Results indicate that only the vocalic change yields a preference for the name, showing that the consonantal bias has not emerged yet and suggesting that 5-month-olds rely on acoustic saliency to detect phonetic changes even in familiar words.

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Morphosyntactic issues in the development of Cypriot Greek individuals with Down Syndrome

Christiana Christodoulou, Massachusetts Institute of Technology, University of Cyprus, Cyprus Acquisition Team Kleanthes Grohmann, University of Cyprus, Cyprus Acquisition Team

This study examines the morphosyntactic development of Cypriot Greek-speaking children and adolescents diagnosed with Down Syndrome (CGDS) aged 6;0–18;11, and compares it to that of children with typical language development (CGTLD) aged 2;0–6;11, aiming to document the developmental trajectory

for their linguistic development. Preliminary results show high accuracy rates for Person/Number (CGDS: 97.9%/98.5%, CGTLD: 99.2%/99.7%). However, while it is evident that CGDS and CGTLD present different mastery of all verbal and nominal inflectional features, a more detailed analysis based on age shows that participants make use of alternative strategies to accommodate their productions, such as use of narrative present in story-telling (as opposed to past) or the 'less-than-a-forceful-command' use of the subjunctive (instead of imperative). These results, combined with the findings from older CGDS and CGTLD (Christodoulou 2011), corroborate the claim that the DS linguistic development is to a great degree dissociated from cognitive development and that it is ongoing. Notes

POSTER SESSION II

Online processing of English Which-questions by children and adults: A visual world study

Carla Contemori, Pennsylvania State University Theodoros Marinis, University of Reading

Research into language processing examines how linguistic representations are constructed in real time and how different sources of information become available over time. In this paper we aim at contributing to the study of children's processing routines, examining the operations underlying the auditory processing of Which-questions in children compared to adults. English-speaking children (5-7;10) and adults participated in the study, which employed an eye-trackingwhile-listening task with a final comprehension question.

The aim was to determine (i) how the real time processing of Which-subject questions differs from that of Which-object questions and (ii) the role of number agreement in Whichobject questions, in which the subject and object NPs differ in terms of number properties. Even though children's offline accuracy was not always comparable to that of adults, analyses of eye-tracking results support the view that children have the same structural processing observed in adults.

POSTER SESSION II

Ditransitive complement orders in Hebrew adult and child language

Rachel Eitan, Ben-Gurion University of the Negev Jeannette Schaeffer, University of Amsterdam

This paper reports the results of an experimental study of direct object-indirect object (DO-IO) word order in Hebrew adult and child ditransitive give constructions. Across languages, ditransitive constructions exhibit two possible linear orders of their verbal complements: DO-IO and IO-DO. This phenomenon, often referred to as the 'dative alternation', is exemplified in the Hebrew sentences in (1).

- (1) a. Avishag natna et ha-simla le-Liri Avishag gave-f acc the-dress to-Liri ('Avishag gave the dress to Liri.')
 - b. Avishag natna le-Liri et ha-simla Avishag gave-f to-Liri acc the-dress ('Avishag gave Liri the dress.')

We argue that like adults, very young children base their choice for either DO-IO or IO-DO order on Information Structure (IS), by letting the focus follow the topic. This suggests that a) the complement order is not truly optional, and b) the notions of topic and focus are available to children at a very early age.

Animacy and verb classes in Nicaraguan Sign Language

Molly Flaherty, University of Chicago Susan Goldin-Meadow, University of Chicago Ann Senghas, Barnard College Marie Coppola, University of Connecticut - Storrs Lila Gleitman, University of Pennsylvania

Languages around the world group verbs by the animacy of the participants involved in the actions they describe. Here we ask whether these different classes of verbs are so central to language that they will appear even in a brand new language: Nicaraguan Sign Language (NSL). This study investigates 4 descriptions of animate-inanimate and 4 of animate-animate events in Homesigners, deaf individuals not exposed to NSL, and three cohorts of NSL signers. We found that all four groups treated verbs in animate-animate events differently from verbs in animate-inanimate events. They produced more verbs that depict Two Sequential Perspectives for animate-animate events than for animate-inanimate events. Two other verb types showed the reverse pattern or no clear pattern. These data suggest that differentiated verb classes based on patient animacy is a strong bias in natural languages, so strong that it can arise even in the earliest users of an emerging language.

POSTER SESSION II

Do language learners (and competent speakers) gesture during expressive difficulties?

Maria Graziano, Lund University Marianne Gullberg, Lund University

Many disciplines assume that language learners produce gestures mainly to overcome expressive difficulties, predicting a higher gesture frequency during disfluent than fluent speech. This study tests the putative compensatory role of gestures by comparing the gestural behavior in fluent vs. disfluent stretches of narratives by adult native Italian speakers (n=11), children learning Italian (n=33; age 4-10), and adult Dutch learners of French (n=11). Results indicate that child and adult learners and native speakers predominantly gesture during fluent speech; all groups suspend gestures during the onset of disfluencies. All groups produce depicting or referential gestures during disfluencies but also pragmatic gestures conveying non-propositional content. The data suggest that when speech stops, gesture stops in both competent and less-competent speakers. They thus provide support for the notion that speech and gestures form an integrated system (Kendon, 2004; Kita, 2009; McNeill, 1992).

POSTER SESSION II

Two-year-olds distinguish snakes from nakes, but not trains from tains

Margarita Gulian, Leiden University Caroline Junge, University of Amsterdam Clara Levelt, Leiden University

Research suggests that by 18 months, infants have detailed segmental representations since they notice mispronunciations in word onset position (Swingley & Aslin, 2002; 2007). However, this has only been tested with words starting with a single consonant. Production data show that, initially, most toddlers omit one of the consonants of target consonant clusters. In a preferential-looking procedure we presented 2-year-olds (n=40; 20 girls) with familiar words, all with onset clusters, that were either correctly produced or with one of the onset consonants omitted. The mispronunciations followed typical Dutch toddler production data: the /s/ was omitted for /s+consonant/-clusters ('snake' becomes 'nake') and the liquid was omitted in /consonant+liquid/ -clusters ('train' becomes 'tain'). Our findings suggest that toddlers have not stored all clusters in full detail: toddlers only notice an omission when the first consonant, the /s/, is omitted, but not when the second consonant, a liquid, is omitted.

Notes

A psycholinguistic account of morphological variability in the second language

Ayse Gurel, Bogazici University Serkan Uygun, Yeditepe University

This study investigates morphological processing in adult L2 learners of Turkish via a masked priming experiment in which the prime-target pairs were presented in three prime conditions: i) Identity (bekle-bekle, 'wait for'), (ii) Test (bekledi, 'waited for' -bekle, 'wait'), and (iii) Unrelated (tükür, 'spit'- bekle, 'wait'). A 2x3 Mixed ANOVA for RTs revealed significant main effects of Group (F=12.117, p<.002) and Condition (F=6.987, p<.005). Planned comparisons showed no significant difference among the three prime conditions in native controls, suggesting no morphological priming in L1 processing. In the L2 group, the Test and Identity condition primes facilitated the recognition of the target items more than the Unrelated primes (p=.000 and p=.044). Nevertheless, there was no significant difference between the RTs in the Test condition and those in the Identity condition, indicating full-priming (morphological decomposition) for the L2 group. This decompositional representation/access procedure might be the cause of variable use of L2 inflections.

POSTER SESSION II

Silence is golden: 4-5 year-olds vary pause length to highlight focus in Dutch

Anna Sara H. Romøren, University of Utrecht Aoju Chen, University of Utrecht, Max Planck Institute for Psycholinguistics

Speakers pause for various reasons, ranging from speech planning demands and metrical considerations to pragmatic purposes. Among pragmatic reasons, speakers pause longer to initiate a new topic or to highlight certain information. In this study we asked whether pausing might be a parameter available for young children to use in focus marking. Through the use of a picture matching game, we elicited sentences with narrow focus in initial, medial and final position from a group of Dutch 4-5-year-olds, compared to adult controls. Analyzing the children's pause patterns revealed a consistent relationship between pausing and focus. In light of additional analyses of the children's use of pitch and duration, we discuss what their use of these different cues can tell us about the acquisition of prosodic focus marking.

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POSTER SESSION II

The processing of German passives: A study with 4- and 5-year-old children

Yair Haendler, University of Potsdam Flavia Adani, University of Potsdam

We compared child comprehension of verbal passives (VP; which express an action) and adjectival passives (AP; which express a state/result). Since only VPs involve an object movement and, in German, the two passive types are not homophonous, VPs are predicted to be harder than APs for children younger than 5 (Borer & Wexler, 1987; Wexler, 2004). We measured off-line (sentence-picture matching) and on-line (eye-tracking) comprehension of VP/AP in 4-, 5-year-olds and adults. Offline, 4-year-olds performed equally accurately and significantly above chance on both conditions; on-line, 4-year-olds' gazes indicated correct processing of APs only, whereas 5-year-olds' gazes, like adults', suggest correct processing of both conditions. We argue that the ability to compute the object movement in a VP and correctly interpret its meaning is available already at age 4. The eye-tracking data reveal processing difficulties during on-line tasks, which appear to persist until age 5.

The role of surface and global syntactic structure in crosslinguistic priming

Gunnar Jacob, University of Potsdam Kalliopi Katsika, University of Kaiserslautern Mark Calley, Northeastern University Lisa Martinek, Northeastern University Neiloufar Family, University of Kaiserslautern Shanley Allen, University of Kaiserslautern

The present study investigates the extent to which structural knowledge is shared between two languages in the representational system of bilinguals (Hartsuiker & Pickering 2008). In two cross-linguistic structural priming experiments, we explore the role of level of embedding and word order in structural priming from L1 German to L2 English. In Experiment 1 we find significant cross-linguistic priming from German to English main clause, but not from German to English subordinate clause. In Experiment 2, we find no cross-linguistic priming either from German main to English subordinate clause, or from English main to German subordinate clause. These results differ from previous findings for within-English priming (Branigan, Pickering, MacLean & Stewart, 2006), in which priming occurred irrespective of clause type. We conclude that crosslinguistic priming, unlike within-language priming, relies both on word-order and clausal similarity between prime and target.

POSTER SESSION II

Early acquisition of word stress: a cross-linguistic infant study

Brigitta Keij, University of Utrecht, Utrecht Institute of Linguistics OTS René Kager, University of Utrecht, Utrecht Institute of Linguistics OTS

Infants show an early sensitivity to the rhythmic properties of languages. We compare previous findings with infants between 4 and 8 months learning metrically opposed languages, namely Dutch (initial/pre-final stress) and Turkish (final stress). Instead of using the traditional HPP, an innovative 'looking-whilelistening' paradigm using eye-tracking was employed to test the emergence of rhythmic preferences. In total, 90 Dutchand 90 Turkish-learning infants aged 4, 6 and 8 months were tested. The results show that the Dutch-learning infants present a language-specific trochaic preference, which is strongest at 6 months. However, the Turkish-learning infants also show a trochaic preference, which is strongest at 4 months. We try to interpret these results by investigating the development of familiarity and novelty preferences during the experiment, as well as by taking a closer look at the individual preferences of the infants within the different language and age groups.

POSTER SESSION II

Patterns in lexical and morpho-syntactic acquisition as precursors or predictors of developmental dyslexia in Dutch at-risk children

Evelien Krikhaar, Radboud University Nijmegen Ben Maassen, University of Groningen Paula Fikkert, Radboud University Nijmegen

In the Dutch Dyslexia Project (DDP), over 300 children and their families were followed from the age of two months until their 10th birthday, in search of early precursors of developmental dyslexia. Within this longitudinal study, language production data were collected on a regular basis between the ages of 17 months and 47 months.

Results from parental reports on vocabulary growth as well as analyses of spontaneous sentence production reveal that before the age of two, children at familial risk of developing dyslexia already have delayed and deviant language production profiles, and several deviances and delays appear to persist until at least the age of 4 years. Aspects of these profiles correlate significantly with word and non-word reading in second grade (age 8), and seem to be predictive of specific reading problems associated with dyslexia. The results will be discussed in perspective of the phonological deficit underlying developmental dyslexia.

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Sensitivity to non-adjacent dependencies and grammatical category relations in 11-month-old infants

Milene Laguardia, Federal University of Juiz de Fora Cristina Name, Federal University of Juiz de Fora Rushen Shi, University of Quebec - Montreal

This study investigates infants' sensitivity to non-adjacent dependencies and their ability to extract grammatical categories from distributional information in natural language. Using Brazilian-Portuguese determiners and noun endings, we created artificial grammatical categories and agreement. Participants were 11-month-old Brazilian infants. In a preferential looking procedure, one group of infants heard two determiners (nosso, seu) preceding e-ending pseudo-nouns, and two other determiners (esse, meu) preceding different pseudo-nouns with the a-ending. Another group of infants heard the reverse pattern (nosso/ seu with a-ending pseudo-nouns; esse/meu with e-ending pseudo-nouns). Test phrases presented the two patterns to all infants, with the familiarized determiners preceding new a- or e-ending pseudo-nouns. The grammaticality of the test trials was reversed for the two groups. Results showed that infants discriminated the grammatical and ungrammatical phrases. They tracked the non-adjacent dependencies and used this information to generalize new grammatical categories, indicating that early learning mechanisms are instantaneously sensitive to input distribution.

POSTER SESSION II

Children's my-for-I errors: A corpus analysis

Stacey Mcknight, University of Manchester Anna Theakston, University of Manchester Elena Lieven, Max Planck Institute for Evolutionary Anthropology, University of Manchester

English-speaking children commonly produce pronoun case errors around the age of two-to-four-years. Genitive-fornominative (my-for-I) errors, e.g. "my make it" cannot be explained by pronoun+verb constructions in the input (like me/ her errors). A corpus analysis was conducted to investigate in study 1, if other aspects of the input can explain these errors. However, the input frequency of (1) my; (2) am-I+verb misinterpreted as my+verb; (3) my+noun with items that are also verbs; (4) proportion of pronominal input compared to proper-name+verb, was not related to children's my-error rates. In study 2, a functional analysis investigated the claim that children use my pre-verbally to express agency and control (Budwig, 1989). A mixed effects model found a significant main effect of predictors 1, 2, and 3 (relating to some degree of agency/ control over an event), p<0.001, with my-errors matching the coding categories significantly more than the I-utterances. This shows that my-errors do have some function of agency/control.

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POSTER SESSION II

Monolingual and bilingual infants follow different developmental patterns in neural specialization of native speech processing

Monika Molnar, Basque Center on Cognition, Brain, and Language Marcela Pena, Catholic University of Chile Ileana Quinones, Basque Center on Cognition, Brain, and Language Martijn Baart, Basque Center on Cognition, Brain, and Language Cesar Caballero, Basque Center on Cognition, Brain, and Language Manuel Carreiras, Basque Center on Cognition, Brain, and Language

To test whether exposure to two vs. one language from birth alters the neural mechanisms of native speech processing, we used near-infrared spectroscopy for recording brain activation during the presentation of native speech, native backward speech, and silence in 4-month-old Basque-Spanish monolingual and bilingual infants. Monolingual infants demonstrated clear left-lateralized responses to native speech in comparison to non-native speech, backward stimuli, or silence. Bilingual infants, however, exhibited no left-lateralized processing in either of their native languages, but demonstrated different processing of Basque and Spanish as compared to the baseline conditions. The development of neural specialization for native speech processing appears to follow different patterns in young monolingual and bilingual infants.

Reasoning on possibilities – an eye tracking study on modal knowledge

Vincenzo Moscati, Macquarie University Likan Zhan, Macquarie University Peng Zhou, Macquarie University

We will present the results of a new eye-tracking study, investigating children's understanding of epistemic modality in a deductive scenario based on a version of the Hidden-Object-Task (Hirst & Weil 1982, Noveck 2001). Our eye-tracking data suggest that children at age 5 apply different verification strategies in accordance with the type of modals and that they immediately distinguish between "might" and "must". Online measurement of fixations revealed a more fine-grained knowledge of the modal paradigm if compared with previous studies employing behavioral measures such as truth value judgments. We will discuss this asymmetry between on-line and off-line results in relation to an external factor (i.e. premature closure), first proposed in Acredolo & Horobin (1987), to account for children's discard of alternative outcomes.

POSTER SESSION II

Bias for action over shape in learning sign-referent links: Evidence from Turkish Sign Language (TİD)

Gerardo Ortega, Max Planck Institute for Psycholinguistics,
Radboud University Nijmegen
Inge Zwitserlood, Radboud University Nijmegen, Max Planck
Institute for Psycholinguistics
Beyza Sümer, Radboud University Nijmegen, Max Planck
Institute for Psycholinguistics
Asli Özvürek Radboud University Nijmegen, Max Planck

Asli Özyürek, Radboud University Nijmegen, Max Planck Institute for Psycholinguistics

This study proposes that signs depicting actions may be the first to emerge in deaf children acquiring Turkish Sign Language. In an elicitation task, deaf pre-school children, school-age children, their parents and a different group of adults produced a variety of lexical variants for five concepts. These depicted the **action** associated with an object (e.g., the sign TOOTHBRUSH depicts someone brushing their teeth) or their **shape** (e.g., an extended index represented a toothbrush). Children favoured action-based variants while adults overwhelmingly used shape-based signs. Parents, who - unlike the adult group - interacted with their children, used both variants comparatively. Preference for action-based signs during parent-child interactions could serve as a communicative strategy before children learn shape-based signs, even if the latter is the preferred variant in adult signers.

POSTER SESSION II

If not attrition or incomplete acquisition, then what?: Back to the basics of the input in heritage speaker bilingualism

Diego Pascual y Cabo, Texas Tech University

In this study we examine Spanish heritage speaker (HS) competence of reverse psychological predicates (i.e., gustar-like verbs). To provide an explanatory analysis of HS outcomes in this domain (e.g., de Prada Pérez & Pascual y Cabo 2011; Toribio & Nye 2006), it is proposed that these unaccusative verbs are being reanalyzed in HS Spanish taking an optional stative-agentive alternation, a use deemed ungrammatical in monolingual grammars. With this innovation, gustar-like verbs would match the well-documented hybridity displayed by other psych-verbs (asustar "to frighten"). Data gathered from (i) a 1-4 scalar grammaticality judgment task and (ii) an elicited production task reveal significant differences between the experimental and the control groups that are consistent with the aforementioned hypothesis.

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Preschoolers' use of rhyming features to learn the names of novel creatures: Rhyme, pausing and prediction in vocabulary acquisition

Kirsten Read, Santa Clara University

Rhyme, which is ubiquitous in preschoolers' early language experiences, may be especially facilitative to vocabulary learning because of how it can support active predictions about upcoming words. In two experiments, we tested whether rhyme, when used to anticipate new words, would make them easier to learn. Preschoolers heard rhyming stanzas naming novel monsters under three conditions: (1) Predictive Rhyme, where the monster name came after a description of distinguishing features that rhymed with it; (2) Non-Predictive Rhyme, where the name came first, and (3) Non-Rhyme. In tests of comprehension and production, children showed greatest name learning in the Predictive Rhyme condition compared to the Non-Predictive and Non-Rhyme conditions. Additionally, when caregivers distinctly paused before target words, a stronger Predictive Rhyme advantage surfaced. Thus rhyme is not only facilitative for learning, but when the novel vocabulary is specifically in a position where it is predictable from the rhymes, it is most accessible.

POSTER SESSION II

Children's comprehension of cohesive use of space by gestures accompanying spoken discourse

Kazuki Sekine, University of Warwick Sotaro Kita, University of Warwick

This study examined how well 5-, 6-, 10-year-olds and adults integrated information from spoken discourse and cohesive deictic gestures in comprehension. In Experiment 1, participants were presented with spoken discourse along with a sequence of "abstract deictic gestures", which consistently located protagonists in distinct locations, and then with a test sentence that was linguistically ambiguous as to the relevant protagonist, but the location of the accompanying gesture disambiguated the protagonist. Adults and 10-year-olds identified the protagonist in the test sentence better than 5-year-olds. In Experiment 2, another group of 5-year-olds was presented with the same stimuli except that the gestures were replaced with hand-held pictures depicting the protagonists. 5-year-olds performed better than in Experiment 1. Thus, 5-year-olds failed to integrate spoken discourse and gestures because they cannot derive a referent of gestures from the local speech context.

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POSTER SESSION II

A new look at determiners in early grammar: Phrasal quantifiers

Yu Kyoung Shin, Sogang University

Children's early use of determiners has been claimed to be the result of the use of limited formulae or repertoires of rote-learned phrases. The paucity of children's determiner errors, therefore, is the result of reliance on [specific determiner + noun] sequences (e.g., Pine & Lieven, 1997). However, most previous work on children's use of English determiners has been restricted to determiners within noun phrases. This study investigates children's use of determiners within phrasal quantifiers (PQs). There are three kinds of PQs: those that (i) obligatorily require a definite determiner (e.g., many of the toys); (ii) tend to (but may not) precede a noun without any determiner (e.g., plenty of toys); and (iii) are contextually dependent (e.g., a part of a/the toy). Therefore, determiner use within PQs depends (at least partly) on the preceding phrase and not the noun itself. Correct determiner use within PQs, then, cannot be accounted for solely in terms of formulae of [specific determiner + noun] sequences (e.g., the toys). This study provides evidence in favor of the syntactic competence approach by showing that English-speaking children exhibit adult-like use of determiners in the domain of PQs.

Processing spatial statements in children with SLI: Language deficit, visual attention deficit or both?

Maja Stegenwallner-Schütz, University of Potsdam Flavia Adani, University of Potsdam

We investigated the processing of spatial statements in children with SLI (n=10; mean age: 7;3) and their language-matched controls (mean age: 4;7) using the visual-world paradigm. With only one object shown on the screen, proportions of looks to the target location of a second object were measured. Children with SLI as well as the controls benefited from visually-present reference objects (e.g., the doll in "The monkey should be above the doll") to identify an object location. This benefit in linguistic localization is predicted by a reference frame theory of visual-spatial attention (Logan, 1995). However, processing spatial statements of non-canonical word order was hindered in children with SLI (with regard to the controls), despite the optimal (i.e., given-new) linearization of constituents (cf. Hörnig et al., 2005). These results contribute to the characterization of SLI as a language-specific deficit.

POSTER SESSION II

Interpretation of logical words in Mandarin-speaking children with and without autism spectrum disorders: Comparing knowledge of semantics and pragmatics

Yi (Esther) Su, Central South University Lin-Yan Su, Central South University

This study explores language profiles in high-functioning children with autism spectrum disorders (ASD) by investigating their interpretation of logical words like 'some' and 'every... or...', which evokes the operation of both semantic and pragmatic systems in human languages. Twenty-eight 4-15-year-old Mandarin-speaking high-functioning children with ASD and 28 matched typically-developing children were tested using a computer-based Truth Value Judgment task. Younger children with ASD demonstrated delays in their semantic knowledge of sentences like 'Every child got a star fish or a shell' (but not with simpler sentences like 'Some children found sea snails'), when compared with typicallydeveloping children. Older children with ASD generally grow out of this difficulty, whereas some of their atypical replies may be attributed to their impaired cognitive flexibility. Interestingly, despite their pervasive deficits in other pragmatic areas, these high-functioning children with ASD appear to possess similar knowledge of scalar implicatures to typicallydeveloping children when interpreting these logical words.

POSTER SESSION II

Preschoolers use relevance inferences to learn new words

Jessica Sullivan, University of California - San Diego David Barner, University of California - San Diego

While children can learn word-referent pairings from ostensive labeling, much of children's language exposure is passive, and even instances of ostensive labeling are often too ambiguous to establish reference. When a parent points and says 'Gavagai', the child needs additional information to determine whether 'Gavagai' refers to an object, its texture, etc. (Quine, 1960). We propose that children rely on pragmatic inferences about the relevance of one utterance to another to disambiguate new words. For example, if a child who hears 'I'm hungry. Look, Gavagai!' tracks how each statement is relevant to the discourse (e.g., 'hungry' is relevant to 'Gavagai') and uses this to model the speaker's intentional state (e.g., 'the speaker is hungry so she is talking about food'), she can isolate the Gavagai's referent ('Gavagai is something food-related!'). In two experiments, we show that 2-to-4-year-olds can learn the referent of a new word from the discourse context.

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The influence of intervening NP type on long distance dependencies in L2 English

Aya Takeda, University of Hawaii - Manoa Chae-Eun Kim, University of Hawaii - Manoa

The Givenness Hierarchy (Gundel, Hedberg & Zacharski, 1993) proposes a relationship between NP type and givenness of referents in discourse: NPs referring to focused entities (e.g., pronouns) are highly activated, hence easily accessible in processing, whereas discourse-peripheral NPs (e.g., indefinites) are less accessible. Using sentences like "The [cookie/cookies] that [I/he/a student] baked last night [was/were] very delicious," our self-paced reading study investigates how the NP type of the intervening subject of object relative clauses (RCs) affects processing of verb-object and subject-verb dependencies. Both English natives and L1-Korean L2ers of English showed faster RC verb-object integration with more accessible NPs. Both groups also showed a main effect of matrix subject-verb (dis)agreement: natives with singular and plural subjects; L2ers with only plural subjects. However, that neither group evinced an interaction between NP type and (dis) agreement suggests that the NP type of the intervening RC's subject had little effect on processing subject-verb agreement.

POSTER SESSION II

The role of speaker reliability in toddlers' syntactic processing

Marieke van Heugten, CNRS, Ecole Normale Supérieure Anne Christophe, CNRS, Ecole Normale Supérieure

Processing speech containing deviations from the standard is undoubtedly more challenging than processing typical speech. Increases in processing demands incurred by listening to unfamiliar patterns, however, can readily be overcome after brief exposure to the anomalies, at least at the phonological level. Here we examined if children also take into account context-dependent cue reliability when processing syntactic information. Using the Preferential Looking Procedure, French-learning 2.5-year-olds, 4-year-olds, and adults were tested on their integration of syntactic gender on the article during word recognition. In line with previous work, all groups of listeners made rapid use of gender information during online speech perception. For the older children and adults (but not for 2.5-year-olds), however, the reliance on this cue was reduced when the speaker frequently produced incorrect articles, revealing the flexibility of syntactic processing by 4 years of age. We are currently further exploring how this disengagement of unreliable syntactic information develops.

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POSTER SESSION II

Children's acquisition of subsective and intersective adjectives

Katherine Wagner, University of California - San Diego Daniel Storage, University of California - San Diego Karen Dobkins, University of California - San Diego David Barner, University of California - San Diego

Gradable adjectives like "tall" are interpreted relative to the noun they syntactically modify - e.g. tall building vs. tall child. These adjectives can be described as subsective. Others are intersective and do not require consideration of the noun they modify (e.g. Californian peach vs. Californian coast). We explored the process by which children distinguish between subsective and intersective adjectives. We compared children's interpretation of "blue" to the subsective adjective, tall. Color adjectives are an interesting case study – they are typically thought of as intersective (e.g. red truck selects the same hues as red ball) but sometimes are treated as subsective (e.g. the color of red hair may not be considered red in other contexts). While both adults and children considered noun class when interpreting size adjectives, we found that relative to adults, children considered noun class more when interpreting color adjectives, suggesting that they may utilize a subsective assumption when acquiring adjectives.

Simultaneous learning of competing phonotactic constraints

Katherine White, University of Waterloo Ragini Suresh, University of Waterloo

Little is known about how and when bilingual infants learn the phonotactic properties of their two languages. We explored whether infants can simultaneously acquire two sets of phonotactic constraints when these constraints are conditioned on the secondary cue of lexical stress. English-learning 16-month-olds heard two artificial "languages" (withinsubject). These two languages had different patterns of lexical stress and mutually incompatible phonotactic patterns. Infants were tested on their preference for training-consistent (legal) novel words vs. training-inconsistent (illegal) novel words. At test, infants heard words of only one stress type. There was no overall effect of legality, but there was a significant effect of legality in the weak-strong test group, suggesting that infants succeeded in learning the constraints. These findings are consistent with proposals that prosody facilitates the simultaneous acquisition of other aspects of language structure in bilinguals, such as phonetic and grammatical properties (Sundara & Scutallero, 2011; Gervain & Werker, 2012).

POSTER SESSION II

Phonological processing and literacy in Northern Sotho

Carien Wilsenach, University of South Africa

The relationship between phonological skills and reading has not been studied extensively in the African languages spoken in South Africa. This study focused on phonological skills and reading in Northern Sotho. 50 Grade 3 learners (all native speakers of Northern Sotho) were tested on nonword repetition, phoneme awareness, phonological working memory and reading. The learners fell into two groups: group 1 attended a school where English was the medium of instruction from the first grade, while group 2 attended a school where initial literacy instruction took place in Northern Sotho. The results indicate that there is a significant correlation between phonological skills and reading in Northern Sotho. Furthermore, group 2 performed significantly better on all of the phonological and reading measures (with the exception of working memory). The findings suggest that a complete lack of mother tongue instruction negatively influences reading development and furthermore causes stagnation in the development of phonological skills in the mother tongue.

POSTER SESSION II

Prior discourse effects in the production of the English past tense – the role of priming in children's errors.

Anna Woollams, University of Manchester Grzegorz Krajewski, University of Warsaw Sarah Keeble, University of Manchester Anna Theakston, University of Manchester

English past tense morphology is largely predictable (add '-ed') but admits many exceptions, and children make errors in early production. Relatively little consideration has been given to how discourse context influences children's productions. We investigated this issue by manipulating the context in which past forms were elicited, utilising a standard wug-elicitationtask, and a novel video-elicitation-task (Woollams et al., 2009) in which past forms are elicited directly. 900 children aged between 2;6-5;5 participated. The same 162 verbs were elicited in both tasks to control for frequency, phonological, and semantic effects, with each child receiving a subset. Responses were coded for correct past forms, stem errors, overregularisation errors, and 'other'. The results demonstrate that there are clear contextual effects on children's production of past tense forms that must be considered in theoretical models of the learning mechanisms underlying past tense acquisition.

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Grammatical categorization of nouns and verbs in Mandarinlearning infants

> Zhao Zhang, Nankai University Rushen Shi, University of Quebec - Montreal Aijun LI, Chinese Academy of Social Sciences

We examined early grammatical categorization in Mandarin. Mandarin-learning 20-month-olds participated in a preferential looking study. Familiarization sentences contained rare nounverb ambi-categorical words, which were used as nouns for one group of infants and verbs for another group. The words adjacent to the targets were function words. All infants were tested with new sentences containing the same targets used as nouns versus verbs. The contextual content words were familiar infant-directed words in Experiment 1 but unfamiliar words in Experiment 2. Results showed that the noun familiarization group in both experiments discriminated the test trials, i.e., they categorized the targets as nouns. The verb familiarization group did not discriminate the test trials even when the contextual content words were familiar. These results demonstrate that Mandarin-learning infants begin grammatical categorization during the second year of life, as do Europeanlanguage-learning infants. Furthermore, their categorization is abstract, without relying on the meaning of contextual words.

POSTER SESSION II

Anticipatory eye movements in children's processing of grammatical aspect

Peng Zhou, Macquarie University Stephen Crain, Macquarie University Likan Zhan, Macquarie University

Anticipatory eye movements are often used as an indicator of predictive sentence processing. The present study investigated whether or not abstract semantic properties of language (i.e., grammatical aspect) can trigger anticipatory eye movements in young children. Using the visual world eve-tracking paradigm, we tested 34 Mandarin-speaking adults and 99 Mandarin-speaking children (35 three-year-olds, 32 fouryear-olds and 32 five-year-olds). The results show that both the adults and the three age groups of children exhibited anticipatory eye movements in the processing of grammatical aspect. More strikingly, there were no differences in the time course of the eye gaze patterns between the adults and the three-year-olds, indicating that children as young as three are able to use abstract semantic properties of language to anticipate upcoming referents, and they can use this information as effectively as adults in sentence processing.

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What pirate stories reveal about children's representation of unaccusatives

Loes Koring, University of Utrecht, Uil-OTS Pim Mak, University of Utrecht Eric Reuland, University of Utrecht

An important question in the literature is when children acquire unaccusativity (cf. Babyonyshev et al., 2001; Friedmann, 2007 a.o.), the structural distinction between different types of intransitive verbs (Perlmutter, 1978). But how can we tell whether children know the distinction between unaccusatives and unergatives when the difference is not observable from the surface argument-verb string? This study probes into this question and finds a solution in the Visual World Paradigm. By measuring children's eye movements, we determine whether they differentially reactivate the arguments of unaccusative and unergative verbs, like adults do (Friedmann et al., 2008; Koring et al., 2012). The child results showed that unaccusative and unergative sentences yield distinct fixation patterns indicating that children are indeed sensitive to the structural distinction. This study does not only contribute to the theoretical debate, but also provides insight into the methodological question of how to map reactivation effects in child processing.

Session B--East Balcony

Perceptually-constrained statistics in toddlers' word learning

Sumarga Suanda, Indiana University Seth Foster, Indiana University Linda B. Smith, Indiana University Chen Yu, Indiana University

A growing body of evidence suggests that children's word learning can be conceptualized as a statistical learning process. Statistical learning, however, is likely constrained by processes such as perception, attention and memory. This work examines how perceptual information constrains toddlers' statistical word learning. Using head cameras, we observed toddlers' visual input as parents labeled novel objects during an object-play session. We then constructed two artificial statistical learners that learned by aggregating word-to-object associations. A baseline model accumulated simple word-toobject co-occurrence statistics obtained from the observational data. A perceptually-constrained model accumulated weighted co-occurrence statistics, taking into consideration perceptual information (e.g., object sizes) at the time object names were uttered. A comparison of models' object name learning to toddler's learning suggests that the perceptually-constrained model captures toddlers' learning patterns better than the baseline co-occurrence model. Implications for the role of statistics and constraints on word learning will be discussed.

Session C--Conference Auditorium

Do children outgrow the null subject stage? Pragmatic effects on subject-drop in internationally-adopted children - A longitudinal corpus analysis

Rama Novogrodsky, Boston University, Harvard University Zachary Gersten, Boston University Jesse Snedeker, Harvard University

Infants learning their first language often omit subjects even in languages where they are mandatory. Prior studies demonstrate that subject-drop is sensitive to pragmatic informativeness. The current study explored subject-drop in internationally-adopted preschoolers and infants who acquire English from child-directed speech. Longitudinal data from preschoolers and infants showed robust evidence for subjectdrop in both groups. This suggests that subject-drop is present in language learners who have passed the developmental stage where subject-drop typically appears. Both groups dropped subjects more frequently in 1st and 2nd person utterances than in 3rd person, which supports the hypothesis that subject-drop is sensitive to pragmatic informativity constraints. Thus, we conclude that the gradual appearance of mandatory subjects is driven by a child's experience and facility with a particular language, rather than age-related changes in global cognitive ability or linguistic maturation.

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The role of experience in linking sounds and meaning in language acquisition

Danielle Perszyk, Northwestern University Sandra Waxman, Northwestern University

By three months, infants prefer human speech over other naturally-occurring sounds and are beginning to establish a link between language and object categorization. Yet recent evidence reveals that at this young age, human language is not uniquely privileged in its ability to tap into core cognitive processes: non-human primate vocalizations (lemur calls) also facilitate object categorization at three and four months. By six months, however, infants have "tuned out" lemur calls.

We exposed seven-month-olds to lemur calls and found that exposure "reopened" their ability to use lemur calls for object categorization. We also examined the breadth of sounds that facilitate object categorization in three- and four-month-olds. Our results indicate that bird vocalizations, even when they resemble human speech, do not support object categorization at this young age. This suggests that constraints on the sound (produced by a primate vocal tract) may determine whether infants will link a sound with conceptual processes.

Session B--East Balcony

Active hypothesis testing and co-occurrence tracking work together in cross-situational word learning

Daniel Yurovsky, Stanford University Michael Frank, Stanford University

The co-occurrence between words and referents across different situations is a powerful information source for language learners. However, the mechanisms learners use to track this information are a topic of significant debate. One account suggests that learners simultaneously accumulate graded evidence about multiple referents for each word. In contrast, an alternative account holds instead that learners maintain only a single all-or-none hypothesis for the referent of each word. Because experiments cited as evidence for each account differ widely in a number of factors, integrating across them has proven difficult. To address this challenge, we ran two large-scale experiments on Amazon Mechanical Turk, parametrically manipulating the number of potential referents in each situation and the spacing between exposures to the same word. In all cases, adults encoded information about multiple referents for each word. Further, a follow-up study of 4- and 5-year-old children found the same pattern of results.

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Session C--Conference Auditorium

Null arguments in bimodal bilingualism: Code-blending and (lack of) effects in American Sign Language

Elena Koulidobrova, Central Connecticut State University

Previous research has shown that children acquiring a nullargument (NA) and a non-NA language simultaneously exhibit no language interaction effects in the non-NA language; instead, their NA language contains a higher rate of overt arguments than typically attested in both adult and developing monolingual grammars. Subsequent research has demonstrated that the aforementioned description appears true only for unimodal bilinguals (speech-speech/sign-sign): ASL-English (sign-speech) bilinguals continue to omit arguments in spontaneous English at 4:11. This paper investigates the presence/absence of the effects on their NA-language—ASL. ~2,000 utterances of naturalistic data from two balanced ASL-English bilinguals (3;06-4;06) were examined; rates of NA in the languages were compared. Results show that while both children use English and ASL simultaneously, they differentiate between their languages in production; rates of argument omission differ. The data shed further light on the uniqueness of bimodality: ASL-English bilinguals behave differently from unimodal bilinguals in each of their languages.

Acoustic characteristics of compound stress in child language

Angeliki Athanasopoulou, University of Delaware Irene Vogel, University of Delaware

While infants are sensitive to prosody, children are not adultlike in prosodic perception or production of certain prosodic patterns until the age of 10. This discrepancy has two sources: a) production studies are mainly based on adult ratings (not acoustic analysis), and b) there is a confound of multiple prosodic patterns.

We investigated the development of children's production of English compound stress, avoiding previous confounds. The acoustic properties of children productions are compared to those of adults. We hypothesized that younger children would not produce compound stress, but develop adult-like behavior around the age of 10.

Children produced compound stress at age 10, but not earlier (5 years). These findings are consistent with previous perception studies showing that children cannot disambiguate between compounds and phrases until the age of 10. We have evidence that certain prosodic patterns are acquired later, despite the fact that infants appear sensitive to prosody.

Session B--East Balcony

Speak for yourself: Simultaneous learning of words and talkers' preferences

Sarah Creel, University of California - San Diego

Language presents a complex learning problem: children must learn many word-meaning mappings, as well as abundant contextual information about words' referents. Can children learn word-referent mappings while also learning context (individuals' preferences for referents)? Three experiments (n=32 3-5-year-olds each) explored children's ability to map similar-sounding novel words to referents while also learning talkers' preferred referents. Both accuracy (assessing word learning) and moment-by-moment visual fixations (assessing talker preference knowledge) were recorded. Words were learned accurately throughout. When liker information ("I want" or "Anna wants") occurred early in the sentence, children rapidly looked to the liker's favorite picture. However, when liker information occurred after the target word, children used voice information, even if the speaker ended up naming the other character ("...for Anna"). When liker and talker were dissociated during learning (each talker labeled the other's favorite), children showed no looking preferences. Results suggest sophisticated encoding of multiple cues during language development.

Session C--Conference Auditorium

Clitic omission in Spanish-speaking children: Evaluating the roles of competence and performance

Victoria Mateu, University of California - Los Angeles

This study explores the widely documented difficulty with object clitics in the acquisition of Romance languages. Here we investigate the production and comprehension of clitic constructions in Spanish-learning 2-4 year olds. Clitic production was measured with an elicitation task. Results showed that object omission occurs at non-negligible rates in two- and three-year-olds. A sentence-picture matching task was used to investigate whether children would accept referential null objects, as proposed in some accounts of clitic omission. Subjects consistently chose the intransitive scene, suggesting that children do not sanction a grammar with null referential objects. Further analysis revealed that both the frequency of clitic omission in production as well as the results in the clitic conditions of the receptive task were strongly negatively correlated with an independent measure of verbal working memory (non-word repetition task), consistent with the hypothesis that object clitic omission is an effect of processing and short-term memory limitations.

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SUNDAY 11:00 AM

CLOSING SYMPOSIUM

A new approach to language learning: filtering through the processor

Lyn Frazier, University of Massachusetts, Amherst "Going beyond one's current grammar" Helen Goodluck, University of York "How the parser helps and hinders acquisition" Colin Phillips, University of Maryland "Parsing and learning: Could less really be more?"

Although the study of language processing has the potential to contribute to an explanation of how we acquire a language, little attention has been focussed on the topic. In a review of Frazier and de Villiers' 1990 volume, Stevenson (1992) concluded that somehow the papers did not address the main issue (how does language processing contribute to language acquisition?). But there are fragments of understanding that have been there for a long time, and those that are new (Omaki and Lidz, n.d). This symposium will bring together scholars of language acquisition and language processing, focusing on several areas in which insight has been gained from the application of processing results to the study of acquisition, for example:

The interpretation of pronominal forms

The standard view that there is a 'delay in Principle B' effect has been questioned and experimental evidence adduced that with the correct experimental design such an effect can be eliminated (Conroy et al. 2009). Yet Conroy et al argue that there is a residue of the effect that can be attributed to processing demands – Principle C requires a forwards search for a referent, whereas Principle B required a backwards search, leading to different challenges for the processor.

The modelling of constraints on grammatical rules.

A-bar movement is associated with island constraints – positions from which movement is impossible. In experiment work with Akan (a language that does not use movement and freely allows island constraints to be violated), Goodluck, Saah and Stojanovic (1996) found that in processing questions both children and adults seemed to obey constraints; yet the reflective judgements of adult speakers of Akan indicated that islands do not hold in their language (Saah and Goodluck, 1995; Goodluck and Saah 2007). This disparity between adult judgements and quick, nonreflective performance can be explained in terms of pressure on the language processor to locate a position for a question word (Frazier and Flores d'Arcais 1989; Gibson 1998), a pressure than may well be exacerbated for child learners.

The study of relative clauses

Older studies argued that an understanding of the processing mechanism could contribute to how relative clauses are understood by children (Goodluck and Tavakolian 1982). Recent results have also argued that typological views such as a subject gap is to be preferred over an object gap in relatives are inadequate, because of processing considerations. In Chinese and Basque – head final relative clause languages with basic SVO order – object relatives may be easier to process than subject relatives (Gibson and Wu 2013; Munarriz and Ezeibabarrena 2012). This suggests that the overall configuration of the relative clause (head initial or final position) determines the processing search strategy (shortest search, again exemplified by Frazier and Flores d'Arcais, and by Gibson, op cit.). This suggests a complex interaction between processing demands and language development.

The symposium will address the questions such as the following:

- --Can the results of language processing research be used to replace the construct of the Subset Principle, widely cited in the language acquisition literature in the 1990s?
- --Can the results of language processing lead to a better understanding of how the child correct errors?
- -- Can we predict the course of language development and change based on processing considerations?



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Alternates

Comprehension of belief state intonation in Puerto Rican Spanish

Meghan Armstrong, University of Massachusetts - Amherst

Children are known to comprehend belief state distinctions through modal verbs or mental state verbs around the age of 4 or 5, but little is known about when they are able to comprehend intonationally-marked belief states. This study explores the ability of 4-6-year-old Puerto Rican Spanish (PRS) speakers to comprehend intonationally-encoded disbelief in confirmation questions. 36 PRS-speaking 4-6-yearolds participated in a linguistic comprehension task during which they were presented with a set of twins, and decided which was the disbelieving one based on question intonation that did (L* HL% in the Sp ToBI system) or did not (¡H* L%) encode information about the speaker's state of disbelief. While 4- and 5-year-olds performed significantly above chance at the task (77% for both ages), 6-year-olds significantly outperformed the younger age groups (93%). Thus at the same ages children are able to comprehend belief state through lexical items, they are also able to do so using intonation.

Alternates

The role of discourse-level expectations in non-native speakers' referential choices

Theres Gruter, University of Hawaii - Manoa Hannah Rohde, University of Edinburgh Amy Schafer, University of Hawaii - Manoa

Expectation is a powerful mechanism in native-language processing. Less is known about its role in non-native language processing, especially for expectations at the discourse level. This study presents evidence from a story-continuation task, adapted from previous work with native speakers (Kehler et al., 2008), probing next-mention and coherence expectations among Japanese- and Korean-speaking learners of English. As in previous work, verbal aspect (perfective/imperfective) in a context sentence (e.g., "Ron gave/was giving a towel to Patrick") modulated participants' choices of next referents and coherence relations in their continuations. However, this effect was diminished in the non-native compared to the native-speaker group, despite equivalent performance on an independent task assessing knowledge of verbal aspect in English. Moreover, recency played a stronger role in non-native speakers' referential choices, suggesting that while native speakers engage in referential processing proactively, non-native speakers may do so only at the point that a referential expression is required.

Notes	

Alternates

Baseball bats & butterflies: Context effects of on pragmatic inferencing in adults and children

Yi Ting Huang, University of Maryland - College Park Alix Kowalski, University of Maryland - College Park

Recent work suggests that young children generate implicatures for ad-hoc scales (Stiller et al., 2011). Despite profound difficulties with lexicalized scales (SOME-ALL), they easily restrict interpretation of sentences like (1) "Click on the girl that has baseball bats" to subsets (BASEBALL BATS BUT NOT BUTTERFLIES). The current study presented instructions like (1) while participants' eye-movements were measured to displays featuring subsets and supersets. Analysis of eye-fixations indicated that when reference restriction required the generation of an implicature, target preference was substantially delayed in both adults and 5-year-olds. Previous work with lexicalized scales revealed similar delays (Huang & Snedeker, 2009ab). These results suggest that expressions across both lexicalized and ad-hoc scales are initially interpreted via semantics, followed by a late-emerging implicature that restricts interpretation via pragmatics. However, unlike lexicalized scales, listeners appear to be faster to generate inferences for ad-hoc scales, suggesting that discourse context enhances the salience of relevant alternatives.

Alternates

Persian-Spanish bilingual subject-processing data

Tiffany Judy, University of Florida, Wake Forest University Jason Rothman, University of Reading

Near-native L2 Spanish speakers (L1 Farsi) were tested for syntactic and discourse knowledge of Spanish subject distribution via two offline and two online tasks. No statistically significant differences were found between the native and L2 speakers regarding performance on the offline syntactic task (Grammaticality Judgment/Correction Task) nor their Reaction Time (RT) to critical regions on the online syntactic task (Self-Paced Reading task). However, differences were found regarding the L2 speakers' discourse knowledge: results from the offline Context-Matching Felicitousness Task show differences for Topic Shift and Topic Maintenance contexts, but not for Contrastive Focus contexts. In the online discourse task (Self-Paced Reading task), the L2 speakers differed from the natives for Contrastive Focus and Topic Maintenance contexts, but not Topic Shift. Somewhat against the Interface Hypothesis' claims, the offline and online data are interpreted as indicating that the bilinguals show some sensitivity to the syntactic and discourse distribution of Spanish subjects.

Alternates

Specific effects of joint attention on language development in children with ASD

Emma Kelty-Stephen, Grinnell College Saime Tek, Bilkent University Deborah Fein, University of Connecticut - Storrs Letitia Naigles, University of Connecticut - Storrs

Children with autism spectrum disorders (ASD) show deficits in joint attention (JA) skills. JA is linked to vocabulary skills in both typically-developing and ASD children. Perhaps JA is crucial in mapping words to meanings, without giving children information needed to combine words. How does JA help children learn words and grammar, particularly when JA is impaired? Our study used growth curves to examine JA and language over two years. Children who increased in JA produced increasingly more word types. However, the rate of increase in grammatical complexity was not predicted by JA increases. Neither was improving shape bias ability predicted by JA. It could be that children learn lexical items via JA, but shape bias and grammatical complexity require a level of abstraction not provided by JA. These results illustrate the limitations that JA may have as a tool for language learning, and how that may hinder language in ASD.

Alternates

Processing of lexical stress at the phonological level in French/stress-contrasted languages 10-month-old bilinguals

Ranka Bijeljac-Babic, University of Poitiers - CNRS, CNRS Université Paris Descartes

Josette Serres, CNRS, University of Paris V

Thierry Nazzi, University of Paris V, Laboratoire de
Psychologie de la Perception CNRS

French adults and infants have difficulties processing lexical stress, due to the lack of lexical stress in French. Difficulties in discriminating the trochaic and iambic stress patterns emerge by 10 months, and were found both at an acoustic/phonetic level using a single trochaic and a single iambic item (Bijeljac-Babic et al., 2012), and at a more abstract/phonological level using lists of trochaic and iambic items (Skoruppa et al., 2009). These findings raise the question of stress pattern perception in simultaneous bilinguals learning French and one stresscontrasted language. Bijeljac-Babic et al. (2012) established that such bilinguals have better stress discrimination at the phonetic level than French monolinguals. The present study explores stress discrimination at the phonological level in a similar population of 24 bilinguals. Discrimination was found overall, and appears not to be affected by the language balance (balanced versus more input in the stress-contrasted language) of the infants.

Notes
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Alternates

Transfer of null arguments in adult L2

Robyn Orfitelli, University of Iowa Theres Gruter, University of Hawaii - Manoa

Evidence for null subject transfer in early L2 acquisition has come almost exclusively from grammaticality judgment (GJ) tasks, in which early learners show ~30-40% acceptance of ungrammatical English sentences with null subjects. This contrasts curiously with early production data, in which the proportion of null subjects is generally low. The current study reexamines null-subject transfer in L2 English acquisition by adult speakers of Spanish. Three tasks are used: a production task, a GJ task, and a novel comprehension task designed to assess learners' interpretations of null-subject sentences. The same learners who accept null-subject sentences in the GJ task are nonetheless shown to be native-like in the comprehension task, even at the earliest stages of learning. This finding suggests that they do not have referential pro at their disposal to interpret sentences without overt subjects as declaratives, and raises the theoretical question of whether referential pro is subject to transfer, or whether it constitutes a principled limitation to transfer in L2 acquisition.

Alternates

Re-assembling objects: a new look at the L2 acquisition of pronominal clitics

Elena Shimanskaya, University of Iowa Roumyana Slabakova, University of Iowa

This study tests the Feature Reassembly Hypothesis (Lardiere, 2009), which predicts that differences in morphosyntactic and semantic features affect L2 acquisition. English L2 learners of French completed an on-line and an off-line task. The results of the off-line picture selection task reveal that intermediate and advanced learners were sensitive to grammatical gender. However, the performance of the advanced learners on the self-paced reading task suggests that L2ers process biological gender differently from grammatical gender, confirming the prediction of the FRH that the initial reassembly of [±human] feature presents a substantial hurdle on the way to native-like grammar.

Notes

Alternates

The use of gender information in lexical processing in Czech 23-month-olds: an eyetracking study

Filip Smolik, Academy of Sciences of the Czech Republic

Two-year-olds acquiring Dutch or French show sensitivity to grammatical gender encoded in articles. The present experiment tested whether young toddlers are sensitive to gender when it is encoded by bound morphemes, not free-standing articles. Czech 21 to 24 month-olds were presented with pairs of pictures, along with pre-recorded phrases consisting of a noun preceded by a demonstrative and an adjective that carried gender-marking endings. These either matched the target noun in gender or not. The target noun referred to one of the pictures presented; the noun describing the other picture had different gender. Gaze direction in children was monitored using a desktopmount eyetracker. Children also received offline grammar and vocabulary tasks. The results showed that children oriented towards the target picture faster if the demonstrative and adjective were marked for the appropriate gender. The effect was positively related to the performance in the offline tasks.

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