The Fortieth Annual Boston University Conference on Language Development

Meeting Handbook
November 13-15, 2015
George Sherman Union
Map of George Sherman Union (Second Floor)

- Commonwealth Avenue
- Conference Auditorium
- Mens' Room
- Ladies' Room
- Terrace Lounge
- Metcalf Hall Small Ballroom (Talks)
- Metcalf Hall Large Ballroom (Posters)
- To Terrace Patio
- The Ziskind Lounge
- Elevator
- To East Balcony
- Stone Lobby
- The Islamic Prayer Room
- Parking Services
- Sherman Gallery
- Ladies' Room
- Mens' Room
- Building & Grounds

Map of George Sherman Union (Second Floor)

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The 40th Annual Boston University Conference on Language Development

Page 1
Welcome

Our 40th Year
Welcome to the 40th anniversary meeting of the 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-nine years.

Invited Speakers
At this year’s conference, we are honored to have Lila Gleitman as our featured speaker, who will present the keynote address, “The Linguistic Representation of Symmetry” on Friday, thus reprising her role as the first BUCLD keynote speaker in 1976. This year, for the first time, Saturday’s closing plenary session will be presented in the form of a moderated roundtable talk, “40 Years of BUCLD: Looking Back and Looking Forward,” featuring Jean Berko Gleason (Boston University), Eve Clark (Stanford University), Elissa Newport (Georgetown University), and Ken Wexler (Massachusetts Institute of Technology), and moderated by Roberta Golinkoff (University of Delaware) and Kathy Hirsh-Pasek (Temple University). This year’s lunchtime symposium, to be held during Saturday’s lunch period, is entitled “Input and Output of the Syntactic Bootstrapper” and will feature speakers Anne Christophe, Cynthia Fisher, and Jeffrey Lidz. Finally, the conference will end with this year’s Sunday closing symposium entitled “What Does Infant Artificial Grammar Learning Tell Us About Language Development?” and will feature speakers LouAnn Gerken, Rebecca Gómez, and Jill Lany.

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 490 submissions, each of which was sent out to five reviewers for anonymous review. Of these, 69 papers (with 12 alternates) and 120 posters were selected for presentation—with an acceptance rate of 38%. We are sorry not to have had space to include more of the many excellent submissions we received.

Proceedings
Once again this year we will be publishing the Proceedings of the Conference, which includes papers presented, as well as those selected for alternate status. Information about ordering copies is available in your handbook and at the Cascadilla Press table during the book exhibit.

We also would like to acknowledge the efforts of several vital offices at Boston University. Our thanks go to Erin Tarpey of Events and Conferences, whose skill and experience have provided us with the proper equipment, facilities, and refreshments for the conference. Our thanks go to Cameron Samuelson for her support in managing the conference finances, and to Lisa Wong and Liz Maguire for collaborating on the maintenance of our online registration system. We are grateful to the ongoing support of the Disability Services in the organizing of this conference.

Finally, we would like to thank the 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 120 posters. We are particularly grateful for their thoughtful attention to each submission.

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 Gloria Waters, Vice President and Associate Provost for Research, for additional funding support of the reception, yearbook, and travel costs related to the 40th anniversary.

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 for their support and encouragement.

We extend special thanks to our faculty advisors, Sadha Annachalam and Paul Hagstrom. Their expertise and guidance have been invaluable.

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

Ana-Teresa Perez-Leroux
Julian Pine
Bernadette Plunkett
Lucia Pozzan
Rachel Pulverman
Jennie Pyers
Mamie Reed
Claire Renaud
Tom Rooper
Alexa Romberg
Jason Rothman
Caroline Rowland
Phaedra Royle
Tetsuya Sano
Lynn Santelmann
Teresa Satterfield
Cristina Schmitt
Peta Schulz
Carson Schütze
Bonnie D. Schwartz
Amanda Seidl

Ann Senghas
Joan Sereno
Ludovica Serratrice
Kushen Shi
Leher Singh
Barbara Skarabela
Roumyana Slabakova
Filip Smolik
William Snyder
Melanie Soderstrom
Hyun-joo Song
Jeffrey Steele
Kristen Syrett
Helen Tager-Flusberg
Darren Tanner
Anna Theakston
Rosalind Thornton
Jill Thorson
John Trueswell
Sho Tsuji
Sigal Uziel-karl

Elena Valenzuela
Virginia Valian
Daniel Valois
Suzanne van der Feest
Marieke van Heugten
Angeliek van Hout
Spyridoula Varlokonta
Marilyn Vihman
Lauras Wagner
Daniel Weiss
Lydia White
James White
Charles Yang
W. Quin Yow
Chen Yu
Daniel Yurovsky
Tania Zamuner
Andrea Zukowski
Kie Zuraw

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 entitled “The Linguistic Representation of Symmetry” will be delivered by Lila Gleitman on Friday at 7:45 PM in Metcalf Large, followed by a reception in Ziskind Lounge. Poster Session I (unattended) will immediately follow in Metcalf Large, Metcalf Small, and Ziskind Lounge.
- A special Plenary Roundtable Session entitled “40 Years of BUCLD: Looking Back and Looking Forward,” featuring Jean Berko Gleason, Eve Clark, Elissa Newport and Ken Wexler and moderated by Roberta Golinkoff and Kathy Hirsh-Pasek, will take place on Saturday at 5:45 PM in Metcalf Large, followed by a reception in Ziskind Lounge. Poster Session II (unattended) will immediately follow in Metcalf Large, Metcalf Small, and Ziskind Lounge.
- A Luncheon Symposium entitled “Input/putts and Out/puttys of the Syntactic Bootstrapper” with presentations from Anne Christophe, Cynthia Fisher, and Jeffrey Lidz will be held on Saturday at 12:15 PM in Metcalf Large.
- A Closing Symposium entitled “What Does Infant Artificial Grammar Learning Tell Us About Language Development?” with presentations from LouAnn Gerken, Rebecca Gomez, and Jill Lany, will be held on Sunday at 11:30 AM in Metcalf Large, immediately followed by our student workshop.

Poster Sessions
- Poster Session I: On Friday, 60 posters will be on display in Metcalf Large, Metcalf Small, and Ziskind Lounge. 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, 60 posters will be on display in Metcalf Large, Metcalf Small, and Ziskind Lounge. There will be one attended Poster Session at 3:15 PM, and an additional unattended session at 7:15 PM. Refreshments will be available at both sessions.

Special Sessions
- A special NIH/NSF Funding Symposium will be facilitated by Lisa Freund and Ruben Alvarez (NIH), along with Joan Maling and Laura Namy (NSF) on Friday at 12:30 PM in the Conference Auditorium.
- A special Student Workshop hosted by Shanley Allen will be held immediately following our Closing Symposium in the Conference Auditorium, from 1:15 PM to 2:30 PM on Sunday.
- The Society for Language Development will hold its annual symposium, “The Development of Pragmatics,” on Thursday, November 12 at 1:00 PM in Metcalf Large, with a reception following immediately in Metcalf Small. The invited speakers are Eve Clark, Jesse Snedeker and David Barker.
- NSF and NIH consultation hours will be held in the Ziskind Lounge. Both sessions will be held on Saturday from 9:30 AM until 12:00 PM, and again from 2:30 PM until 5:00 PM.
- A BUCLD Business Meeting will be held on Saturday at 8 AM in the Conference Auditorium.

Additional Information
- Parking is available at the Agganis Arena Garage (925 Commonwealth Avenue) for $1 per hour, and at the Granby Lot (665 Commonwealth Avenue) and the Warren Towers Garage (700 Commonwealth Avenue) for $10 per car per day. Please mention that you are with BUCLD if asked. On Sunday, Granby lot is closed, but there will be free on-street parking available instead. More information can be found at http://www.bu.edu/parking.
- Temporary luggage storage space will be available immediately adjacent to the information table at registration. This area is staffed during regular conference hours only. Although student volunteers will be present in the registration area, BUCLD is not responsible for any lost/stolen items. All posters and poster containers will be discarded if not picked up by Sunday afternoon.
General Information

- A nursing room will be available for nursing mothers in GSU 310-311.
- Wireless internet access will be throughout the GSU. Information for connecting will be given at registration.
- Refreshments will be served in Ziskind Lounge before the morning sessions, 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 Information Table at registration will provide the following services:
ASL Interpreters (Please inquire when you arrive) * Lost and Found * Campus Maps * MBTA Maps
Local Tourist and Dining Information * Certificates of Attendance

NIH/NSF Consultation Hours
Ruben Alvarez and Lisa Freund (NIH)
Joan Maling and Laura Namy (NSF)
Saturday 9:30 AM - 12:00 PM & 2:30 - 5:00 PM

Schedule at a Glance

Thursday, November 12

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:00 AM</td>
<td>Registration Opens</td>
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<tr>
<td>1:00 PM - 6:00 PM</td>
<td>Society for Language Development Annual Symposium</td>
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Friday, November 13

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Registration opens</td>
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<tr>
<td>9:00 AM - 5:00 PM</td>
<td>Book exhibit</td>
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<tr>
<td>9:00 AM - 10:30 AM</td>
<td>Talks</td>
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<tr>
<td>10:30 AM - 11:00 AM</td>
<td>Morning break with refreshments</td>
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<tr>
<td>11:00 AM - 12:30 PM</td>
<td>Talks</td>
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<tr>
<td>12:30 PM - 2:00 PM</td>
<td>Lunch break / NIH/NSF Funding Symposium (Conference Auditorium)</td>
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<tr>
<td>2:00 PM - 3:00 PM</td>
<td>Talks</td>
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<tr>
<td>3:00 PM - 4:15 PM</td>
<td>Poster Session I attended with refreshments, Poster Symposium</td>
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<tr>
<td>4:15 PM - 5:45 PM</td>
<td>Talks</td>
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<tr>
<td>5:45 PM - 7:45 PM</td>
<td>Dinner break</td>
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<tr>
<td>7:30 PM - 9:00 PM</td>
<td>Keynote Address</td>
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<tr>
<td>9:00 PM - 9:45 PM</td>
<td>Reception, Poster Session I unattended with refreshments</td>
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Saturday, November 14

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>BUCLD Business Meeting</td>
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<tr>
<td>8:30 AM</td>
<td>Registration opens</td>
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<tr>
<td>9:00 AM - 5 PM</td>
<td>Book exhibit</td>
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<tr>
<td>9:00 AM - 10:30 AM</td>
<td>Talks</td>
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<td>10:30 AM - 11:00 AM</td>
<td>Morning break with refreshments</td>
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<tr>
<td>11:00 AM - 12:00 PM</td>
<td>Talks</td>
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<tr>
<td>12:15 PM - 2:15 PM</td>
<td>Lunchtime Symposium</td>
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<td>2:15 PM - 3:15 PM</td>
<td>Talks</td>
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<tr>
<td>3:15 PM - 4:30 PM</td>
<td>Poster Session II attended with refreshments</td>
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<tr>
<td>4:30 PM - 5:30 PM</td>
<td>Talks</td>
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<tr>
<td>5:45 PM - 7:15 PM</td>
<td>Plenary Session: BUCLD Roundtable</td>
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<tr>
<td>7:15 PM</td>
<td>Reception, Poster Session II unattended</td>
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Sunday, November 15

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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>Registration opens</td>
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<tr>
<td>9:00 AM - 10:30 AM</td>
<td>Talks</td>
</tr>
<tr>
<td>10:30 AM - 11:00 AM</td>
<td>Morning break with refreshments</td>
</tr>
<tr>
<td>11:00 AM - 1:00 PM</td>
<td>Closing Symposium</td>
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<tr>
<td>1:15 PM</td>
<td>Student Workshop</td>
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</table>
9:00 Linguistic and cognitive factors in Elicited Imitation Tasks: A study with mono- and bilingual Greek-Albanian bilingual children. I. Dosi, D. Papadopoulou, I. Tripli  

9:30 Native and nonnative use of discourse-contrastive intonation in Chinese sentence processing. Z. Wang, B. Schwartz  

10:00 L2 online sensitivity to English prounic marking of new and contrastive discourse structures. A. Takeda, A. Schäfer, B. Schwartz  

10:30 BREAK (Ziskind Lounge)  

11:00 What’s new to you? Preschoolers’ online attributions of difficulty. K. Jin, S. Yoon, S. Bronwich-Schmid, C. Fisher  

11:30 Eliminating unrepeatable linguistic variation through interaction. O. Feher, N. Ritt, E. Romanucci, K. Smith  

12:00 Phonological pattern learning involves both implicit and explicit processes. E. Movius, K. Paterson  

12:30 LUNCH BREAK / GLOSEN FUNDING SYMPOSIUM (Conference Auditorium)  

2:00 A new method for language comprehension reveals better performance on passive and principle B constructions. S. Zuckermand, M. Fronto, E. Koutsimani, T. Kac Spjic  

2:30 Tense over time in English L2 learners with SLI. I. Paradis, R. Jia, A. Ayye  

3:00 ATTENDED POSTER SESSION I (Metcalfe Large and Ziskind Lounge)  

4:15 Idiosyncratic in shellty contexts: Problems for language acquisition. A. Vltenman Horvat, A. Gagliardi, E. Hileman  


5:15 Clitics at the interfaces in autism. A. Tervi, T. Marinis, K. Francis  

5:45 KEYNOTE ADDRESS (Metcalfe Large) The Linguistic Representation of Symmetry. Lila Gleitman, University of Pennsylvania  

7:45 DINNER BREAK  

9:00 RECEPTION
<table>
<thead>
<tr>
<th>Time</th>
<th>Session A (Metcalf Small)</th>
<th>Session B (Conference Auditorium)</th>
<th>Session C (Terrace Lounge)</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Can more be better or is less more? Talker variability and native vowel discrimination in the first year of life: C. Bergmann, A. Cristia</td>
<td>Predicting past and non-past errors in the acquisition of Japanese verb inflection: T. Tatsumi, J. Pine, B. Ambridge</td>
<td>Functions of evidentials in Turkish child and child-directed speech in early child-caregiver interactions: B. Uzunel, S. Tasçi, A. Künay, A. Akus-Koc</td>
</tr>
<tr>
<td>9:30</td>
<td>Flexible but precise signal-to-word mapping strategies in infancy: Evidence from foreign-accented word recognition: M. van Heugten, D. Krieger, M. Paquette-Smith, E. Johnson</td>
<td>Revisiting 2.0-year-olds’ understanding of plural morphology: B. Davies, N. Xu Rattannevong, K. Demuth</td>
<td>Cross-linguistic variation and the learnability of semantic systems: S. Bartell, A. Paapafrougo</td>
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<tr>
<td>10:30</td>
<td>BREAK (Ziskind Lounge)</td>
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<tr>
<td>11:00-12:45</td>
<td>CLOSING SYMPOSIUM (Metcalf Large)</td>
<td>What does infant artificial grammar learning tell us about language development?</td>
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<td>13:15-14:30</td>
<td>STUDENT WORKSHOP (Conference Auditorium)</td>
<td>Scientific Writing</td>
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<tr>
<td>Time</td>
<td>Authors</td>
<td>Title</td>
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<tr>
<td>11:00-12:45</td>
<td>E. Che, M. Alarcon, F. Yannaco, P. Brooks</td>
<td>Maternal overlap predicts language outcomes for typical and late-talking children</td>
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<td>13:15-14:30</td>
<td>J. Choe</td>
<td>Acquisition of form-meaning mapping in Korean causatives</td>
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<td>13:15-14:30</td>
<td>D. Gagne, A. Senghas, M. Coppola</td>
<td>A language model is not sufficient to promote conventionalization of space in an emerging sign language</td>
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<tr>
<td>13:15-14:30</td>
<td>M. Grigoregeouli, M. Johanson, A. Papafragou</td>
<td>The acquisition of front and back: Conceptual vs. pragmatic factors</td>
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<tr>
<td>13:15-14:30</td>
<td>V. Mateo, Š. Özcälýşkan, E. Hoff</td>
<td>Parental translations of child gesture help vocabulary development in bilingual children</td>
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<tr>
<td>13:15-14:30</td>
<td>G. Molina Onario, J. Morgan</td>
<td>Fundamental word-learning skills in preterm and full-term toddlers predict later language comprehension</td>
<td></td>
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<tr>
<td>13:15-14:30</td>
<td>L. Nishibayashi, H. Yeung</td>
<td>Social attention facilitates word segmentation in French-learning 8-month-olds</td>
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<tr>
<td>13:15-14:30</td>
<td>K. Shantz, D. Tanner</td>
<td>Are L2 learners pressed for time? Retrieval of grammatical gender information in L2 lexical access</td>
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<tr>
<td>13:15-14:30</td>
<td>F. Treeca, D. Bleses, M. Christiansen</td>
<td>When too many vowels impede language processing: The case of Danish</td>
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<tr>
<td>13:15-14:30</td>
<td>Y. Wang, A. Seidl</td>
<td>Toddlers learn words from adults, but not children</td>
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<td>13:15-14:30</td>
<td>S. Choi, T. Tonin, Y. Zhu</td>
<td>L2-acquisition of the count/mass distinction in English by L2-learners from the Generalized Classifier</td>
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<tr>
<td>13:15-14:30</td>
<td>C. Gambi, M. Pickering, H. Rabagliati</td>
<td>Beyond associations: Pre-schoolers’ predictions are based on linguistic structure</td>
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<tr>
<td>13:15-14:30</td>
<td>Y. Huendler, F. Adani</td>
<td>Referential properties of pronouns affect sentence processing similarly in children and adults: Comparing 5-year-olds’ eye movements and adults’ reading times in Italian</td>
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<tr>
<td>13:15-14:30</td>
<td>C. Hervé, L. Serratrice</td>
<td>Left-dislocations in French-English bilingual children: An elicitation study</td>
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<tr>
<td>13:15-14:30</td>
<td>A. Hohenberger, U. Kaya, A. Altan</td>
<td>Sensitivity of monolingual Turkish infants to vowel harmony in stem-suffix sequences in the first year of life: Preference shift from familiarity to novelty</td>
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<tr>
<td>13:15-14:30</td>
<td>S. Hu, M. Giusti</td>
<td>School-age sequential Mandarin-Italian children’s comprehension of relative clauses</td>
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<tr>
<td>13:15-14:30</td>
<td>M. Jaba</td>
<td>Children’s comprehension of the English presupposition trigger ‘too’</td>
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<tr>
<td>13:15-14:30</td>
<td>K. Katsikia, S. Allen</td>
<td>The processing of Greek relative clauses in adults and children</td>
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<tr>
<td>13:15-14:30</td>
<td>E. Kim</td>
<td>L2 learners’ interpretation of reflexives and pronouns inside picture NPs</td>
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<td>Authors</td>
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<tr>
<td>E. Che, M. Alarcón, F. Yanco, P. Brooks</td>
<td>Maternal overlap predicts language outcomes for typical and late-talking children</td>
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<tr>
<td>C. Contemori, I. Pozzan, P. Galinsky, G. Dussan</td>
<td>The processing of garden-path sentences by L2 learners of English: A visual word study</td>
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<tr>
<td>A. Cusmane, A. Perez-Leiroux</td>
<td>Must be tricky: Testing the role of aspect and evidence in modal meaning</td>
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<tr>
<td>L. Covey, R. Fiorentino, A. Gabriele</td>
<td>Anticipatory processing of gender in L2 Hindi</td>
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<td>B. Davis, S. van der Feest, H. Yi</td>
<td>Phonological versus lexical factors in children’s productions at the onset of word use</td>
<td></td>
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<tr>
<td>H. Eaves, N. Feldman, T. Griffiths, P. Shatto</td>
<td>Infant-directed speech is consistent with teaching</td>
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The present study explores the impact of cognitive skills and language ability on Elicited Imitation Tasks (EITs) in monolingual and biliterate children. EITs involve both metalinguistic awareness and language ability (Bialystok & Hakstob 1991). Literacy also interacts with cognitive control (Stanovich & Cunningham, 1992). We tested biliterate and monolingual Greek-Greek bilingual children and Greek monolingual peers on expressive vocabulary, EIT and updating skills. The biliterate bilinguals performed lower than monolingual bilinguals and monolinguals on Greek vocabulary task, while no differences were attested between the bilingual groups on EIT. Monolinguals outperformed all bilingual groups on EIT. In the updating task, biliterate bilinguals outperformed monolingual bilinguals and monolinguals. Additionally, EIT scores correlated with updating skills in all groups. We conclude that lexical knowledge and updating contribute to EIT performance. Moreover, better cognitive skills in biliterate bilinguals compensate for lower language proficiency resulting in non-significant differences in EIT performance between the two bilingual groups.

Our research examines the hypothesis that grammatical structures that reduce processing complexity or increase communicative efficiency tend to persist cross-linguistically (Bates & MacWhinney, 1982). We ask, in particular, whether language learners exhibit a preference to provide informative cues to structure early in their utterances to promote efficient parsing decisions (Hawkins, 2004) and whether this preference is strong enough to introduce changes into the acquired language. The learning outcomes in our miniature artificial language learning experiment support this hypothesis. Even though the input languages did not favor early placement of cues to grammatical function assignment, learners restructured the acquired grammars to provide disambiguating cues effectively. This preference, however, interacted with a bias to mark the less expected. The learning outcomes in our experiment parallel natural cross-linguistic phenomena (Nichols, 1986), thus providing support for the hypothesis that some typological patterns stem from biases associated with incremental language processing and efficient communication.

The role of number and gender features in the comprehension of Italian clitic left dislocations

Session C--Terrace Lounge

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Subject-object asymmetries in the acquisition of clefts

Athalya Arvind (Massachusetts Institute of Technology)
Eva Freedman (Wellesley College)
Martin Hackl (Massachusetts Institute of Technology)
Ken Wester (Massachusetts Institute of Technology)

Children display an asymmetry in their comprehension of cleft sentences, where they are adult-like on subject-clefts but at chance on object-clefts. These findings are thought to indicate (i)underdeveloped cleft-syntactic, with child-specific strategies for parsing subject-clefts, or (ii)difficulties with non-canonical word-orders. This study investigated the role of discourse-felicity, ignored in previous acquisition work, in children’s poor performance on object-clefts. We crossed cleft-type and discourse-congruence in a Timed TVJT. Participants first saw a picture depicting a partially-occluded event accompanied by a prompt setting up the Question-Under-Discussion. They then saw the complete scene accompanied by a cleft and were asked to decide whether the sentence was True or “Silly”. Children were adult-like on congruent subject- and object-clefts. However, they showed asymmetric performance on incongruent clefts—incongruent subject-clefts showed longer RT’s, but high accuracy; incongruent object-clefts showed long RTs and low accuracy—suggesting appropriate sensitivity to the linguistic-context in which clefts are used.

The role of number and gender features in the comprehension of Italian clitic left dislocations

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The 40th Annual Boston University Conference on Language Development

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One beneficial effect of preliminary linguistic knowledge could be that language input becomes easier for children to process, given their limited cognitive resources. We leverage the idea that more predictable language is easier to process and assess language predictability with the information-theoretic measure perplexity. As a case study, we investigate early syntactic categorization occurring around fourteen months, when children have minimal structural knowledge about their language. We evaluate the frequent frames (FFs) categorization strategy on English and American Sign Language, finding that FFs derive preliminary “proto-categories” in both languages that make the child’s language input easier to process than adult syntactic categories do. This suggests early acquisition strategies may yield knowledge that not only scaffolds children’s future language acquisition but also their current language comprehension.
Young children’s developing expectations about the language of events

Kristen Syrett (Rutgers University)
Sadhu Arunachalam (Boston University)

We ask how children reason about a speaker’s event descriptions in context, and how children deploy their knowledge of these event descriptions in real time. We focus on two specific expectations driving language comprehension: children’s pragmatic expectations about a speaker’s intended event reference, and their online parsing expectations driven by singular/plural morphology. Our target is the intrinsically frame, as in (1) (singular) and (2) (plural, conjoined subject):

(1) The pig is bending.
(2) The pig and the duck are bending.

Each proposition is true in a context in which both a pig and a duck are bending, although pragmatically speaking, (2) is more informative. (1) is a better match for a scene in which ONLY a pig is bending — a determination that is made via the calculation of a particularized quantity implicature. We present evidence addressing how, and in what timescale, preschoolers apply such reasoning to dynamic events.

Eliminating unpredictable linguistic variation through interaction

Olga Feher (University of Edinburgh)
Nikolaus Ritt (University of Vienna)
Elizabeth Wonnacott (University College London)
Kenney Smith (University of Edinburgh)

Unpredictable variation, which is largely unattested in natural languages, is a good test case to investigate linguistic biases. Previous work has shown that learners eliminate unpredictable variation during learning (children more so than adults) and transmission. Here we present results from an artificial language experiment showing that communicative interaction also leads to predictable languages. We showed participants scenes involving one or two animals performing movements, and manipulated the proportion of training trials on which the singular was marked with a post-nominal particle. Participants accurately reproduced the variability of their input language during initial testing, but pairs of participants rapidly aligned during interaction, producing a language exhibiting no or only conditioned variation. Furthermore, accommodation during interaction is inherently asymmetric: while variable users can accommodate to a categorical partner, categorical users tended to remain categorical. This asymmetry might explain why unpredictable variation tends not to propagate in natural languages.

Slicing and its identity conditions in the acquisition of Japanese

Koji Sugisaki (Mei University)

Slicing is one of the best investigated instances of ellipsis in the theoretical literature. Despite its theoretical importance, few studies have examined children’s acquisition of slicing. In light of this background, this study investigated experimentally whether Japanese-speaking preschool children are sensitive to the identity condition on slicing proposed by Merchant (2013), which requires that the sliced constituent and its antecedent must match in voice (active/passive). If this ban on voice mismatches in slicing follows from certain principles of UG as the theory claims, it is predicted that the knowledge of this constraint should be in the grammar of preschool children. In order to evaluate this prediction, we conducted an experiment with 21 Japanese-speaking children (mean age 5.07). The results of our experiment, which employed a question-after-story task, suggest that these children are in fact sensitive to the ban on voice mismatches in slicing proposed by Merchant (2013).

Phonological pattern learning involves both implicit and explicit processes

Elliott Morison (University of North Carolina at Chapel Hill)
Katya Pertsova (University of North Carolina at Chapel Hill)

Studies of non-linguistic pattern learning have found evidence for two learning systems, one implicit (unconscious, gradual, good at “family-resemblance” patterns) and one explicit (conscious, abrupt, good at featurally-simple patterns). We present evidence from two experiments with a total of 503 adult L1 English speakers that both implicit and explicit learning are used by participants in phonotactic “artificial-language” experiments. Participants’ post-experiment reports of how they approached the learning task were found to be predictors of learning-curve shape, generalization performance, pattern difficulty, and ability to verbalize a solution. These results reveal parallels between non-linguistic and phonotactic pattern learning.

Incrementality and garden-path recovery in children’s resolution of direct object vs. sentential complement ambiguity

Aaron Apple (Johns Hopkins University)
Akira Onuki (Johns Hopkins University)

Children often fail to revise initial structural commitments in ambiguity resolution, but most of the evidence comes from PP-attachment ambiguity resolution. We extended this line of inquiry to processing of the direct-object / sentential-complement ambiguity, which has not been previously tested. Our visual-world eye-tracking study presented locally ambiguous questions in which the embedded subject NP could initially be analyzed as a direct object of the verb “saw” (Which boy saw that the otter had something behind?). Eye movement data showed that 5-year-old children initially analyzed “the otter” as the direct object of “saw.” The offline comprehension accuracy suggested that this initial incorrect analysis was subsequently revised, though children’s eye movement evidence for sentence revision started much later than adults. We also found that children’s processing of the disambiguation cue (the complementizer “that”) was not adult-like, as indicated by the fact that children’s eye-movement patterns resembled ambiguous sentences.
Session B—Conference Auditorium

A new method for language comprehension reveals better performance on passive and principle B constructions

Shalom Zuckerman (University of Utrecht, Utrecht Institute of Linguistics OTS)
Manuela Pinto (University of Utrecht, Utrecht Institute of Linguistics OTS)
Elly Koumanadis (University of Utrecht, Utrecht University)
Yin Van Spijk (University of Utrecht, Utrecht University)

A new method is presented for the study of language comprehension: a "Coloring Task," in which children are required to fill in a coloring-page based on pre-recorded instructions. We present results from pre-school children’s comprehension of passive and principle-B constructions, and claim that the new method shows better performance than previously reported. In most studies children are presented with pictures that depict the different alternative interpretations, while in the new method the child is presented with a single coloring page. The task is offered digitally using an iPad and feels to the child like a game rather than a test. In the case of passives, for example, the coloring-page depicts a monkey that is scratching another monkey and the child hears: "a blue monkey is being scratched by a green monkey." We will discuss the benefits of the coloring method and its potential applicability to various structures and different populations.

Speech perception in children with a cleft palate

Paula Fikkert (Radboud University Nijmegen)
Imne Lammertink (University of Amsterdam)

A cleft palate (CP) impacts speech and speech development. CP children have articulatory problems; particularly with oral stop consonants, which are often produced more backwards (labial and coronal stops are often produced as dorsal or glottal stops).

This study investigates whether the articulatory problems of 18-month-old CP children result in word recognition problems that differ from children in the control group.

Eighteen-month-old children noticed the mispronounced labial, but not the mispronounced coronal, replicating earlier results. The cleft-palate children showed the opposite pattern: they did not notice the mispronunciation for labial. They did, however, notice the mispronunciation for coronal targets. These initial results suggest that phonological mental representations of 18-month-old cleft-lip-palate children differ from their age-matched peers. Several possible explanations for these results will be discussed. This research contributes to our understanding of how the link between perception and production influences the sound system in the brain.

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Crosslinguistic differences in the perception of dorsals and coronals: Evidence from English and Dutch

Suzanne van der Foest (University of Texas - Austin)
Paula Fikkert (Radboud University Nijmegen)
Barbara Davis (University of Texas - Austin)

English and Dutch are similar in many respects, but important differences were found in early patterns of CV co-occurrences in babbling, early words and adult language. We tested 32 Dutch and English toddlers in a mispronunciation detection task, where they heard dorsal- and coronal-initial words, pronounced either correctly (CP), or with a mispronunciation of word-initial place of articulation (MP). Words contained universally “preferred” (P) versus “non-preferred” (N) CV combinations. The Dutch results show hindered word recognition in mispronounced coronal- as well as dorsal-initial words containing back vowels only (Coronal-NP and Dorsal-P), which is compatible with previous phonological underspecification accounts.

The English results show only hindered word recognition in Coronal-P and Dorsal-NP mispronounced words. The finding that both languages treat preferred versus non-preferred CV combinations differently despite language-specific patterns may reflect influences of the production system capacities common across languages on early word processing.

Session B—Conference Auditorium

Tense over time in English L2 learners with SLI

Johanne Paradis (University of Alberta)
Ruiting Jia (University of Alberta)
Antti Arppe (University of Alberta)

This study examines the Cumulative Effects Hypothesis which predicts bilingual development to be extraordinarily difficult for children with SLI. Matched groups of L2-SLI and L2-TD children were followed for three years from ages 8-10 and 4-6 years of exposure to English. Children were given production and grammaticality judgement tasks of tense morphology in English. This study found that L2 children with SLI displayed a similar profile of tense acquisition as monolinguals with SLI with respect to their TD peers. Furthermore, L2-SLI children’s accuracy with tense morphology exceeded what could be expected based on their length of exposure to English. Neither finding supports the Cumulative Effects Hypothesis, but instead shows that morphological acquisition parallel to monolinguals with SLI is indeed a possibility for L2 children with SLI. Furthermore, results suggest that older children with SLI might be better language learners than younger children with SLI.

Predictive use of case markers in German children: A case against neural maturation of syntax hypothesis

Duygu Öze (Harvard University)
Jakin Komnith (Syracuse University)
Katja Muenster (University of Bielefeld)
Pia Knowerle (University of Bielefeld)
Aylin Künnet (Köç University)
Jesse Snedeker (Harvard University)

German-speaking children fail interpreting case-markers and rely on verb and word-order until age six (Dittmar, et al., 2008; Knott, et al., 2012). This fueled a claim suggesting this inability is due to the slow maturation of the dorsal-fiber-tracts between superior-temporal-gyrus and Broadmann-Area-44, which is hypothesized to be responsible for complex syntactic processing (Brauer, et al., 2013; Friederici, 2012). To test this hypothesis, we explored whether 4-year-old German-speaking children interpret case to make thematic predictions. We used visual-world-eye-tracking paradigm with scenes depicting an object labeled by NP1 (rabbit), a potential Theme (cabbage), and a potential Agent (fox). This was accompanied by a spoken sentence in a verb-final order, where the first argument was either in nominative (SOV) or accusative (OSV). Our results demonstrate German-speaking children interpret case incrementally and independent of the verb or word-order, to predict upcoming arguments, which is hard to reconcile with the neural maturation of syntax hypothesis.
In successful language acquisition children learn how context determines sentence interpretations. For all indexicals, Kaplan (1981) claims that the speech context directly fixes their referent. However, while English embedded indexicals do not shift referent, in other languages, reference-shifting is possible (Anand 2006, Schlenker 2009). Therefore, during language acquisition, children must determine if their language’s embedded indexicals can shift. A corpus analysis of child-directed speech revealed that unambiguously embedded indexicals are rare in the input. In the simulation experiment adults performed better than chance in recovering say-embedded indexicals from child-directed speech, but indexicals were less accurate than pronouns, suggesting that context may be rich but potentially unclear. Finally, a truth-value judgment task was used to determine whether English-acquiring children ever understand indexicals with shifted interpretations. Responses were largely adult-like, but with more flexible interpretations of embedded indexicals. We hypothesized that children do entertain shifted interpretations before determining their language’s indexical behavior.

**Session C--Terrace Lounge**

**Patterns in infant babbling: A cross-linguistic analysis**
Andrea Geambasu (Leiden University)
Marijka Schoel (Leiden University)
Clara C. Leevet (Leiden University)

Previous literature has indicated that infants’ babbling is characterized by an initial phase of reduplication to a later phase of variegation. However, a systematic analysis of patterns in infant babbling across languages and age groups has never been undertaken. We thus analyzed the languages available with phonetic transcriptions in the Phon database (Rose et al., 2006). We investigated more than 60,000 two-, three-, and four-syllable utterances from 5- to 24-month-old infants across nine languages. We found that already from the earliest age groups, infants produce variegated patterns significantly more than any other possible patterns, and that this does not change over development. In addition, infants of 18–24 months show a drastically increased rate of variegation (approx. 20% increase), likely a result of the ontogeny of the lexicon. Implications both for theories of development and for experimental work will be discussed.

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**Segmental and suprasegmental details in early lexical representations**
Jie Ren (Brown University)
James Morgan (Brown University)

To further examine sub-phonetic detail in early lexical representations, 19-month-olds were tested on their sensitivities to varying degrees of mispronunciations of codas and lexical tones. English-learning infants heard tokens of familiar words with correct pronunciations (/dʌk/), or one-feature (/dʌt/), two-feature (/dʌd/), or three-feature (/dʌdz/) coda mispronunciations (Experiment 1). Mandarin-learning infants heard tokens of familiar words with correct pronunciations (Tone 2), or close (Tone 3), further (Tone 1) or furthest (Tone 4) mispronunciations of lexical tones (Experiment 2). Significant linear trends were found in both experiments, indicating that infants’ looking to familiar objects decreases with increasing severity of mispronunciations. To examine possible mechanisms underlying infants’ early word recognition, we simulated our findings for coda mispronunciations using TRACE. Findings from simulation not only replicated the graded sensitivity in the behavioral results, but suggest the incremental nature of online word recognition: lexical inhibition plays a weaker role for coda than for onset processing.
Swedish-speaking children faster than their Dutch-speaking peers in acquiring the relevant pitch-based manipulations used in Swedish, and a non-tonal language, Dutch. In Dutch, focus is expressed through intonation. We propose that they did not know that a particular intonation is associated with new information (Mavrogiorgos et al., 2010, a.o.), forbidding a clitic. Moreover, they were less successful than TD children in producing simple clitics because they could not distinguish easily the prominent element in the discourse, perhaps failing the Prominence Condition (Heim, 1982).

To learn homophones, learners must realize that a label may arbitrarily apply to several distinct meanings. This may be difficult because phonological identity may hinder the creation of separate lexical entries (e.g., Mazzocco, 1997). Another possibility is that children may have no problem learning the meanings of a pair of homophones if they appear in sufficiently distinct contexts. Three experiments tested whether French 20-month-olds can learn homophones when their meanings are sufficiently distant syntactically (“an eat” may be a good label for a novel animal), or semantically (“a glass” for a novel animal), but not when they are close (“a cat” for a novel animal). Toddlers successfully learned homophones when the two members of a homophone pair appear in contexts that are syntactically or semantically distinct. We conclude that creating a novel lexical entry depends on multiple sources of information coming from the lexicon and the parsing system.

The first half of the talk discusses apparent asymmetries in the understanding of terms like similar and near (Tversky, 1977; Talmy, 1983), asymmetries that potentially exclude them from the symmetrical category. How, for instance, could North Korea seem more similar to China than China to North Korea and, all the same, ‘similarity’ be symmetrical? I will demonstrate how language solves this problem by representing syntactic dominance and lexical symmetry quasi-independently.

In the second half of the talk I will introduce evidence from sequential cohorts of inventor-users of the recently evolving Nicaraguan Sign Language (NSL). Their usage is especially relevant to the present topic because it indicates some of the unlearned character of the semantic-syntactic interface, but also because of the informativity of some particularities in NSL’s syntactic representations of event structure. Under specifiable animacy conditions, NSL dissects 2- and 3-argument structures into sequential one-argument expressions. For conceptual reasons, this dissection cannot happen for symmetrical expressions. Loose (but not too loose) analogues are the necessarily figurative interpretation of English “the sound of one hand clapping” and the literal truth of “It takes two to tango.”
Languages exhibit sociolinguistically conditioned variation. We investigated the sensitivity of 6-year-olds and adults to speaker identity. Participants were exposed to a semi-artificial language, produced by two speakers, in which nouns were obligatorily followed by meaningless variable particles (e.g., bup or kem). In the fully predictive condition, speaker 1 always used kem, speaker 2 always used bup; in the partially predictive condition, speaker 1 used 75% kem, speaker 2 75% kem. Four exposure sessions were followed by a judgment test and exit interview. Both age groups showed sensitivity to the strength of association between speaker and particle-usage (i.e. they learned the association in both conditions, more strongly in the fully predictive condition). Only adults reported awareness of the speaker identity manipulation in the partially predictive condition. These results demonstrate that both children and adults are sensitive to statistical cues involving speaker identity, an ability which is fundamental to tracking sociolinguistic variation.

**POSTER SESSION I**

Statistical learning over sociolinguistic cues in children and adults

Anna Samara (University College London)
Kenny Smith (University of Edinburgh)
Helen Brown (University of Warwick)
Olga Fefer (University of Edinburgh)
Elizabeth Wonnacott (University College London)

Evidence from the acquisition of Korean 

Kum-Jeong Joo (University of Hawaii - Manoa)
William O’Grady (University of Hawaii - Manoa)
Kamil Deen (University of Hawaii - Manoa)

Beyond associations: Pre-schoolers’ predictions are based on linguistic structure

Chiara Gamhi (University of Edinburgh)
Martin Pickering (University of Edinburgh)
Hugh Rahaghiati (University of Edinburgh)

Acquisition of form-meaning mapping in Korean causatives

Jinsun Choe (Hankuk University of Foreign Studies)
Preverbal infants track and represent non-adjacent dependencies at an abstract level

**Social attention facilitates word segmentation in French-learning 8-month-olds**

*Leo-Lyuki Nishibayashi (CNRS - Université Paris Descartes)
Henny Yeung (CNRS - Université Paris Descartes, CNRS)*

What role does social context play in modulating attention while learning language? Previous work has shown that tactile cues (touching an infant on a single body-part synchronously with a target word in a continuous stream) can aid word segmentation, even in infants as young as 4 months. Here we explored more naturalistic caregiver interactions, asking whether infant-directed social cues (parental touching and smiling) strengthened infants’ word form representations, and subsequent word segmentation performance. Using a classic head-turn preference procedure, we replicated an inability to segment bimorphemic words in 8-month-old (Parisian) French-learning infants. In an interaction condition, infants oriented significantly longer (p = .004) to the control words than to the target words, showing a significant novelty preference. These findings suggest that social cues from parents strengthen the representation of word forms in infancy, an effect that could be mediated by attentional factors.

**Provisory can misleading L2 learners down “A Garden Path”: Evidence from a visual-world eye-tracking study**

*Chie Nakamura (Massachusetts Institute of Technology)
Manabu Arui (University of Tokyo)
Yuki Hourse (University of Tokyo)
Suzanne Flynn (Massachusetts Institute of Technology)*

This study investigated how intermediate adult L2 ESL learners use contrastive L1/H* pitch accent in processing locally ambiguous sentences such as “Put the cake on the plate in the basket.” In a visual world eye-tracking experiment, sentences either with or without contrastive intonation on a noun within a PP modifying NPI (plate) were presented with visual context that was either referential (i.e., “another cake on a napkin” in the scene as opposed to “the cake on a plate”) or non-referential (only one cake in the scene). The results indicated that referential visual context alone helped both L1ers and L2ers assign the correct NP-attached PP analysis. However, when provided with a referential context, contrastive intonation facilitated the correct interpretation with L1ers but misled L2ers in incorrectly adopting the incorrect VP-attached PP analysis.

**Are relative clauses derived from main clauses? = Evidence from an elicited imitation experiment in German**

*Emanuela Sanfelici (University of Frankfurt)
Corinna Trabandt (University of Frankfurt)
Petrzja Scholz (University of Frankfurt)*

This study investigated the role of verb placement, V2 vs. verb-final (V-fin), in the acquisition of German relative clauses (RCs). In German RCs, the verb occupies the final position. However, under specific conditions, so-called integrated V2 structures (iV2) are licensed (Gärtner 2001a). Acquisition studies argued that iV2 are the first RC-like structures in children up to the age of 4 (Brandt et al. 2008). However, the structures reported to be produced by children do not meet the licensing conditions for iV2. In order to test whether iV2 are the first RCs, we developed a picture-supported delayed-imitation task testing 3- to 5-year-old monolingual German-speaking children. Our results reveal a robust preference for V-fin RCs over iV2 and a clear tendency to change the verb placement from V2 to V-fin, especially in the youngest group of children. These findings are inconsistent with the previous results and challenge the coordination analysis for iV2.

**The processing of Greek relative clauses in adults and children**

*Kalliopi Katsika (University of Kaiserslautern)
Shanley E.M. Allen (University of Kaiserslautern)*

Psycholinguistic research on subject and object relative clause (RC) processing has provided interesting insight into the strategies that comprehenders apply for the interpretation of complex structures. Particularly interesting for the present study is the finding that, in free word order languages, on-line RC processing strongly depends on the linear distance between the RC verb and the relative pronoun independently of type of RC (Levy et al., 2013; Kovács & Vassíth, 2013). In four online self-paced listening experiments in Greek, we manipulated the type of RC, RC internal word order, and type of relativizer. In total, we recorded on-line listening times and grammaticality judgments from 61 11- to 12-year-old children and 73 adults. In addition, we extracted and analysed 9,076 sentences from the Hellenic National Corpus (HNC) to assess structural frequencies of the different types of RCs. Overall, our data provide more evidence for locality than for expectation-based processing.

**Preschoolers understand the focus particle ‘Only’ when given syntactic or pragmatic cues**

*Sime Topaloglu (Boğaziçi University)
Mine Nakipoğlu (Boğaziçi University)*

Previous research shows that preschoolers often misassign the scope of pre-subject ‘only’ to the object-NP (Crain et al. 1994, Paterson et al., 2005; Kim, 2011; Müller et al., 2011). This study uses a Truth-Value-Judgment-Task to examine Turkish-speaking preschoolers’ comprehension of the focus particle ‘only’ in the pre-subject and pre-object positions. The results indicate a strong bias object-focus readings. A follow-up experiment introduces two manipulations to the test to investigate the effects of information structure and pragmatism. To create an environment where objects are topic and subjects are focus,

(i) the object-NP is displaced to the sentence-initial position and topicalized, i.e. test-sentences are in the Object-[Only Subject]-Verb order, where the subject-NP occupies the pre-verbal focus position.

(ii) the experimenter asks ‘who-questions’ to pragmatically localize subject-NPs.

The results of Experiment 2 show that children’s comprehension of pre-subject ‘only’ becomes remarkably adult-like in the presence of syntactic or pragmatic cues.
Sensitivity of monolingual Turkish infants to vowel harmony in stem-suffix sequences in the first year of life: Preference shift from familiarity to novelty

Annette Hohenberger (Middle East Technical University)  
Ulku Kaya (Middle East Technical University)  
Asli Altit (Okan International University)

In two longitudinal studies with 6- and 10-month-old monolingual Turkish infants we asked whether and if so, at what age, monolingual Turkish infants become sensitive to backness and rounding vowel harmony in morphologically complex stem-suffix sequences. In both studies, we used a preferential listening paradigm. In study-1 (n=71), infants solely listened to harmonic and disharmonic lists of words, for backness and rounding harmony. In study-2 (n=80) the presentation of the auditory stimuli was accompanied by a visual character on a computer screen. Mixed Linear Effect Models were carried out with age, harmony-type, harmony, and trial as fixed effects and age, harmony, and trial were repeated factors. The two studies, although using somewhat different methodologies resulting in different overall levels of listening time, provided converging evidence for a qualitative shift of preference from harmonic to disharmonic stem-suffix sequences in monolingual Turkish infants from 6-to-10-months of age.

Resolution of bridging definites in a second language

Jucee Cho (University of Wisconsin - Madison)

This study investigates how L1-Korean speakers interpret different types of definites in L2-English: 1) anaphoric with explicit antecedents (e.g. Mary baked a cake for her son. He enjoyed the cake.), 2) anaphoric bridging with implicit antecedents (e.g. Mary baked for her son. He enjoyed the cake.), and 3) non-anaphoric bridging with no antecedents (e.g. It was Mary’s birthday. Her son smashed the cake.). Korean lacks articles but uses the demonstrative ke (that) to mark anaphoric definites only (Chang 2009; Kang 2012). Thirty-seven L1-Korean learners and 26 English native controls completed an acceptability judgment task. The data transferred that intermediate-level learners are more accurate with anaphoric definites than non-anaphoric definites, indicating L1 transfer. Advanced-level learners’ judgments, however, don’t show L1 influence but still differ from native controls’ judgments on backness and rounding harmony. In morphologically complex structures, this suggests advanced-level L1-Korean learners’ article errors may be due to resolution strategies for bridging definites rather than L1 influence.

Children’s interpretation of asserted, presupposed, and pragmatically-implicated exhaustivity

Lilla Pintér (Research Institute for Linguistics, Hungarian Academy of Sciences)

The study reports on three experiments examining at what age Hungarian children can process the exhaustivity of (1) sentences containing the focus particle csak (‘only’), (2) sentences with structural focus, and (3) sentences with neutral intonation and word order, which express different – asserted, presupposed, and accidental-pragmatic – kinds of exhaustivity, respectively. I tested four age groups in each experimental phase: preschoolers, 7-year-olds, 9-year-olds, and adults. The results are in line with the assumption that exhaustivity is asserted in the case of csak, but presupposed in the case of structural focus. In the latter case, the observed difference between the age groups suggests that exhaustivity encoded by a specific syntactic configuration is harder for children to process. Sentences with neutral intonation and word order were mostly accepted in the non-exhaustive construction, indicating that speakers do not interpret these constructions exhaustively when there are no contextual cues to trigger the generation of an implicature.

Investigations of children’s use of different linguistic cues during sentence comprehension are crucial for understanding the nature of the human parser. Previous research suggests that children abstract grammatical cues (e.g., case and gender) at an early age. This paper presents additional evidence for this claim. The study adds further evidence for the parsing ability of children by showing that Mandarin-speaking three-year-olds make rapid use of morphosyntactic cues during online sentence comprehension. Mandarin often uses two morphosyntactic markers BA and BEI to indicate the thematic roles of NPs: the use of BA indicates the NP preceding it is the agent and the one following it is the patient, whereas the use of BEI reverses the thematic roles of the NPs. We tested 33 three-year-olds on their interpretations of BA- and BEI-constructions, using the visual word paradigm. We found that the three-year-olds exhibited eye-gaze patterns that reflect a rapid use of morphosyntactic cues during online sentence comprehension.
We investigate L2 acquisition of causative constructions in English by Japanese-speaking learners, focusing on L1 transfer errors from the perspective of the Voice-bundling parameter (Pykkänen 2008). According to Pykkänen, languages are divided into two types: i) non-Voice-bundling languages like Japanese where the heads Voice, introducing an external argument, and Cause, introducing a causative event are separate, and ii) Voice-bundling languages like English where Voice and Cause are bundled together. We administered an acceptability judgement task including unaccusatives with by-phrases naming a causative event; we also included causatives with instrumental modifiers, lexical causatives based on unergatives and transitive to intermediate and advanced learners of English. Results revealed that Japanese learners of English had difficulty rejecting incorrect unaccusatives with causative events and with instrumental modifiers. (The door opened by the wind, *The window broke with a stone*). We discuss L1 influence of the parameter and developmental stages observed for acquiring causative constructions in the L2.

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Eleven-month-olds use prosodic boundaries to learn non-adjacent grammatical dependencies

Milenê Lagueirda (Universidade Federal de Juiz de Fora)
Elsa Santos (University of Quebec - Montreal)
Ruchen Shi (University of Quebec - Montreal)
Cristina Name (Universidade Federal de Juiz de Fora)

We investigated the role of prosodic boundaries in infants’ learning of non-adjacent dependencies (NADs). Using a preferential looking procedure, we trained Canadian-French-learning 11-month-olds with Brazilian-Portuguese NADs. In one condition (double-alignment), infants heard the NAD elements both appearing at phonological phrase boundaries ([Det+Noun]+[V]). In the other condition (single-alignment), only one of these co-dependent elements (Det) was at a boundary ([Det-Noun]+[V]). In an artificial paradigm, four Brazilian-Portuguese determiners were divided into two sets, and combined respectively with e- versus o-ending pseudo-nouns. The last word was homophonous in the two structures. Thus, the utterances in the two structures differed only in prosodic phrasing. After 2 minutes of exposure, infants who were trained in the double-alignment condition learned the NADs and generalized them to new stimuli with novel content words. These results show that infants under one year of age use prosodic boundaries to acquire syntactic regularities.

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Cross-linguistic effects in L2 acquisition of causative constructions

Kazunori Suzuki, Nozomi Kikuchi, Maya Kawada, Maki Maetsu, Masami Yasuda, Koki Shioda, Tatsuyoshi Sato, Yuki Takano, Tatsuya Ishii, and Makiko Hikakawa (Bunkyo University)

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POSTER SESSION I

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POSTER SESSION I

On the temporal interpretations of locative PPs in child language

Oana Lungu (Universidade Nova de Lisboa)

Sentences like (1) contain two types of ambiguities: an attachment ambiguity—the (Prepositional) Phrase “near the tractor” can attach to the verb “brush” or to the noun “horse”, and a temporal ambiguity—(1) can yield a simultaneous reading (the state “being—near—the—tractor” overlaps the “brushing” event) or an “indexical” reading (“being—near—the—tractor” obtains at speech-time).

(1) The girl brushed the horse near the tractor.

We examined the interplay between temporal and attachment ambiguities in L1 Portuguese. We found that 5-year-old children, like adults, do not have any attachment preference. However, unlike adults, children showed a preference for the SIM reading. We argue that this is because children prefer to interpret the temporal argument of the PP as anaphorically related to the matrix past tense. We attribute this preference to processing limitations.
This study hypothesized that an English-German early bilingual child living in the US would show phonetic-phonological interference effects from the non-dominant language (German) onto the dominant language (English) after spending a month in a German-speaking environment. The six-year-old was recorded once before and once after traveling to Germany. Auditory and acoustic analyses of word-final voiced stops in English suggest that the same words (e.g. ‘globe’, ‘crab’) were voiced before the child spent time in Germany, but were often devoiced after the child returned. These results indicate that the phonological rule of final devoicing in German interferes with the child’s dominant language (English) after the child has had extensive contact with German. This supports a model of dynamic linguistic representations for bilingual first language acquisition in which phonological rules in one language can permeate into the linguistic system of the other language dependent on recent language input and use.

This study investigates how L2-learners from the Generalized Classifier languages based on atomicity.

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Temporary phonetic drift in bilingual first language acquisition

Katharina Schulmann (University of Bonn)

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POSTER SESSION I

**Children's sensitivity to prosody and discourse-pragmatic features: The case of contrastive focus in Italian.**

**Vincenzo Moretti (University of Siena)**

Italian, an SVO language (1), permits alternative orders with special intonational and pragmatic conditions. A DP DP V sequence is ungrammatical with flat topic-like intonation (2a), and possible if one of the two DP's bears contrastive focus prosody. In that case, the contrastively focussed DP is interpreted as the object C2b-v.

(1) La tigre ha battuto la zebra

SVO

"the tiger defeated the zebra"

(2) a. *La tigre la zebra ha battuto

b. [TopP la tigre’ [FocP [LA ZEBRA’ [IP t’ ha battuto t’]]]

SOG

A debated issue in acquisition is whether young children are sensitive to focal stress. If children are sensitive to focal stress, they should systematically use this information to disambiguate the sentences. We designed a new experiment to assess i. whether children at age 5 are sensitive to the critical role of stress information in (2) and ii. whether there are any parsing preferences between the SOV and the OSV parse of DP DP V structures in adults and children. Results: children at age 5 are already sensitive to prosodic violations. Moreover, both adults and children show a strong preference for the SOV word order.

POSTER SESSION I

**Notes**

<table>
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<th>School-age sequential Mandarin-Italian children’s comprehension of relative clauses</th>
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<tr>
<td>Shenui Hu (University of Verona)</td>
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<td>Maria Teresa Guasti (University of Milan - Bicocca)</td>
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The study investigated the comprehension of Mandarin and Italian relative clauses in sequential Mandarin-Italian bilingual children aged 6–9 and their age-matched monolingual counterparts. We tested 153 children through character-sentence matching tasks. The results showed that bilingual children comprehended subject relatives much better than object relatives in both languages, similar to their monolingual peers, but their accuracy rates in both relative clauses were much lower than their monolingual peers’. In addition, they had difficulty in comprehending Mandarin subject relatives, but not Italian subject relatives. Moreover, Italian object relative clauses with a postverbal subject were particularly challenging for bilingual children and there was no improvement across age groups. We discuss how their acquisition patterns are influenced by language-specific properties, and propose that learning two languages may slow down the acquisition of each language for structures that are different in the two languages, but it does not affect the qualitative aspects of development.
Preferred quantifier interpretations correlate with interpretations of quantified antecedents and object reflexives and pronouns
Margreet van Koert (University of Amsterdam)
Olaf Koemenan (Radboud University Nijmegen)
Aafke Hulk (University of Amsterdam)
Fred Weerman (University of Amsterdam)

Monolingual Dutch and English children differ from each other on sentences with local QP antecedents and reflexives or object pronouns. Van Koert et al. (to appear) found that these dissimilarities stem from different quantifier interpretation preferences. Since the languages differ, the question is: how do English-Dutch bilingual children perform? The present experiment tested 29 English-Dutch bilingual children with a mean age of 8.0 (range: 6.0–10.0; SD = 16 months). A picture verification task measured their performance on sentences containing QP antecedents. A picture selection task determined their quantifier interpretation preferences. The results showed that the bilingual children’s quantifier interpretation preferences corresponded to their behaviour on reflexives and pronouns in the QP conditions, just as in monolinguals. However, the bilingual children in the present experiments showed convergence between their Dutch and English: their binding results and their interpretation preferences in Dutch were the same as in English.

Is the passive a semantic prototype construction? Evidence from production-proniming
Amy Budgood (University of Liverpool)
Ben Ambridge (University of Liverpool)
Julius Pine (University of Liverpool)
Caroline Rowland (University of Liverpool)

Most accounts agree that children have fully abstract knowledge of the passive by 5 years of age, but what form does this knowledge take? Comprehension studies (e.g. Maratsos et al., 1985) have found that children struggle to understand passives with ‘mental’ verbs (e.g. see) until age 7, suggesting a semantic restriction on knowledge of the passive. In contrast, Messenger et al.’s (2012) priming study demonstrated that children’s abstract knowledge of the passive includes these verbs. The current study presents findings from a production priming study in which children (4-6 years) and adults described animations, following active or passive primes, with target verbs of three semantic types: agent-patient (e.g., hug), theme-experiencer (e.g., scare), experencer-theme (e.g., see). Participants produced more passives with theme-experiencer and agent-patient than experiencer-theme verbs, suggesting that children’s and adults’ abstract knowledge of the passive consists of a semantic prototype construction in which the passive subject is highly affected.

References
Berger & Höhle (2012). In this study, the younger children (3;4–4;9) did not take the meaning of the additive particle into account for “auch” in German (Hüttner et al., 2012). In the present study, the younger children as young as three can successfully interpret “auch” in German (Hüttner et al., 2012).

In praise of novelty and practice: Language learning improves and maintains attention
Madeleine Long (University of Edinburgh)
Mariana Vega-Mendoza (University of Edinburgh)
Antonella Sorace (University of Edinburgh)
Thomas Bak (University of Edinburgh)

We examined 33 Gaelic learners before and after a one-week intensive course and compared them to 34 controls: active controls (n=16) enrolled in courses of comparable duration/ intensity but not involving language learning, and passive controls (n=18) who followed their usual routines. Participants were administered auditory tests of inhibition and switching. There were no initial differences between the groups. After the course, significant improvement in switching was observed in the language group (p<0.01) but not the controls (p=0.127), independent of age (18-78 years). We retested half of the language participants (n=17) nine months later. All those who practiced Gaelic 5 hours or more per week improved from their baseline performance. In contrast, those who practiced 4 hours or fewer showed an inconsistent pattern: some improved, while others maintained or deteriorated. Our results suggest that brief intensive language learning can modulate attentional functions. Moreover, these effects can be maintained through continuous practice.

References
Mariana Vega-Mendoza (University of Edinburgh)
Antonella Sorace (University of Edinburgh)
Thomas Bak (University of Edinburgh)
The 40th Annual Boston University Conference on Language Development

Notes

POSTER SESSION I

On the acquisition of homogeneity in plural definite
Lyn Tien (Laboratoire de Sciences Cognitives et Psycholinguistique (EHESS-DEC(ENS)-CNRS, Ecole Normale Supérieure)
Manuel Ket (University of Vienna)
Emmanuel Chemla (Ecole Normale Supérieure)

Plural definite descriptions give rise to homogeneity: in a ‘gap’ situation where there are two blue trucks and two yellow trucks, i.e. where the value of the predicate varies from one individual (truck) to the next, the positive (1) ‘The trucks are blue’ and the negative (2) ‘The trucks aren’t blue’ are never true nor false (Löbner 1987, Schwarzschild 1994). If young children do not initially display the hallmark of homogeneity, i.e. same responses to (1) and (2) in gap contexts, they may instead interpret the definites either existentially or universally. While over half of our children were adult-like, rejecting (1) and (2) in gap contexts, some children interpreted the definites existentially. These ‘non-homogeneous’ children also failed to compute scalar implicatures, providing support for implicature accounts of homogeneity, according to which plural definites have a literal existential meaning that is strengthened to the universal meaning through an implicature (Magri 2014).

POSTER SESSION I

The role of consonants and vowels in 5- and 8-month-old own name recognition: Implications for lexical development
Katie Von Holzen (Laboratoire de Psychologie de la Perception CNRS)
Delphine Rieder (Laboratoire de Psychologie de la Perception CNRS)
Thérou Nuzzo (CNRS - Université Paris Descartes, Laboratoire de Psychologie de la Perception CNRS)

At 5-6-months, infants demonstrate a vowel (V) bias, but a consonant (C) bias by 8-months, suggesting a developing C-bias (Bouchon et al., 2014; Nishihashi & Nuzzo, under review). To further investigate C-bias development and its implications for language development, we tested 5- and 8-month-old French-learning infants on their preference for a C- versus V-mispronunciation of their name and collected vocabulary scores. Infants familiarized with the correction pronunciation of their name showed a preference for V-mispronunciations compared to C-mispronunciations, which was greater for 5-month-olds. At 8-months, infants who listened longer to C-mispronunciations had higher vocabulary scores, tentatively supporting that the C-bias develops in relation to lexicon size (Keidel et al., 2007). Vocabulary scores will be measured at 13-, 16- and 24-months to explore whether early C- or V-preference is related to later vocabulary development. Studies with older infants will determine the final development of the C-bias in own name recognition.

POSTER SESSION I

First NP-as-agent bias does not prevent active from passive discrimination in 25-month-olds
Kirsten Abbot-Smith (University of Kent)
Franklin Chang (University of Liverpool)
Heather Ferguson (University of Kent)
Julian Pine (University of Liverpool)
Caroline Bowlard (University of Liverpool)
We used pointing and eye-tracking to measure how two- and three-year-olds interpret the ‘late-acquired’ English passive (the boy is being refted by the girl). We tested a) whether 25- and 42-month-olds can interpret the passive, and b) whether any poor performance could be attributed to an incremental processing heuristic known as the ‘first-NP-as-agent’ bias; a bias which causes children to map the NP preceding the verb onto the agent of a causative (Bever, 1970). Using a permutation analysis that dealt with variation in biases across development, the results showed that (a) both child age groups significantly distinguished the passive from the active. In addition, (b) both 25- and 42-month-olds showed a bias to map the first NP (‘the boy/girl is…’) onto an agent before they had fully processed the second NP. Thus, 25- and 42-month-olds’ interpretation of the passive is influenced by an early, incremental ‘first-NP-as-agent’ bias.
What do they produce when phonology is too complex? The case of bilinguals with SLI

Laetitia Almeida (University Francois-Rabelais of Tours)
Sandrine Ferré (University Francois-Rabelais of Tours)
Christophe dos Santos (University Francois-Rabelais of Tours)

Complex syllable structure is acquired late in typical acquisition, and constitutes a challenge to children with Specific Language Impairment (SLI), whether bilingual or not. The question is whether monolingual and bilingual children, with and without SLI, used qualitatively different strategies when phonology is too complex, such as in medial codas and branching onsets. We analyzed the erroneous productions of complex structures of 106 children speaking French, with or without SLI, aged 5;02 to 9;90: monolinguals and bilinguals with different first languages (either English, Arabic, Portuguese or Turkish). Metathesis was the most common repair pattern in all children: medial codas are transformed into branching onsets (pilfu→plifu) in all groups, and branching onsets were moved to another place within the item (fluka→fluka). However, children with SLI produced more errors for these structures and per item: the difference is thus quantitative rather than qualitative between children with and without SLI.

Words as invitations to form categories? The case of polysemous words

Hugh Rabagliati (University of Edinburgh)
Stephen Conte (University of Edinburgh)
Mahesh Srinivasan (University of California - Berkeley)

By many influential proposals, hearing labels invites children to create new concepts (e.g., Waxman & Markow, 1995). For instance, common labels may indicate common essences that are shared across superficially-distinct category members (Gelman, 2003; Gelman and Markman, 1986). However, one problem for this proposal is that most words can be used to label multiple distinct (but related) concepts, a phenomenon called polysemous words. For instance, in English, words like “chicken” label not only animals but also their meats, while words like “glass” label materials as well as artifacts derived from those materials. Here, we ask how polysemous affects conceptual development: When children hear a label like chicken used in a polysemous way, do they mistakenly conflate distinct concepts like chicken animal and meat into a single meaning, or are they able to distinguish between the two concepts?

Parental translations of child gesture help vocabulary development in bilingual children

Valery Mateo (Georgia State University)
Şeyda Özlüçkan (Georgia State University)
Erika Hoff (Florida Atlantic University)

Young children learning only one language often display their readiness to learn a concept in gesture before conveying the same concept in speech. Parents respond to these unique gestures, translating them into words. Children, in turn, benefit from these translations, showing earlier production of the words that their parents translated. In this study, we ask whether parent translational of child gesture plays a similar role in the language development of children learning two languages (i.e., bilinguals). We tested this question by studying the gestures and speech produced by 12 bilingual children (6 English dominant, 6 Spanish dominant) in comparison to 12 monolingual children (6 English, 6 Spanish)—from age 2;6 to 3;6—as they interacted with their parents in a structured play context. Our results show that parental translation of child gestures is a significant predictor of children’s burgeoning vocabularies in speech in bilingual children, as it is in monolingual children.
POSTER SESSION I

Development of conditional reasoning affected by grammatical properties: Evidence from counterfactuals

Vina Tsakali (University of Crete)

Previous work has suggested that acquisition of conditionals emerges late (after the age of 7.0 and up to the age of 11.0), due to either unspecified cognitive factors or to low usage of these type of tokens in adult language (Reilly 1986, Bowerman 1986, Crutchley 2004, 2013). The current study examines the developmental properties of counterfactual and non-counterfactual conditionals in Greek building on the analysis that only the former’s interpretation forms a conversational implicature (Anderson 1951, Palmer 1986, Iatridou 2000). Thus, while non-counterfactuals deliver the meaning of a typical conditional ‘if p, then q’, counterfactuals express the meaning of a negated conditional. Aiming to evaluate potential differences in the order of acquisition between the two types of conditionals, experimental data on monolingual Greek children (aged from 4.00-9.00 years old) show that certain aspects of conditional reasoning emerge early and that the development of non-counterfactuals precedes significantly the development of counterfactuals.

POSTER SESSION I

Semantic priming effect in 24- to 27-month-old monolingual and bilingual children

Rosa Kit Wan Kwok (Plymouth University)
Claire Delle Luche (University of Essex)
Janette Chow (University of Oxford)
Klara Horvath (University of Oxford)
Alliegu Cattani (Plymouth University)
Kim Plunkett (University of Oxford)
Caroline Floccia (Plymouth University)

How is the semantic structure of the early bilingual lexicon organised? We investigated the pattern of semantic priming effects in English in 24- to 27-month-old monolingual and bilingual children using the same task as Arias-Trejo and Plunkett (2009). Participants first listened to the carrier sentence ‘Yesterday I saw a..’ before hearing two nouns that were taxonomically and/or associatively related (e.g. cat and dog) or unrelated (e.g. juice and dog). They were then presented with a pair of pictures, a target and a distracter (e.g. dog and ship). Semantic priming effects were obtained for monolingual infants only for those aged 25 months and above. Bilingual toddlers learning a language close to English showed no semantic priming effect while those learning a distant language showed a significant semantic priming effect. We discuss the relative maturity of young bilinguals’ lexicon as compared to monolinguals’ as well as the link with adult priming studies.

Notes

POSTER SESSION I

Deafness, Theory of Mind, and figurative language comprehension

Francesca Panzeri (University of Milan - Bicocca)
Francesca Foppolo (University of Milan - Bicocca)

Several authors linked the comprehension of non-literal language such as metaphor and irony to Theory of Mind (ToM) abilities (a.o. Sullivan et al., 2005; Happé, 1993). To further investigate the cognitive abilities that are involved in non-literal understanding and disentangle the factors at play in different kinds of non-literal language, we compared the understanding of metaphors and irony in a typical and atypical population, i.e. children with conventional hearing aids, whose linguistic and ToM abilities are delayed with respect to their TD peers (Woolfe et al., 2002; Peterson & Siegal 1999; Peterson, 2004). The results show that HA-children experience serious problems in the comprehension of non-literal language, and their difficulties seem to be more severe than their TD peers with analogous levels of ToM. These results suggest (contra Happé) that ToM levels are not sufficient to account for metaphor and irony understanding in our HA-group.
The role of caregivers' tense and aspectual distinctions on children's later acquisition
Iris Chin (University of Connecticut - Storrs)
Letitia R. Naigles (University of Connecticut - Storrs)

Tense and aspect refer to temporal information that is non-concrete and sometimes transient. Yet, children acquire aspect/tense beginning around 2- to 2.5-years-old. The current study examined possible cues in children’s input that would aid their form-to-function mapping of tense/aspect markers in English. Ten children (M=20.37 months) engaged in a play session with their caregiver, where the consistency between the production of tense/aspect markers and the timing of the referenced event/actions were coded. After two years, children’s comprehension of the past/perfective and progressive was assessed. Caregivers’ consistency in their use of the progressive marker (i.e., producing –ing as an event was unfolding) was correlated with children’s later ability to distinguish between the perfective/past and progressive markers but consistency in the use of the perfective/past (e.g., producing –ed after the event’s completion) was not, suggesting that the input cues children use to acquire tense/aspect morphology might be different for different inflectional markers.

Using parent-implemented intervention, we tested the input subject diversity as a catalyst for grammatical growth
Matthew Rispoll (University of Illinois - Urbana-Champaign)
Pamela Hadley (University of Illinois - Urbana-Champaign)

Input subject diversity as a catalyst for grammatical growth

Using parent-implemented intervention, we tested the hypothesis that a greater diversity of lexical NP subjects in input promotes children’s analysis of the subject constituent and facilitates tense/agreement acquisition by decreasing subject-to-VP transitional probabilities and reducing copula contraction. Nineteen toddlers in the treatment condition were matched on expressive vocabulary at 1;9 to 19 controls. Between 1;9 and 2;0, parents were instructed in techniques to increase the frequency and diversity of lexical NP subjects. Children’s growth in 3rd person sentence diversity and tense/agreement morpheme productivity was assessed at 1;9, 2;0, 2;3, and 2;6 in language samples. Treatment effects were apparent for parents’ NP subjects and copula contraction. Treatment condition significantly accelerated growth in children’s 3rd person sentence diversity and tense/agreement morpheme productivity. Growth coefficients were two to three times larger for the treatment group. These findings demonstrate the effects of diverse, low-frequency subjects on children’s early grammatical growth.

Notes

Lexical contributions to inflectional variability in L2 predictive processing
Holger Hopp (University of Mannheim)

Building on previous work (e.g. Grüter, Lew-Williams & Fernald, 2012; Hopp, 2013), we report two experiments testing the contributions of lexical representations to inflectional variability with grammatical gender. For predictive gender processing, i.e. using gender marking on the determiner to anticipate upcoming nouns, Experiment 1 tests whether training on lexical gender assignment leads to target-like predictive agreement processing in 34 adult L2 learners of German. In a pre-post design, the L2 group came to use gender agreement predictively. Importantly, predictive use of gender agreement was correlated with lexical gender assignment accuracy ($r = .534$). Experiment 2 evaluated L2 problems with predictive gender agreement in German nives by providing unreliable lexical gender assignment in the input. The experiments show that the reliability of lexical gender assignment determines the predictive computation of gender agreement in both native and non-native processing. We discuss the implications for models of L2 acquisition and processing.

Notes

Using event-related potentials (ERP) to examine the nature of morphological variability in adult L2 learners
José Alemán Bañón (University of Reading)
David Miller (University of Reading)

We examined the role of morphological markedness in the L2 comprehension and production of number and gender agreement in Spanish by adult L1-English learners. Comprehension was examined via event-related potentials in a design manipulating the number/gender specification of the trigger noun. Spanish controls (n=27) showed a P600 for both number and gender violations. For number, the P600 was impacted by markedness (larger for “singular noun-plural adjective” errors). Similar to native speakers, L2ers (n=23, intermediate/advanced) showed robust P600s for number and gender violations, an effect which was larger for number. The P600 was also impacted by number markedness, although the effect was marginal. In L2 production, most errors concerned assignment of lexical gender, not agreement. In addition, learners’ accuracy was not impacted by markedness. These results suggest that L2ers can process all L2 features in a qualitatively native-like manner and are sensitive to markedness relations in a native-like manner.

Notes

Japanese infants are aware of phonemic vowel length in novel words at 18 months
Hui Chen (Macquarie University)
Naoto Tanume (RIKEN Brain Science Institute)
Nan Xu Rattanasone (Macquarie University)
Katherine Demuth (Macquarie University)
Reiko Matsu (RIKEN Brain Science Institute)

This study evaluates whether 18-month-old Japanese-learning infants are sensitive to phonemic vowel length contrasts in a novel word learning task. Infants were taught two disyllabic novel words via training videos, and then tested in an Intermodal Preferential Looking task where pictures of the two newly taught novel objects were presented side-by-side. The novel objects were either correctly named or mispronounced in vowel length. Proportion of looks to the target object before and after the onset of the test word were calculated. The results from the 20 infants who learned the novel words showed that looking shifts in response to vowel length mispronunciations differed significantly compared to correct pronunciations. The findings indicate that Japanese infants have acquired a long-short phonemic vowel length distinction by 18 months, despite the low number of long vowels in the input they hear.
Correlational studies show that infants whose parents frequently engage in contingent talk (where they talk about what is in the infant’s focus of attention) go on to have a substantially larger vocabulary as toddlers. Recent studies suggest that rates of use of contingent talk vary as a function of socio-economic status and may explain why children from disadvantaged areas tend to start school with weak language skills. Such research suggests that increasing parental contingent talk would tend to start school with weak language skills. Such research suggests that increasing parental contingent talk would promote language development and would do so specifically for those at risk due to social disadvantage. The current study compared the effects of an intervention to promote contingent talk against a control, and measured parent contingent talk and child communication both before and after the intervention. Preliminary analyses suggest this intervention was successful in both increasing the quantity of parental contingent talk and in promoting early language development.

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### Session A--Metcalf Small

**Notes on the development of narrative structure in an emerging sign language: An episode analysis**

- **Marie Coppola** (University of Connecticut - Storrs)
- **Deanna Gagne** (University of Connecticut - Storrs)
- **Eli Miranda** (University of Connecticut - Storrs)

We compared signers with varying linguistic experiences to disentangle the roles of linguistic input and linguistic community in the development of narrative abilities. All participants were deaf and included 1) Homeowners (no linguistic input/ community); 2) Three cohorts of Nicaraguan Sign Language signers (emerging language); and 3) American Sign Language signers (mature language). Participants watched a cartoon and retold the story to a listener. Narrative quality was measured by “Story Goodness,” which characterizes what information is expressed and its organization into episodes. Membership in a linguistic community with a longer history, and the age of a participant’s language system at the time they were tested, were positively related to the number of complete episodes produced. These results suggest that linguistic input and membership in a linguistic community organize human experience: together they form a critical foundation for narrative development which is reflected in the ability to tell meaningful stories.
In a longitudinal study, we asked whether individual differences in the precision of infants’ links at 12 months of age are related to vocabulary growth. We found that, at 12 months, infants who had already established a precise link between labels and categories understood more words than those whose link was still broad. Six months later, this advantage held: At 18 months, infants who had demonstrated a precise link at 12 months knew more words and produced more words than did infants who had demonstrated a broad link at 12 months. We conclude that individual differences in the precision of 12-month-old infants’ links between language and categories provide a reliable window into vocabulary development, and consider several causal explanations for this relation.

The emergence of spatial language and spatial categorization in Nicaraguan Sign Language

Jennie Pyers (Wellesley College)
Ann Senghas (Barnard College)
Susan Goldin-Meadow (University of Chicago)
Dedre Gentner (Northwestern University)

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When pragmatics helps syntax: An eye tracking study on scope ambiguity resolution in 4- to 5-year-old children.

Karloilna Lohiniva (Universite de Geneve)
Daniele Panizza (Georg-August Universit"at G"ottingen)

In this talk, we present a developmental study that combined a semantic decision task with eye movement recording, investigating 4- to 5-year-old children’s and adults’ comprehension of German sentences including the two scope-taking operators alle (‘all’) and nicht (‘not’), as in (1).

(1) Alle Piraten sind nicht auf das Schiff zurückgekehrt.

All of the pirates did not go back to the ship.

We report the following results: Children access both readings of (1), but the surface scope reading of (1), according to which no pirates went back, is accessed faster, whereas children are more accurate in their off-line choices with the inverse scope reading of (1), according to which not all did.

Crucially, the adopted prosody for the test sentences was unbiased. These findings speak against a processing-limitation hypothesis, and suggest that pragmatic inferences may facilitate children’s access to inverse scope even in the absence of a prosodic bias.

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"Inputts and Out(inputts) of the Syntactic Bootstrapper"

Bootstrapping the syntactic bootstrapper
Anne Christophe1, Isabelle Daunize1, Alex de Carvalho1 & Perrine Brusini1:

‘CNRS, Ecole Normale Superieure, ‘Scuola Internazionale Superiore di Studi Avanzati (SISSA)

Two mechanisms for syntactic bootstrapping
Cynthia Fisher, University of Illinois at Urbana-Champaign

Syntactic bootstrapping of attitude verbs
Jeffrey Lids & Valentine Hacquard, University of Maryland

In 1985, Landau & Gleitman first outlined the syntactic bootstrapping hypothesis, in their book Language and Experience – Evidence from a blind child, followed in 1990 by Lila Gleitman’s article “The structural source of verb meanings” (Language Acquisition). They proposed that young children might learn the meaning of words (and in particular, verbs), by paying attention to the syntactic structures in which they occurred. This highly counter-intuitive hypothesis earned Lila a lot of flak from the community, and paved the way for the broader research framework that is now known as ‘synergies in language acquisition’: the general idea that even impoverished knowledge in one area of language might help children refine their representations in another (e.g., even a very crude proto-lexicon will help you learn your phonological system). Thirty years later, syntactic bootstrapping is widely accepted and has been supported by many experimental results – even though a lot remains to be discovered. In this symposium, we will examine the ways in which very young children might start gathering the relevant syntactic facts on which to base their acquisition of word meanings – or, in other words, how to bootstrap the syntactic bootstrapper – as well as how to go further than the first steps of syntactic bootstrapping, especially for those cases where support from the non-linguistic context is particularly scarce.
Adult language processing is characterized by a sensitivity to fine-grained phonemic detail, however, little is known about children’s attention to phonemic detail during online word recognition. To address this issue, Experiment 1 compared 29-month-olds’ (N = 24) recognition of familiar words presented with appropriate coarticulation (Matched Condition) versus inappropriate coarticulation (Subphonemic Mismatch). Children recognized the target words in both conditions, but their average proportion of looks to the target was greater in the Matched than the Mismatch Condition. Experiment 2 compared 29-month-olds’ (N = 24) sensitivity to subphonemic mismatch to their sensitivity to phonemic mismatch. Here, children looked more to the target object when the target label contained a subphonemic than a phonemic mismatch. Thus, although inappropriate coarticulation impacts toddlers’ word recognition, it does not disrupt recognition nearly as much as phonemic mismatch. These findings suggest that children, like adults, are attentive to subphonemic information, even though it is non-contrastive.

Elizabeth Johnson (University of Toronto, University of Toronto - Mississauga)
Natalie Fecher (University of Toronto - Mississauga)
Melissa Paquette-Smith (University of Toronto)

Two-year-olds’ sensitivity to phonemic versus subphonemic mismatch in spoken word recognition

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Session A--Metcalf Small

Notes

Session B--Conference Auditorium

Notes

Session C--Terrace Lounge

Notes

Tracking the development of structural priming in children

Evan Kidd (Australian National University)
Franklin Chung (University of Liverpool)
Michelle Peter (University of Liverpool)
Caroline Rowland (University of Liverpool)

Bilingual children with High Functioning Autism Spectrum Disorder: Evidence from oral narratives and executive function tasks

Eleni Baldimtsi (Aristotle University of Thessaloniki)
Eleni Pervanidou (Aristotle University of Thessaloniki)
Iamthi Marie Tzampi (Aristotle University of Thessaloniki; University of Reading)
Agathi Nikolopoulou (Lehigh University)

This study investigated possible compensatory effects of bilingualism on ASD in language and non-verbal cognition. Six bilingual children with ASD were compared with 9 bilingual and 9 monolingual controls (mean age: 9.8) with or without ASD. Children narrated a story to a multi-episode picture sequence that was analyzed using story structure and appropriate referential forms. An object, global-local attention task assessed children’s non-verbal inhibition and attention. The results partly supported our hypothesis. In the verbal task, TD bilinguals used the least number of ambiguous forms during narration, and bilinguals with ASD outperformed the monolingual controls. Furthermore, bilinguals with or without ASD and their controls used more story grammar elements than TD monolinguals. In the non-verbal task, children with ASD performed better in the local condition while children without ASD in the global condition. Thus, bilingualism seems to improve the verbal abilities of children with ASD more than their non-verbal abilities.

Session B--Conference Auditorium

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Session C--Terrace Lounge

Effects of topic on children’s interpretations of control

Viki Junke (University of Kent)

Using three two-choice picture-selection tasks, this study measured the effect of topic (no topic; weakly established topic; strongly established topic) on older children’s (aged 6.9 to 11.8) interpretations of complement control, temporal adjunct control, controlled verbal-gerund subjects and long-distance control and interpretation. Interpretations remained topic-oriented in complement control across all three tasks, whilst those of verbal-gerund subjects and long-distance control proved susceptible to both strengths of cue. The surprising finding was that adjunct control interpretations shifted significantly towards the object under the pressure of a strongly established topic (p<0.001), despite a long being analysed as strictly subject-oriented. 15 adults exhibited the same pattern. A discourse-based scale of influence is proposed for verbal-gerund subjects and long-distance control but the account offered for adjunct control is structural. This can represent the evident sentence-internal ambiguity seen in both children and adults yet will exclude options not available in adjunct control, namely arbitrary or sentence-external interpretations.

Session A--Metcalf Small

Learning words amidst phonemic variability

Conor Frye (University of California - San Diego)
Sarah Creel (University of California - San Diego)

How crucial are phonemes for differentiating words? This work presents an test of the flexible lexical distributional hypothesis, that phonemic boundaries do not rigidly define word boundaries, even in adults. Adults (40 English monolinguals, and 40 Spanish-English bilinguals) learned multiple labels for 16 novel objects, where each label was phonemically variable (e.g. /dvi/ and /ti/ labeled the same object). Results suggest learning with stop-consonant variability is harder than learning phonemically-invariant labels, but much easier than dissimilar labels. Our findings contribute to research on word learning in two respects. First, results add nuance to ongoing debates regarding bilingual advantages in word learning. Second, results suggest surprising flexibility in adult word learning: not only variability in vowels—generally agreed to be flexibly perceived—but also, to some extent, variability in consonants differing categorically in voicing, can be learned. This hints at greater plasticity in L2 (and perhaps) L1 acquisition than previously thought.

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Spoken language processing involves the rapid integration of linguistic information via an auditory channel with referential scene information via the visual channel. In contrast, during comprehension of American Sign Language (ASL), signers must simultaneously attend to both the unfolding linguistic signal and the surrounding scene via the visual modality. We investigated semantic processing during real-time comprehension of ASL sentences in both adult and child deaf native signers. Signers viewed ASL sentences that began with a verb that either constrained the potential target (e.g. POUR WHAT? MILK) or provided no constraining information (e.g. SEE WHAT? MILK). Adults and children were faster to shift gaze to the target, directed a greater number of fixations to the target, and spent more time overall looking at the target in the constrained condition compared to the neutral condition. These findings demonstrate that sign language processing is driven by predictive relationships between the unfolding linguistic signal and the surrounding visual scene.

This study focused on the role of analogical reasoning and cognitive flexibility on the likelihood of passive priming. The study included 46 English-speaking 6-year-olds. The children were administered tests of working memory, sentence comprehension, cognitive flexibility, and an analogical reasoning task of the A:B = C:D type. The priming task was a 2x2 within-subject design crossing priming condition (active, passive) and verb semantics (agent-patient, theme experiencer).

We used mixed effects logistic regression with priming condition, WM, sentence comprehension, analogical reasoning and cognitive flexibility as fixed factors, participants and items as random factors. The best fit model showed a significant effect towards significance for cognitive flexibility, but no significant effect of verb semantics.

These results shed new light on the mechanisms underlying the syntactic priming phenomenon, and on the role of individual differences in the likelihood of priming in young children.
The acquisition of prosody in American Sign Language (ASL)
Diane Brentari (University of Chicago)
Joshua Falk (University of Chicago)
George Wolford (Purdue University)

This is the first comparative analysis of American Sign Language (ASL) prosody in Deaf, native-signing children (ages 5.0-8.5) and adults. The distribution of prosodic cues in narratives is described to determine i) which cues across age groups are most predictive in determining clausal and prosodic boundaries and ii) the amount of isomorphy between syntactic and prosodic units. The key findings are that prosodic cues are acquired compositionally and that the prosodic patterns in child and adult ASL signers exhibit important differences. Crucially, in all groups the manual cues are more predictive of prosodic boundaries than non-manual markers. This is evidence for a division of labor between the cues marking constituents and those contributing to phrasal meaning. There is also more isomorphy in adults than in children, suggesting that while there is clear autonomy between prosody and syntax, non-isomorphy is relatively rare overall.

Joshua Falk (University of Chicago)
George Wolford (Purdue University)
Yuanyuan Wang (Purdue University)
Amanda Seidl (Purdue University)

Studies have shown that both adult and child listeners are sensitive to talker attributes, such as gender, familiarity, social status, and language background and that this sensitivity impacts their speech processing. In this study we investigated whether toddlers show biases to voices from different aged talkers. Forty 20- to 22-month-olds were trained on novel words in which talker age was manipulated, but pitch was matched. These toddlers were later tested on their learning of those words. Results showed that the toddlers learned novel words from adult talkers, but failed to do so from child talkers. These results suggest that young learners are sensitive to the age of talker voices and are biased towards learning words from adults' over children's voices. Possible reasons for preferential learning from adults' voices are discussed.

Diane Lillo-Martin (University of Connecticut - Storrs)
Development of headshake in sign and speech

Zoe Fieldsteel (Brown University)
Diane Lillo-Martin (University of Connecticut - Storrs)

Headshake is used as a non-manual grammatical marker of negation in American Sign Language (ASL) and other sign languages (Quer 2012). ASL headshakes are different from co-speech headshakes in sharp onset and offset, syntactic distribution. Bimodal bilingual (bibi) children acquiring ASL/English must distinguish these very similar forms. We analyze negative utterances produced by one bibi child, BEN (1;11-3;9), and adult interlocutors in 14 spontaneous production sessions. Hearing adults produced headshakes in no more than 1/3 of their spoken negative utterances. BEN’s spoken utterances replicate hearing adults’ distribution of headshake fairly well. Deaf signing adults produced no headshakes in 21% of their utterances (cf. Weinberg & Wilbur 1990). However, while BEN’s pattern is close to adults for anaphoric negation, he uses the dominant adult pattern for sentential negation only 13% of the time. It is clear that bilingualism has a greater effect while he is signing than while he is speaking.

Yuanyuan Wang (Purdue University)
Amanda Seidl (Purdue University)

Toddlers learn words from adults, but not children

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Infants’ inferences about language as a social category

Zoe Liberman (University of Chicago)
Amanda Woodward (University of Chicago)
Katherine Kinzler (University of Chicago)

Adults and children expect language to mark social identity (e.g., Labov, 2006; Kinzler & Dautel, 2012). We explored the origins of these expectations. Infants prefer native language speakers (Kinzler, Dupoux, & Spelke, 2007), but these preferences may be due to familiarity and not reflect abstract social reasoning. We used third-party experiments to ask about infants’ inferences about language as a social marker. In Study 1, 9-month-old monolingual infants expected same-language speakers, but not different-language speakers, to affiliate. In Study 2, 11-month-old monolingual infants generalized food preferences only across same-language speakers. However, linguistic experience matters: Bilingual infants generalized food preferences even across different-language speakers. Together, our research suggests that infants use language as a marker of social group, and that experience matters. These findings have implications for understanding humans’ earliest social representations of the linguistic world.
Neural patterns of native and non-native speech perception as a function of the amount of language input in monolingual and bilingual infants: An interplay between the MMR and the LDN response

Adrian Garcia-Sierra (University of Connecticut - Storrs)
Nairn Ramirez-Esparza (University of Connecticut - Storrs)
Patricia K. Kuhl (University of Washington)

The present investigation explored the influence of the amount of language input on language learning in English monolingual and Spanish/English bilingual infants. We report a relationship between language input (LENA) from caregivers and brain measures of infant discrimination of English, Spanish and Chinese speech contrasts. Overall, monolingual and bilingual infants with similar amounts of language input showed equivalent patterns of neural activation. However, we found group differences in the neural patterns associated with non-native speech perception. Monolinguals assimilated the Spanish contrast into their closest native category, but were unable to assimilate the Chinese contrast into English phonology. In contrast, bilinguals assimilated the Chinese contrast, showing similar patterns of brain activation for native and non-native contrasts. We hypothesize that both groups utilize their native phonologies to assimilate non-native speech sounds. However, bilinguals appeared to assimilate non-native speech sounds with greater ease, perhaps due to having two native phonologies.

Quantifier scope in the second language acquisition of Russian
Tatiana Luckina (University of Illinois - Urbana-Champaign)
Tania Ionin (University of Illinois - Urbana-Champaign)

We investigate L1-transfer in L1-English L2-Russian learners’ interpretation of double-quantifier sentences such as ‘One girl stroked every kitten’. In English, such sentences are ambiguous between surface-scope and inverse-scope readings, with a preference for the former. Prior findings with native Russian speakers show that for both SVO and scrambled OVS orders, surface-scope is preferred, but contrastive focus on the scrambled object facilitates inverse-scope. We used a sentence-picture verification task to examine L2-Russian learners’ scope preferences. Intermediate L2-learners were target-like in exhibiting a significant preference for surface-scope with both word orders, but were not sensitive to contrastive focus. Low L2-learners exhibited a surface-scope preference for SVO order only; they treated OVS sentences identically to their SVO counterparts, apparently unaware that scrambling changes the syntactic scope configuration. Our findings show that preferences are subject to L1-transfer, and that learners map structures from L1 to L2 based on syntax rather than surface word order.

Growth in naturalistic verb use differs by verb category in toddlers with ASD
Julia Parish-Morris (University of Pennsylvania)
Deborah Felt (University of Connecticut - Storrs)
Letitia R. Naigles (University of Connecticut - Storrs)

Language is an important source of clinical heterogeneity in autism spectrum disorder (ASD), and delays in this area often motivate parents to seek their first evaluations. Verb use is particularly understudied: While children with ASD may not demonstrate a verb deficit on standardized tests, little is known about natural production. In this longitudinal study, we found that children can be meaningfully stratified into low- or high-verbal groups, and that patterns of naturalistic verb use differ by language ability and verb subtype. Action verbs are most robust to language delays, with similar growth in all groups relative to total verb vocabulary. Children with poorer overall language skills rely more on GAP verbs than specific action verbs, while children with ASD showed increased variability in mental verb use. These findings extend prior research into a new context (naturalistic) and design (longitudinal), specifying fine-grained patterns of verb use in children with ASD.

Hope for syntactic bootstrapping
Kaitlyn Harrigan (University of Maryland - College Park)
Valentine Hacquard (University of Maryland - College Park)
Jeffrey Lidz (University of Maryland - College Park)

We investigate children’s sensitivity to syntactic frame in interpreting attitude verbs. We test preschoolers’ understanding of the verbs ‘want’ and ‘think’, comparing them under the same experimental conditions. In addition, we test their understanding of the verb ‘hope’, which can occur with both a non-finite complement, like ‘want’, as well as with a finite complement, like ‘think.’ Developing a novel method for testing all three verbs under the same conditions, we reproduce previous findings for ‘want’ and ‘think’. We show that preschoolers are tuned by reality for false belief uses of ‘think’, but not for unrealized desire uses of ‘want’. Critically, children treat ‘hope’ like ‘think’ when it takes a finite complement, but like ‘want’ when it takes a nonfinite complement. These findings support the view that syntax guides children’s interpretation of attitude verbs.

The processing of garden-path sentences by L2 learners of English: A visual word study
Carla Contemper (Pennsylvania State University)
Lucia Pozzan (University of Pennsylvania)
Philip Galinsky (Pennsylvania State University)
Giai Dussias (Pennsylvania State University)

We conducted an eye-tracking study during listening to investigate how L2 speakers of English process garden path sentences and integrate relevant contextual information during revision. A group of highly proficient L2 speakers of English (L1 Spanish) and a group of monolingual native English speakers acted out temporarily ambiguous and unambiguous structures (e.g., put the frog on the napkin into the box). The actions and the eye-movement measures showed that L2 speakers were able to integrate referential information present in the context to recover from initial misinterpretations. Conversely, when referential information was not available, L2 speakers pursued a pragmatically infelicitous interpretation of the temporally ambiguous syntactic structure more often than the monolinguals. Our results suggest that L1 and L2 processing are similar with regard to sensitivity to referential information, but different with regard to reanalysis in the absence of salient contextual information.
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We present three experiments investigating how monolingual English children and adults, and Spanish-English bilingual children calculate scalar implicatures. We show that where bilinguals diverge from monolinguals is not in their general pragmatic ability, but in lexically-specific performance with ‘some’. While adults consistently calculated implicatures, monolingual children demonstrated variable task-specific ability; the richer the discourse context, the more likely implicature calculation. By contrast, Spanish-English bilingual children not only did not treat ‘some’ as ‘some but not all’, but also appeared to access a specific interpretation of ‘some’ based on set size. Where bilinguals patterned with the monolinguals was in a sensitivity to an upper-bounded interpretation based on the preceding modal frame (‘You may a specific interpretation of ‘some’ based on set size. Where bilinguals patterned with the monolinguals was in a sensitivity to an upper-bounded interpretation based on the preceding modal frame (‘You may...’Please put...’), and calculation of particularized implicatures. We argue that the bilingual child must overcome the pressure of reconciling overlapping and diverging entries for ‘some’ within and across languages, and differences in plural morphology between the two languages.

Evidence for an irregularization bias in morphological learning

Timothy O'Donnell (Massachusetts Institute of Technology)
Kenny Smith (University of Edinburgh)

While inflectional morphology is broadly rule-governed, many inflectional paradigms admit some exceptions (e.g., the past tense of “go” is “went”, not “goed”). A recent computational model (O’Donnell, 2015) suggests that high-frequency irregulars facilitate learning of productive rules: pressure to store high-frequency regulars detracts from the productivity of the regular; when high-frequency forms are irregular, regular rules generalize more easily. We provide experimental evidence for this irregularization bias. 45 adult participants were trained and tested over two days on 48 novel inflected words, organized into 6 sets. In each word set, seven stems occurred with a regular suffix while a single stem took an irregular suffix. Sets differed in whether the irregular was the most or least frequent item. Our participants were more likely to generalize the regular affix from paradigms where the most frequent item was irregular, demonstrating that high-frequency irregulars facilitate the generalization of regular rules.

Comprehension of novel metaphor in autism and Down syndrome

Jennifer Austin (Rutgers University - Newark)
Liliana Sanchez ( Rutgers University)
Kristen Sett ( Rutgers University)
Anne Lingwall ( Rutgers University)
Silvia Perez-Cortes ( Rutgers University)

Quantity implicatures in English monolingual and Spanish-English bilingual children

We discuss how lexical differences across languages, and differences in plural morphology between the two languages implicate. Where bilinguals patterned with the monolinguals was in a sensitivity to an upper-bounded interpretation based on the preceding modal frame (‘You may a specific interpretation of ‘some’ based on set size. Where bilinguals patterned with the monolinguals was in a sensitivity to an upper-bounded interpretation based on the preceding modal frame (‘You may...’Please put...’), and calculation of particularized implicatures. We argue that the bilingual child must overcome the pressure of reconciling overlapping and diverging entries for ‘some’ within and across languages, and differences in plural morphology between the two languages.

Infant-directed speech is consistent with teaching

Baxter Eaves (Massachusetts Institute of Technology)
Naomi Feldman (University of Maryland - College Park)
Thomas Griffiths (University of California - Berkeley)
Patrick Shafto (University of Louisville)

Infant-directed speech (IDS) has distinctive properties that differ from adult-directed speech (ADS). Whether these properties are intended to facilitate language learning is matter of contention. We argue that much of this contention stems from a lack of a formal, theory of how phonetic categories should best be taught to infant-like learners. Using a probabilistic theory of teaching, we generate ideal data for teaching English phonetic categories. We qualitatively compare the simulated teaching data with human IDS, finding that the teaching data exhibit many features of IDS, including some argued to be evidence that IDS is not for teaching. We also find that the teaching data improve classification of ADS data, but only for the naive, infant-like learner and not universally across all classes of learner. We conclude by discussing how empirical conclusions may be affected by the particular phoneme sets, formants sets, and number of examples used for analyses.

The encoding of tonal contrast in word learning by monolingual English infants

Candice Lin (University of Southern California)
Toben Mintz (University of Southern California)

English monolingual infants were tested at 14 (N=20), 17 (N=25), and 20 (N=10) months using the Switch task on their discrimination of a Mandarin tone contrast [ka2-ka4] (falling vs. rising tones). Vocabulary size was measured by the Communicative Development Inventories. None of the age groups detected the tone-based switch (all p>.1). Looking time difference was positively correlated with receptive vocabulary (R2=.152, p<.001) and productive vocabulary (R2=.095, p=.004). We further examined tone discrimination in infants with above-median receptive vocabulary size in each age group. Only 17-month-olds (N=10) showed a marginally significant looking time difference (p=.078). Although none of the age groups show successful tone discrimination, longer looking time to the novel tone was correlated with larger vocabulary size. This may suggest that vocabulary size is an index of the richness of the infant’s language analysis which could result in more rapid vocabulary development and greater attention to details of word form.
Variable L2 acquisition of Spanish differential object marking by L1 English speakers

Will Nediger (University of Michigan)
Acrísto Pires (University of Michigan)

Pedro Guijarro-Fuentes (University of the Balearic Islands)

We present a study of the L2 acquisition of Spanish Differential Object Marking (DOM) by L1 English speakers. We tested adult native English speakers living in Spain (n=30), in contrast to an adult control group of monolingual Spanish speakers (n=79).

Subjects completed a grammaticality judgement task, an elicited production task, and a discourse context-matching task, each of them manipulating several syntax-semantics features influencing the realization of DOM. Our results are argued to be consistent with the Feature Reassembly Hypothesis (Lardiere 2009), according to which the difficulty of L2 acquisition is linked to the amount of reassembly of features required. In particular, we argue that L2 subjects have difficulty acquiring the feature bundle [+animate, +specific], but perform better when only one of the two features is sufficient to determine the presence or absence of DOM.

Acquisition of overt and null pronoun interpretation in L2 Japanese

Marisa Nagano (New York University)

This study investigates the interpretation of Japanese overt 3rd-person pronouns by advanced L1-English/L2-Japanese speakers. Results of this experiment, like those of previous experiments testing the Interface Hypothesis (IH) in Italian (Sorace & Filacci, 2006; Belletti et al., 2007), show that even highly-proficient L2 speakers diverge from L1 controls on overt pronoun interpretation, with the L2 group choosing a non-subject referent (topic-shift) for an overt pronoun less often than the L1 group. Furthermore, due to differences in the nature of overt pronouns in Japanese and Italian, there was an even greater divergence between L1 and L2 groups in this study compared to previous IH studies. Some individual L2ers, however, patterned identically with L1ers; eye-tracking data further reveals that when L2 participants did choose an L1-like topic-shift interpretation, they were processing like L1ers. Results also suggest that L2 interpretation patterns fluctuate primarily based on amount of current exposure to the L1 (English).

Factors that predict the acquisition of American Sign Language syntactic structures for native and non-native signing deaf children

Jon Henner (Boston University)
Ruma Novogrodsky (University of Haifa)
Robert Hoffmeister (Boston University)
Sarah Fish (Boston University)

Syntactic deficits in spoken language for school-age orally trained deaf children have been reported over the past decades. One explanation for this deficit is lack of exposure to an accessible language during the critical period of language acquisition. The current study explored factors that influence ASL syntax development in deaf children who are exposed to ASL from birth and compared these factors to those of non-native signers. We tested 239 deaf children aged 8–18: 65 deaf children of deaf parents (native-signers) and 174 deaf children of hearing parents (non-native signers). Our work showed syntactic development for both native and non-native signers. The results highlight the critical importance of sign language exposure in early childhood, supporting the need for early access to language during the critical period of language acquisition.

Second language learners’ ability to use case-marking information in processing Japanese relative clause sentences

Masahiro Hara (Truman State University)

This self-paced reading study examined English and Korean advanced learners’ ability to use case-marking information online in processing relative clause (RC) sentences in Japanese. The participants read subject- and object-RC sentences that differed only in case-marking on the within-RC NP and on the head noun (HN). Within the RC (the initial string of simplex structure), English learners read object-gap faster than subject-gap sentences at the verb region. In the main clause (complex structure), only Korean learners read subject-RC faster than object-RC sentences on the region immediately following the HN. These findings suggest that highly advanced learners can make online use of case-marking information in simplex clause. However, their ability to use it across clause boundaries is limited to those whose L1 has a robust case-marking system and the same RC-HN order as that of L2. Even for advanced learners, their ability is modulated by computational demand and L1 effects.

The delay of subject-to-subject raising with seem and subject control with promise: Is a unified account possible?

Victoria Mateu (University of California - Los Angeles).

Longer duration is the primary cue for expressing contrastive focus in children learning ASL. How is longer duration to mark contrastive-focus achieved in the productions of children learning ASL? Our analysis shows that longer durations are due to marginally longer lexical movement of a sign and significantly longer final holds in contrastive-focus signs than neutral signs. The fact that longer duration is implemented not only on the movement but also on the hold may be interpreted as a modality-specific phenomenon. Furthermore, there are differences between the duration of individual signs. We explore this fact by suggesting that one not only needs to investigate overall durations but also zoom into phonetic implementation of contrastive focus for individual signs. These specific results contribute to the ongoing discussions for the expression of contrastive focus in a sign language from a prosodic perspective (Crasborn and van der Kooij, Schlenker et al. 2014, Wilbur 2010).

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Contrastive focus in children learning ASL

Kadir Gokgoz (University of Connecticut - Storrs)
Jeffrey Palmer (Gallaudet University)
Diane Lillo-Martin (University of Connecticut - Storrs)

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**POSTER SESSION II**

Effects of bilingualism vs. language impairment on lexical-semantic processing in children

Eileen Haebig (University of Wisconsin - Madison)
Susan Ellis Weismer (University of Wisconsin - Madison)
Margarita Kauschkinaya (University of Wisconsin - Madison)

We examined whether lexical access is sensitive to semantic neighborhood size in bilingual and monolingual typically developing (TD) children and children with specific language impairment (SLI), who were matched on receptive vocabulary. We also examined whether domain-general executive-function (EF) mechanisms support lexical processing similarly in the groups. Children completed a lexical decision task (consisting of high and low semantic neighborhood words and nonwords) and nonverbal inhibition, shifting, and updating tasks. Analyses revealed lexicality (higher accuracy and faster responses for words) and neighborhood size (higher accuracy for high than low neighborhood words) effects. Additionally, children with SLI were disproportionately slower in judging nonwords (vs. words) than bilinguals. Lastly, EFs were related to lexical processing performance for all groups; however, reaction time was more heavily influenced by shifting abilities in the SLI group than the bilingual group.

**POSTER SESSION II**

Fundamental word-learning skills in preterm and full-term toddlers predict later language comprehension

Glenda Molina Onario (Brown University)
James Morgan (Brown University)

By age two, preterm children (<37 weeks gestational age) lag full-term counterparts on measures of receptive and productive vocabulary. In this study we examined how preterm 19-month-olds' sensitivities to word-initial, single-segment mispronunciations and novel name-nameless category (N3C) abilities compare to those of full-terms, and explored whether individual differences in these skills predict later comprehension. Sensitivity to mispronunciations and N3C support the development of word-form representations and the acquisition of word meanings, both of which are critical to vocabulary-learning. Results confirmed that while full-terms are sensitive to mispronunciations, pretermers are not. Although neither full-terms nor pretermers engaged in N3C as groups, full-term individuals were more likely to look longer at unfamiliar target objects after hearing novel labels. As expected, mispronunciation sensitivity and N3C-success were significantly correlated with comprehension outcomes. A regression also including sex and gestational age accounted for 44% of the outcome variance, with N3C-success holding the highest predictive power.

**POSTER SESSION II**

Qualities of child-directed speech in mothers' first and second language

Katherine Shanks (Florida Atlantic University)
Erika Hoff (Florida Atlantic University)

This paper examines the Interface Hypothesis (Sorace 2011) as applied to L2 knowledge of the restrictions on noun drop in L2 Spanish. Information structure is critical (Braver 2009; Eguren 2010) given that the ellipsis site must have contrasting focus (2ab). At the same time, there are restrictions on the type of remnant that is permitted. Two groups (n=20) of advanced French and English L1 learners of L2 Spanish completed three tasks: A GJT, a production task and an acceptability task with context that focused on information structure. Results show the speakers produced N-Drop in context correctly. The GJT showed some gaps in knowledge of the syntactic restrictions. The Acceptability Task produced no difference between the native and the two L2 speaker groups. Contrary to what the L2 hypotheses predicts, areas of the syntax may be more problematic than the discourse (IS) properties, and this in both groups.

**POSTER SESSION II**

Eighteen-month-olds use speakers’ accuracy to judge novel labels

Elena Luchkina (Brown University)
David Sobel (Brown University)
James Morgan (Brown University)

To acquire correct word meanings children need to learn selectively from accurate speakers. Older preschoolers consistently reject labels provided by inaccurate speakers, while younger preschoolers' performance is less stable and depends on task complexity. However, toddlers are capable of tracking reliable informants in non-verbal domains suggesting that more domain-general capacities for social learning are present at earlier ages. Our goal was to investigate toddlers’ selective trust in word-learning. We used the Intermodal Preferential Looking Procedure to examine how 18-month-olds learn words from either an accurate or an inaccurate speaker. Toddlers in the accurate speaker condition looked significantly longer at novel target objects than toddlers in the inaccurate speaker condition; toddlers in both conditions looked equally long at familiar target objects. Our findings demonstrate that 18-month-olds incorporate speaker accuracy into word-learning, providing evidence that selective trust is present in toddlerhood and that very young children are not biased to be credulous.

**POSTER SESSION II**

Interfaces: Syntax and information structure in L2 Spanish nominal ellipsis

Joyce Brulon de Garavito (The University of Western Ontario)
Lilliana Monroy (The University of Western Ontario)

How do children learn deictic time words like “yesterday” or “tomorrow”? Although children produce these words from age 2, they use them erroneously for several years. However, little is known about the inductive process through which children construct adult-like meanings. Given that these words lack perceptible referents, we explored the possibility that children build meanings by considering how these words contrast with one another. Using colored pencils, 3- to 8-year-olds and adults placed deictic time words on spatial timelines extending from the past to the future. We assessed children’s knowledge of these words’ past/future status, relative order, and degree of remoteness from “now”. Although adult-like performance was not achieved until at least age 8, children demonstrated knowledge of both the past/future status and relative ordering of these words from age 4, suggesting that children build partial meanings for these words by considering their relations within a lexical structure.
**POSTER SESSION II**

The time-course of statistical learning across development: Word segmentation and syntax in a serial reaction time task  
Kathryn Schuler (Georgetown University)  
Richard Allin (University of Rochester)  
Elisa Newport (Georgetown University)

Humans employ statistical learning to acquire many types of perceptual and linguistic patterns. However, we still know surprisingly little about how statistical learning proceeds through time and how it changes over development, from infants to young children and adults. To address this gap, we have developed a paradigm that allows us to assess statistical learning on-line, trial-by-trial, in children and adults. Here we demonstrate the utility of this paradigm by assessing the time-course of statistical learning in children and adults during a serial reaction time task; that is the SRT analog of a seminal word-segmentation experiment. We find that, while both children and adults demonstrate learning over time, their learning curves show a striking difference in trajectories, with children learning the high and ultimately the low probability statistics as well. In future research, using a single paradigm over age may shed light on why children are better language learners.

**POSTER SESSION II**

Sensitivity to speech distributional information in children with autism: A MEG study  
Zhenghan Qi (Massachusetts Institute of Technology)  
Dimitrios Pantazis (Massachusetts Institute of Technology)  
Carlo de los Angeles (Massachusetts Institute of Technology)  
Tyler Perrachione (Boston University)  
John Gabrieli (Massachusetts Institute of Technology)

Deficits in language are frequently found in children with autism spectrum disorder (ASD). It is largely unknown what learning mechanisms lead to impaired language in ASD. Here we asked what language impairment in school-aged children with ASD is related with their lack of sensitivity of speech distributional information by examining magnetoencephalography (MEG) mismatching field (MMF) responses to auditory deviants with different occurrence frequencies. Compared to age-matched typically developing (TD) children, children with ASD exhibited a reduced neural sensitivity to changes in frequency of occurrence related to speech content. The size of the frequency effect was positively associated with reading comprehension performance within the ASD group. In contrast, both the ASD and TD groups were equally sensitive to probability manipulation in voice deviants, suggesting intact capability of detecting probabilistic acoustic cues in general. These findings provide new evidence highlighting the important role of sensitivity to speech probabilistic cues in language development.

**POSTER SESSION II**

What drives the Maratoss Effect: agentity or eventivity?  
Adam Alter (Michigan State University)  
Antoinette Huelskamp (Michigan State University)  
Susima Weerakoon (Michigan State University)  
Alan Mann (Michigan State University)

Children are known to have more difficulty comprehending passives of non-actional verbs than actional verbs (Maratos et al. 1985). This, known as the Maratoss Effect (ME), has been widely replicated, but researchers have not consistently classified verbs into these two categories. Two verbal properties that plausibly line up with these categories are agentivity and eventivity. We present two experiments that test which of these underlie the ME. We test children's comprehension of agentive and eventive verbs, agentive and nonagentive verbs, and nonagentive and noneventive verbs. Results show a confounding effect: Children perform significantly better on passives of agentive and eventive verbs than agentive and nonagentive verbs and also significantly better on passives of agentive and noneventive verbs than nonagentive and noneventive verbs. This suggests that Pinker et al. (1987) might be right that the ME is an epiphenomenon of learning that proceeds by cautious generalizations, verb class by verb class.

**POSTER SESSION II**

Encoding vs. retrieval in nonword repetition tasks: Comparing children with SLI-only, children with SLI and dyslexia, typically developing children, and adults  
Spencer Bab (University of South Carolina)  
Suzanne Adliff (University of South Carolina)  
Daniel Fogerty (University of South Carolina)

Nonword repetition (NWR) tasks have been proposed as measures of phonological short-term memory and of language learning ability. However, there is uncertainty regarding factors that influence performance (e.g., encoding, retrieval, production), and the extent to which NWR indexes language learning (divisibilities). We examined differences in NWR for adults and for children who were typically developing (TDC), had specific language impairment (SLI), or had SLI concomitant with dyslexia (SLI-DYS). NWR measures included an encoding task, a retrieval task, and a final production task. In the encoding task, TDC and adults performed better than SLI who performed better than SLI-DYS. In the retrieval task, adults performed better than TDC and SLI, and all performed better than SLI-DYS. No differences were found between the final encoding trial and production task for any group. Findings indicate developmental differences in phonological retrieval between TDC and adults, and suggest different factors underlie NWR difficulties for SLI versus SLI-DYS.

**POSTER SESSION II**

Personalized storybooks enhance word learning in young children  
Pamphli Su (Northwestern University)  
Casey Lew-Williams (Princeton University)

We examined the effect of embedding personalized features in storybooks on preschoolers’ word learning. Participants were 36- to 54-month-old children from monolingual English-speaking families, who were randomly assigned to one of two experimental conditions. In the Personalized condition (n=18), children’s photos and names were collected from families and embedded into a custom storybook prior to their appointment. Four novel word/object pair served as target words for children to learn. In the Non-personalized condition (n=19), children were read an identical storybook (same narrative, target words, and background illustrations), but with photos of a different, same-gender child as the protagonist. Both groups demonstrated above-chance learning of target words, but the Personalized group showed a significantly higher accuracy than Non-Personalized group, suggesting that embedding personal information into storybooks, such as a child’s own photos and name, can support young children’s word learning by facilitating the initial encoding of novel words.

**POSTER SESSION II**

Acquisition of Turkish vowel harmony in low-frequency and zero-frequency contexts: Evidence for Full Access in L2 phonology  
Onur Özyürek (Indiana University)  
Rex Sprouse (Indiana University)

We present evidence that (at least) one UG phonological principle, the No-Crossing Constraint (NCC), guides English learning. Turkish acquisition of vowel harmony (VH) in low-frequency and zero-frequency contexts. We focus on cases with (actual) noncanonical VH (ANVH) and hypothetical noncanonical VH (HNVH). Unlike canonical VH, where specifications for [-back] in suffix vowels spread from the immediately preceding vowel (an-da/ vs. -e-da), in ANVH, due to an intervening [-back] (e.g. petrol-de/-de), which specifications for [-back] in suffix vowels spread from the immediately preceding vowel (an-da/ vs. -e-da), in ANVH, due to an intervening [-back] (e.g. petrol-de/-de). In actual Turkish, there are no cases of the mirror image, where a [-back] vowel is immediately followed by a vocalized [I] (e.g. /reɫ-də/); however, were this to occur, the suffix vowel would be [-back] (reɫ-da). For both ANVH and HNVH, our L2s behave like native speakers. Given the paucity (ANVH) or total absence (HNVH) of relevant exemplars in the input, these findings provide evidence that the NCC guides L2 phonological acquisition.
POSTER SESSION II

The acquisition of recursive locative prepositional phrases and relative clauses in child English

Anca Severcenco (University of Bucharest)
Tom Rosner (University of Massachusetts - Amherst)
Barbara Zurer Pearnow (University of Massachusetts - Amherst)

Despite the importance of recursive, or self-embedded structures, for syntactic creativity, surprisingly little is understood about their language-particular manifestations and acquisition. We investigate the acquisition path in children 3-9yrs of locative prepositional phrases (“the lion next to the bear next to the zebra”) and analogical relative clauses with the computational property of Indirect Recursion (IR), i.e. they take their own output as input: XP->Y XP; YP->Y XP. Results indicate that a large majority of younger children favored a conjunctive, non-IR interpretation (“the lion next to the bear *and* the zebra”) both in comprehension and production. Most 7-9yr olds gave mostly IR responses, with some conjunctions for longer phrases and specific prepositions. RC and PP were equally frequent, and recursive forms appeared together in individuals. Some substitution of RC for PP suggests that it arises first. These studies match concurrent explorations in Japanese, Romanian, Dutch, and Wapichana, among other languages.

POSTER SESSION II

Sensitivity to sentence structure in early vocabulary acquisition: Evidence from Brazilian Portuguese

Poliana Barbosa (University of Alberta)
Claudia Cardoso-Martins (Universidade Federal de Minas Gerais)
Catherine Echols (University of Texas - Austin)

We investigated the role played by various types of linguistic structures in child-directed speech in early vocabulary acquisition of Brazilian Portuguese. Thirty-five Portuguese-learning children in Brazil were observed as they interacted with their mothers at 9, 13, and 18 months of age. Although a large fraction of the speech addressed to the children throughout the study consisted of sentence fragments, maternal use of single word utterances did not in general correlate with child vocabulary growth, either concurrently or longitudinally. In contrast, mothers’ use of certain sentence constructions (e.g., copulas and questions) predicted children’s acquisition of nouns, even after we controlled for variations in their vocabulary at the onset of the study. These results suggest that children rely on linguistic structure to learn novel words, even when input is highly fragmented.

POSTER SESSION II

Notes

Cues to facilitate word learning in typically developing children and children with ASD

Elena Tenenbaum (Brown Center for Children, Women and Infants Hospital)
Dima Amso (Brown University)
Stephen Shinkof (Brown Center for Children, Women and Infants Hospital)

Attention to a speaker’s mouth predicts successful word learning and higher language ability among typically developing (TD) children and children with autism spectrum disorder (ASD). We explored whether we can facilitate word learning by pushing attention to the mouth of a speaker by pointing (Experiment 1) or holding the object near the mouth (Experiment 2). Participants were shown videos of word learning tasks while an eyetracker monitored their fixations. Successful word learning was quantified as increased attention to a target object at test relative to baseline. Results showed that pointing to the speaker’s mouth (Experiment 1) had detrimental effects on novel word learning. In contrast, holding an object near the mouth while labeling it (Experiment 2) facilitated word learning. Results are discussed in the context of mechanisms underlying connections between social attention and language learning. These findings have implications for refining language therapies for infants and children with emerging speech.

POSTER SESSION II

The acquisition of front and back: Conceptual vs. pragmatic factors

Myro Grigorenko (University of Delaware)
Meghan Johnson (Ohio State University)
Anna Papafragou (University of Delaware)

Across languages, back is produced earlier and more frequently than front, but the reasons remain unclear. Some suggest that the asymmetry is conceptual (the early, function based meaning of Back “occluded” – is more basic than early Front – “visible”). Alternatively, the asymmetry may be pragmatic: occlusion is more informative than visibility. We tested these two hypotheses. In Experiment 1, we elicited descriptions of FRONT/BACK motion events from 4- and 5-year-old children and adult speakers of English and Greek. In Experiment 2, adult speakers of 10 additional languages described the same events. Despite cross-linguistic differences, speakers of all age and language groups typically used more Back than Front adpositions; furthermore, they often encoded Back information in occlusion verbs (e.g. hide) but no such verbs were available for Front. Thus, the front-back asymmetry is not due to children’s conceptual immaturity but should be linked to pragmatic factors that also shape adult spatial language production cross-linguistically.

POSTER SESSION II

Maternal overlap predicts language outcomes for typical and late-talking children

Elizabeth Che (CUNY - College of Staten Island)
Maria Alarcón (CUNY - College of Staten Island)
Francisco Yanniaco (CUNY - Graduate Center)
Patricia Brooks (CUNY - College of Staten Island)

Contingent feedback is hypothesized to promote language development across a variety of communicative pathways. We test this hypothesis with longitudinal corpora from the CHILDES database (Study 1: New England corpus of toddlers at 14, 20, and 32 mos), (Study 2: Weismer corpus of late talkers at 30, 42, and 54 mo), by running the CHIP command to compute the amount of overlap across consecutive utterances. Across studies, maternal overlap with the child’s previous utterances, but not the child’s overlap with the mother, predicted language outcomes longitudinally, after controlling for child MLU and the amount of maternal speech at earlier time points. Our results extend the social-shaping hypothesis that contingent responses to child speech provide a critical form of feedback. By producing utterances that overlap with what the child has just said, caregivers provide information about word usage and grammar that is available just in time for the child to use it.

POSTER SESSION II

Acquisition of Spanish variable clitic placement: A case of probability matching

Pablo Requena (University of Montana)
Karen Miller (Pennsylvania State University)

Spanish clitics can variably appear (either before or after) a number of [finite+non-finite verb(get/running/infinitive)] constructions. Unlike unpredictable variation, variable clitic placement is lexically conditioned. This means that some finite verbs favor preposed clitics, whereas others favor postposed clitics. Three hypotheses are explored in relation to the acquisition of this variation: H1) Category-specific rule: With the emergence of a category of ‘clitic’, the learner may initially overgeneralize proclitics for all [finite+non-finite verb(get/running/infinitive)] constructions, as proclitics is more frequent overall; H2) Lexically-conditioned rule: Children overgeneralize for each verb-producing proclitic/enclitic categorically depending on the [finite+non-finite verb(get/running/infinitive)] construction; H3) Fall Probability Matching: Children show adult-like probabilities in clitic placement from the very beginning. Drawing on a cross-sectional study and an experimental (elicited imitation) the study offers evidence supporting H3; however, we interpret the results cautiously. A developmental account is provided along with discussion of patterns of categorical and variable behavior in children.
**POSTER SESSION II**

**Word learning in linguistic context: Processing and memory effects**

Alison Arnold (University of Maryland - College Park)

Ti YIng Huang (University of Maryland - College Park)

Children exploit predictable relationships between linguistic forms and meaning to learn words, but it remains unknown how this strategy varies with their ability to comprehend utterances in real time. The present study investigates the impact of processing demands on on-line sensitivity to syntactic cues, off-line interpretation of novel words, and later recall of word meanings. During the learning phase, 5-year-olds heard novel words presented in active (e.g., “The seal will be quickly eaten by the blicket”) and passive sentences (e.g., “The seal will be quickly eaten by the blicket”) that featured novel words in either NP1 (e.g., “The blicket will be quickly eaten by the seal”) or NP2 (e.g., “The seal will be quickly eaten by the blicket”). Increased demands led to slower disambiguation in eye-movements, decreased accuracy in actions, and poorer recall of word meanings. This demonstrates that real-time processing impacts word learning, both through interpretive failures and memory interference.

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**Developmental trajectories of vocabulary composition across languages**

Mika Braginsky (Stanford University)

Daniel Yurovsky (Stanford University)

Virginia Marchman (Stanford University)

Michael Frank (Stanford University)

Over-representation of nouns in early vocabularies is seen in many languages, including English; however, some languages (Korean and Mandarin) show less or no noun bias. This study provides the most comprehensive look at cross-linguistic variation in vocabulary composition to date. We use Wordbank (wordbank.stanford.edu) to aggregate parent report data and analyze vocabularies of >30,000 16-36-month-old children in thirteen languages. In each language, we compute the proportion of items in each lexical category that children produce. We examine trajectories of these proportions as a function of vocabulary size and find a positive noun bias in all languages, with its extent varying cross-linguistically and smallest for Mandarin and Cantonese. Degree of noun and predicate bias are strongly negatively correlated. Function words are underrepresented in all languages, with considerable variation in degree. Identifying the sources of cross-linguistic variability in vocabulary composition is a fundamental challenge for theories of vocabulary development.

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**A language model is not sufficient to promote conventionalization of space in an emerging sign language**

Deanna Gagne (University of Connecticut - Storrs)

Ann Senghas (Barnard College)

Marie Coppola (University of Connecticut - Storrs)

Studies of sequential cohorts of deaf signers of the newly emergent Nicaraguan Sign Language (NSL) reveal aspects of the nature of the development of linguistic structure. Here we examine a new group of signers, the hearing native-signing children of the first cohort of NSL signers (“C1-Codas”), to disentangle the contributions of native vertical contact (from a parent or other older, experienced signer to child learner) and horizontal contact (among peers) on the regularization of spatial modulations, used to indicate the arguments of verbs and co-index them. The internal consistency of the C1-Codas’ spatial layouts (rotated vs. unrotated) was intermediate between that of Cohort 1 (lower) and Cohort 2 (higher); also, the C1-Codas did not faithfully adopt their parents’ spatial layout patterns. These findings accord with studies of other language domains (e.g., lexicon conventionalization), and suggest that horizontal contact is crucial, and vertical transmission insufficient, for either within-signer or between-signer consistency.

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**Acoustic analysis of prosody in spontaneous productions of minimally verbal children and adolescents with autism**

Jill Thorson (Northeastern University)

Nicole Usher (Northeastern University)

Rupal Patel (Northeastern University)

Helen Tager-Flusberg (Boston University)

Variations in prosody convey lexical, grammatical, and pragmatic meaning, all essential for successful communication. Individuals with autism spectrum disorder (ASD) show deficits in communication and pragmatic use of language, with mixed results for how stress, intonation, and phrasing distinctions are employed. This study was designed to elucidate the prosodic abilities of minimally verbal school-aged children with ASD, a previously understudied population, in an effort to better understand communication abilities across the autism spectrum. Our goal is to acoustically analyze spontaneous speech productions to better identify and understand natural prosodic features. Average F0 was extracted from successive 250-ms time windows resulting in the dependent variables of average pitch and pitch range. Substantial variation was observed across participants, and an emergent pattern shows a correlation between F0 and language impairment severity. This first exploration into the pitch patterns of this population provides further insight into how prosody varies along the autism spectrum.

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INTRODUCING

A better way to assess language & literacy skills

Developed by Nickola W. Nelson, Ph.D., CCC-SLP; Elena Plante, Ph.D., CCC-SLP; Nancy Helm-Estabrooks, Sc.D., CCC-SLP; & Gillian Hetz, Ph.D., CCC-SLP

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Some infants spend most of their time with one person, others hear many different speakers. These two groups receive very different input. Even if the same words are spoken equally often, pronunciation differences are more variable in the multi-talker situation. Do children who hear many talkers daily learn language differently from children who do not? We investigated the possible link between input talker variability and native vowel discrimination and tested monolingual French 4-, 6-, and 12-month-olds (46 participants per age group) in a habituation paradigm, which yielded individual discrimination scores of the native /i-/e/ contrast. Parents also filled in a schedule of their child's daily talkers to obtain an individual estimate of total number of different talkers. Our results suggest that greater speaker variability is linked positively to vowel discrimination performance (Main Effect: F(1, 132)=4.2; p<.05, with the strongest correlation in the 12-month-olds; r=.34, p<.02).

In a comprehension phase, participants judged whether “ga” containing a novel word, “ga”. In each of four between-subjects conditions, “ga” encoded one of the meanings (1-4). In a comprehension phase, participants judged whether “ga” was used or omitted correctly. Current data offer support for the hypothesis that children do not simply become tolerant of all phonemic substitutions when listening to accented speech. Infants’ word recognition is thus simultaneously flexible and specific.

The pronunciation of words differs tremendously across accents. Nonetheless, infants learn to cope with unfamiliar regional accents in the months preceding their second birthday. Less is known about the effects of foreign accents on early speech perception. Using the Headturn Preference Procedure, we examined when and how infants start recognizing foreign-accented words. English-learning 15-, 18-, and 22-month-olds were presented with lists containing known (bottle) and nonsense words (bobby) in a French accent. Infants’ preference for known over nonsense words emerged by 18 months, corroborating early reports that the ability to contrast with accents becomes robust before age two. Moreover, the preference for known words held even when the nonce items were replaced by mispronounced versions of the known words (bottle) in the same French accent. This suggests that children have not simply become tolerant of all phonemic substitutions when listening to accent speech. Infants’ word recognition is thus simultaneously flexible and specific.
### Session A—Metcalf Small

**The role of linguistic experience in perceptual narrowing:**

- Gisela Pi Casas (Universitat Pompeu Fabra)
- Núria Sebastian-Gallés (Universitat Pompeu Fabra)
- Janet Werker (University of British Columbia)
- Luca Bonatti (Universitat Pompeu Fabra)

Throughout infants’ first year of life, sensitivity to native phonetic contrasts sharpen, while ability to perceive nonnative distinctions declines (Werker & Tee, 1984). Perceptual narrowing is thus shaped by exposure to a native language, but is also maturationally constrained by biological factors (Peña et al., 2012). To explore the effects of linguistic exposure on perceptual reorganization, we studied how Catalan/Spanish monolingual and bilingual infants discriminate the non-native retroflex-dental contrast (ts’ vs /ts’a/) at different ages, with a classic habituation-dishabituation paradigm. Both groups successfully discriminated the contrast at 7-8 months, and monolinguals failed to discriminate at 12 months, confirming previous results about the timing of phonological convergence. However, bilinguals preserved the discrimination until 18 months. Furthermore, at 15 months (but not before), the discrimination ability correlated with the degree of bilingualism. We discuss various interpretations of why bilingualism modifies the timing of perceptual narrowing.

### Session B—Conference Auditorium

**Order and ordinality: the acquisition of cardinals and ordinals in Dutch**

- Caitlin Meyer (University of Amsterdam)
- Sjie Barbiers (Meertens Institute)
- Fedr Weerman (University of Amsterdam)

This study discusses conceptual and linguistic knowledge of Dutch cardinals and ordinals in acquisition. As opposed to what is assumed for cardinals, we suggest that the pattern of ordinal acquisition depends on language-specific factors. We base this on data from a “Give X” comprehension task (Wynn 1992) administered to 77 Dutch monolinguals aged 2;11–6;4. The results support a cardinal acquisition pattern in terms of so-called knower-levels (e.g. Le Corre & Carey 2007) in Dutch. Ordinals, however, are acquired differently. Once children are able to find the eerste ‘first’, they often also understand tweede ‘second’ and vierde ‘fourth’, but it takes them time to link driee ‘three’ to der-de ‘third’. This difficulty with irregular derde ‘third’ suggests that ordinals are acquired via cues rather than stored lexically, but eerste ‘first’ shows that irregularity is not always problematic. We discuss to what extent linguistic and other factors play a role.

### Session C—Terrace Lounge

**Speaker-based generalization of quantity implicature in preschoolors**

- Amanda Pogue (University of Rochester)
- Chigusa Kurumada (University of Rochester)
- Michael Tanenhaus (University of Rochester)

Pass the cup is sufficient for unique reference when there is only one cup but with two or more cups, some modification is necessary (e.g., the tall cup). We investigate whether preschoolors can attribute under-informative utterances to an individual talker and generalize to new utterances. Studies demonstrating that preschoolvers can discriminate speakers’ pragmatic abilities, used utterances with clear errors (e.g., using “key” to refer to a ball; cf. Koeming & Harris, 2005). We hypothesized that while preschoolvers have difficulty detecting a violation of the Maxim of Quantity (Grice, 1975; Esne, Whalen, & Lee, 2005), they might discriminate between speakers when the ambiguity arising from the violation is clearly signalled. We discuss several multi-talker adaptation studies investigating preschoolvers abilities to discriminate different talkers, what evidence influences their attribution of informativity to individual talkers, and why they might be less likely to consider informativity to be a characteristic of individual talkers.
Maternal overlap predicts language outcomes for typical and late-talking children

Elizabeth Che (CUNY - College of Staten Island)
Maria Alarcon (CUNY - College of Staten Island)
Francis Yannaco (CUNY - Graduate Center)
Patricia Brooks (CUNY - College of Staten Island)

Contingent feedback is hypothesized to promote language development across a variety of communicative pathways. We test this hypothesis with longitudinal corpora from the CHILDES database (Study 1: New England corpus of toddlers at 14, 20, and 32 mo), Study 2: Weismer corpus of late-talkers at 30, 42, and 54 mo) by running the CHIP command to compute the amount of overlap across consecutive utterances. Across studies, maternal overlap with the child’s previous utterances, but not the child’s overlap with the mother, predicted language outcomes longitudinally, after controlling for child MLU and the amount of maternal speech at earlier time points. Our results extend the social-shaping hypothesis that contingent responses to child speech provide a critical form of feedback. By producing utterances that overlap with what the child has just said, caregivers provide information about word usage and grammar that is available just in time for the child to use it.

Acquisition of form-meaning mapping in Korean causatives

Jinsun Choe (Hankuk University of Foreign Studies)
Across languages, back is produced earlier and more frequently than front, but the reasons remain unclear. Some suggest that the asymmetry is conceptual (the early, function based meaning of Back – “occluded” – is more basic than early Front – “visible”). Alternatively, the asymmetry may be pragmatic: occlusion is more informative than visibility. We tested these two hypotheses. In Experiment 1, we elicited descriptions of FRONT/BACK motion events from 4- and 5-year-old children and adults speakers of English and Greek. In Experiment 2, adult speakers of 10 additional languages described the same events. Despite cross-linguistic differences, speakers of all age and language groups typically used more Back than Front adpositions; furthermore, they often encoded Back information in occlusion verbs (e.g., hide) but no such verbs were available for Front. Thus, the front/ back asymmetry is not due to children’s conceptual immaturity but should be linked to pragmatic factors that also shape adult spatial language production cross-linguistically.

Notes

Valery Mateo (Georgia State University) Șeyda Özçalışkan (Georgia State University) Evrika Hoff (Florida Atlantic University)

Young children learning only one language often display their readiness to learn a concept before conveying the same concept in speech. Parents respond to these unique gestures, translating them into words. Children, in turn, benefit from these translations, showing earlier production of the words that their parents translated. In this study, we ask whether parental translation of child gesture plays a similar role in the language development of children learning two languages (i.e., bilinguals). We test this question by studying the gestures and speech produced by 12 bilingual children (6 English dominant, 6 Spanish dominant) in comparison to 12 monolingual children (6 English, 6 Spanish) – from age 2;6 to 3;6 – as they interacted with their parents in a structured play context. Our results show that parental translation of child gesture is a significant predictor of children’s burgeoning vocabularies in speech in bilingual children, as it is in monolingual children.
When too many vowels impede language processing: The case of Danish
Fabio Trecca (University of Southern Denmark)
Dorthe Bleses (University of Southern Denmark)
Morten H. Christiansen (Cornell University)

Despite a general similarity in developmental patterns, different languages are learned at different rates. Danish-learning children, for instance, lag behind a number of other languages in their receptive vocabulary development. This finding has been attributed to the complex phonetic structure of Danish, characterized by a uniquely large inventory of vowel-like sounds. To investigate this hypothesis empirically, we measured accuracy and latency of 24-month-olds’ gaze at pictures, as they listened to frequent Danish nouns and child-directed expressions with different vocoid-to-contoid ratios. We hypothesized that if a higher ratio of vocoids makes word segmentation (hence processing) harder, then we would expect lower accuracy and longer processing times with vocalic words and sentences. The results corroborated our hypothesis: a higher rate of vowel-like sounds in a sentence resulted indeed in lower accuracy and longer reaction times in word recognition.

Toddlers learn words from adults, but not children
Yuanyuan Wang (Purdue University)
Amanda Seidl (Purdue University)

Studies have shown that both adult and child listeners are sensitive to talker attributes, such as gender, familiarity, social status, and language background and that this sensitivity impacts their speech processing. In this study we investigated whether toddlers show biases to voices from different aged talkers. Forty 20- to 22-month-olds were trained on novel words in which talker age was manipulated, but pitch was matched. These toddlers were later tested on their learning of those words. Results showed that the toddlers learned novel words from adult talkers, but failed to do so from child talkers. These results suggest that young learners are sensitive to the age of talker voices and are biased towards learning words from adults’ over children’s voices. Possible reasons for preferential learning from adults’ voices are discussed.
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