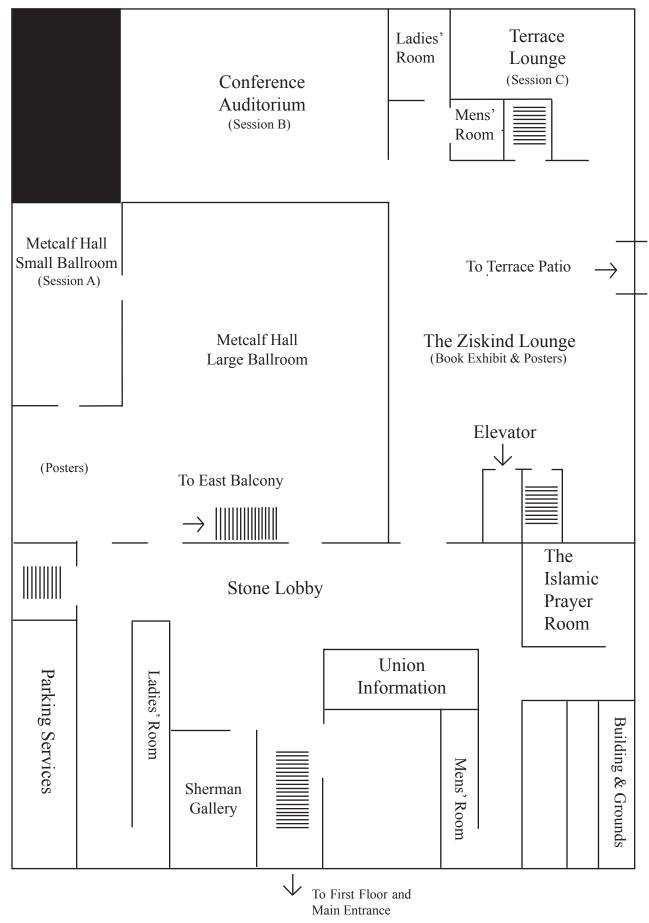


# The Forty-Second Annual Boston University Conference on Language Development

Meeting Handbook November 3-5, 2017 George Sherman Union

# Map of George Sherman Union (Second Floor)



**Commonwealth Avenue** 

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# Welcome

#### Our 42nd Year

Welcome to the 42nd Annual Boston University Conference on Language Development (BUCLD). 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 one of the largest international gatherings 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 four decades.

#### **Invited Speakers**

At this year's conference, we are honored to have Jenny Saffran and Núria Sebastián Gallés as our featured speakers. Dr. Saffran will present Friday's keynote address, entitled "Learning begets learning: Statistical learning and the emerging lexicon." Saturday's program will close with Dr. Sebastián Gallés' plenary address, "Divide and conquer: The onset of bilingualism." This year's Saturday symposium, to be held during Saturday's lunch period, is entitled "On links between language development and extra-linguistic cognitive knowledge: What we can learn from autism," and will feature speakers Jeannette Schaeffer, Stephanie Durrleman, and Inge-Marie Eigsti. Finally, this year's Sunday symposium is entitled "Event concepts and early word learning," and will feature speakers Alon Hafri, Brent Strickland, Anna Papafragou & John Trueswell; Jeffrey Lidz, Alexander Williams, & Laurel Perkins; and Sudha Arunachalam & Angela Xiaoxue He.

#### Student Workshop

This year, for the fourth consecutive year, we will be continuing our special session aimed at students and post-docs. This year's speaker will be Janet Randall (Northeastern University), and her talk will be "One talk, 3 ways." This session will take place upstairs in GSU 315 from 1:15-2:45 p.m. on Sunday, November 5th, after the Sunday symposium.

#### **Paper and Poster Presentations**

The rest of the program is devoted to a wide range of papers and posters chosen from submitted abstracts. Of these, 68 papers and 117 posters were selected for presentation, and we have also included 12 presenters who will present posters but have also generously agreed to serve as oral presentation alternates in case of cancellations. It is unfortunate that we do not have enough 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 and those selected for alternate status. Information about ordering copies is available in your handbook and at the Cascadilla Press table during the book exhibit.

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

#### The 2017 Conference Organizing Committee

Anne Bertolini Max Kaplan

#### **Faculty Advisors**

Sudha Arunachalam Charles Chang Paul Hagstrom

#### Chairs

Anne Bertolini, Book Exhibit Chair Megan Brown, Registration Chair Brady Dailey, Tech Co-Chair Xinwen Hu, Hospitality Chair Max Kaplan, Handbook Chair Nia Lazarus, Interpreter Liaison Chair Pengfei Li, Finance Chair Dominique Lopiccolo, Volunteer Chair Kathryn Turner, Tech Co-Chair & Social Media Chair Natalie Zaleski, Travel Chair

Boston University Conference on Language Development 96 Cummington Street, Room 244 Boston, MA 02215 Email: langconf@bu.edu

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

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# Acknowledgements

The Boston University Conference on Language Development is organized each year by students from the Programs in Linguistics and 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. We are also grateful for support from Boston University's Vice President and Associate Provost for Research. In addition, this year's conference is supported in part by the National Science Foundation under Grant No. BCS-1728962, and by the National Institutes of Health under Grant No. R13 HD090968, for which we are also grateful.

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

We extend special thanks to our faculty advisors, Sudha Arunachalam, Charles Chang, and Paul Hagstrom. Their expertise and guidance have been invaluable.

We would also like to acknowledge the efforts of several vital offices at Boston University. Our thanks go to Samantha Levine of Events and Conferences, whose skill and experience have provided us with the proper equipment, facilities, and refreshments for the conference. We would also like to thank Jeanette Ocampo Welch of Disability Services for assisting with organizing the American Sign Language interpretation, and Stan Gurczak of Student Production Services for coordinating the lighting system for the interpreting team. Finally, our thanks go to Cameron Samuelson for her support in managing the conference finances, and to Lisa Wong in the Cashier's Office and Liz Maguire of Information Services and Technology for collaborating with us on the maintenance of our online registration system.

Finally, we would like to thank the 182 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. We are particularly grateful for the reviewers' thoughtful attention to each submission.

José Alemán Bañón Shanley Allen Sudha Arunachalam Jessica Barlow David Barner Isabelle Barrière Ewelina Barski Misha Becker Viridiana Benitez Elika Bergelson Christina Bergmann Nan Bernstein Ratner Tim Beyer Patrick Bolger Ellen Broselow Nancy Budwig Ann Bunger Jennifer Cabrelli Amaro Helen Cairns Catherine Caldwell-Harris Charles Chang Jinsun Choe Vicky Chondrogianni Anne Christophe Erin Conwell Peter Coopmans Marie Coppola Ailis Cournane Stephen Crain Alejandrina Cristia

Jennifer Culbertson Barbara Davis Cecile De Cat Laura de Ruiter Kamil Deen Laurent Dekydtspotter Katherine Demuth Laura Dominguez Nigel Duffield Ewan Dunbar Samantha Durrant **Catharine Echols** Inge-Marie Eigsti Micha Elsner Neiloufar Family Naomi H. Feldman Molly Flaherty Maria João Freitas Anna Gavarró Lisa Gershkoff-Stowe Heather Goad Roberta Golinkoff Helen Goodluck Eileen Graf John Grinstead Theres Grüter Ayşe Gürel Pamela Hadley Paul Hagstrom Cornelia Hamann

Jessica Hay Angela Xiaoxue He Arild Hestvik Makiko Hirakawa Kathy Hirsh-Pasek Barbara Höhle Bart Hollebrandse Holger Hopp Yi Ting Huang Mary E. Hughes Tania Ionin Ivan Ivanov Gunnar Jacob Elizabeth Johnson Tiffany Judy Dorit Kaufman Loes Koring Grzegorz Krajewski Aylin Küntay Tanja Kupisch Usha Lakshmanan Tania Leal Thomas Lee Kathryn Leech Beth Levin Casey Lew-Williams Shevaun Lewis Juana Liceras Jeffrey Lidz Amy Lieberman

Elena Lieven Heather Littlefield Conxita Lleo Cynthia Lukyanenko Theodoros Marinis Lori Markson Amber Martin Rachel Mayberry Luisa Meroni Karen Miller Utako Minai Maria Mody Silvina Montrul James Morgan Vincenzo Moscati Natascha Mueller Letitia Naigles Thierry Nazzi Elissa L. Newport Rama Novogrodsky Akira Omaki Robyn Orfitelli Mitsuhiko Ota Şeyda Özçalışkan Duygu Özge Asli Ozyurek Daniele Panizza Anna Papafragou Johanne Paradis Diego Pascual y Cabo

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# Acknowledgements

Lisa Pearl Barbara Zurer Pearson Sharon Peperkamp Colin Phillips Christine Potter Nausicaa Pouscoulous Philippe Prévost Jennie Pyers Lilia Rissman Jason Rothman Phaedra Royle Jenny Saffran Tetsuya Sano Lynn Santelmann Petra Schulz Carson Schütze Bonnie D. Schwartz Amanda Seidl Ann Senghas Ludovica Serratrice Naomi Shin

Yasuhiro Shirai Leher Singh Filip Smolík William Snyder Melanie Soderstrom Hyun-joo Song Antonella Sorace Rex Sprouse Jeffrey Steele Jessica Sullivan Kristen Svrett Kriszta Szendroi Helen Tager-Flusberg Anna Theakston Lyn Tieu John Trueswell Marta Tryzna Ianthi Tsimpli Sho Tsuji Sharon Unsworth Sigal Uziel-Karl

Elena Valenzuela Virginia Valian Suzanne van der Feest Marieke van Heugten Angeliek Van Hout Spyridoula Varlokosta Marilyn Vihman Laura Wagner Adriana Weisleder **Daniel Weiss** Lydia White Aaron Steven White Erica Wojcik Fei Xu Charles Yang W. Ouin Yow Chen Yu Daniel Yurovsky Tania Zamuner Andrea Zukowski

# **General Information**

#### • Wireless internet access will be available throughout the GSU

Wireless internet access instructions (domestic cell service required):

- 1. Go to Wi-fi on your device. This should be in the settings menu.
- 2. Select the network **BUGuest.**
- 3. Go to your browser and open a webpage; you will be automatically redirected to a login page.
- 4. Request a guest account.
- 5. Enter your own email address, full name, and a phone number where you are currently able to receive texts.
- 6. Select your service provider/carrier (e.g. AT&T).
- 7. Click SUBMIT.
- 8. You will receive 2 text messages:
- (1) With your login information (user name and password);
- (2) The next with a URL that will allow you to simply click and then have internet access.

#### International guests: please see the information desk for instructions.

# **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 "Learning begets learning: Statistical learning and the emerging lexicon" will be delivered by Jenny Saffran on Friday at 7:30 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.
- The **Plenary Address** entitled "Divide and conquer: The onset of bilingualism," delivered by Núria Sebastián Gallés, will take place on Saturday at 5:45 PM in Metcalf Large.
- A Saturday Symposium entitled "On links between language development and extra-linguistic cognitive knowledge: What we can learn from autism," with presentations from Jeannette Schaeffer, Stephanie Durrleman, and Inge-Marie Eigsti will be held on Saturday at 12:30 PM in Metcalf Large.
- A **Sunday Symposium** entitled "Event concepts and early word learning," with presentations from Alon Hafri, Brent Strickland, Anna Papafragou, & John Trueswell; Jeffrey Lidz, Alexander Williams, & Laurel Perkins; and Sudha Arunachalam & Angela Xiaoxue He, will be held on Sunday at 11:00 AM in Metcalf Large, immediately followed by our student workshop.

#### **Poster Sessions**

- **Poster Session I:** On Friday, 58 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, 59 posters will be on display in Metcalf Large, Metcalf Small, and Ziskind Lounge. There will be an attended Poster Session at 3:15 PM.

#### **Special Sessions**

- A special **NIH/NSF Funding Symposium** will be facilitated by Ruben Alvarez (NIH) and David Moore (NSF) on Friday at 12:30 PM in the Conference Auditorium.
- A **Student Workshop** titled "One talk, 3 ways" hosted by Janet Randall will be held upstairs in GSU 315 immediately following our Sunday Symposium, from 1:15 PM to 2:45 PM on Sunday.
- The **Society for Language Development** will hold its annual symposium, "Formal models of statistical inference," on Thursday, November 3 at 1:00 PM in Metcalf Large, with a reception following immediately in Metcalf Small. The invited speakers are Virginia Valian, Charles Yang, and Roger Levy.
- **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.

#### **Additional Information**

• **Parking** is available at the Granby Lot (665 Commonwealth Avenue; nearest to the George Sherman Union), the Warren Towers Garage (700 Commonwealth Avenue), and at the Agganis Arena Garage (925 Commonwealth Avenue). On Sunday, the 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. Parking is limited and not guaranteed; we highly encourage the use of public transportation. MBTA maps are available at the information desk.

# **General Information**

- Temporary luggage storage space will be available 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 or stolen items. All posters and poster containers will be discarded if not picked up by Sunday afternoon.
- A nursing room will be available for nursing mothers in GSU 312.
- **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.
- Please note that due to lack of business meeting attendance in recent years, and strong positive overall feedback in postconference surveys, we have decided not to hold a business meeting this year. The faculty advisors welcome your feedback, including whether you think we should reinstate the business meeting next year; please find us at the conference or email us at langconf@bu.edu. We also encourage you to fill out the post-conference survey. You will receive an email with details after the conference. We will also post summary information about this year's conference on our website, www.bu.edu/bucld, within a few weeks.
- Stay updated on any changes to the schedule with our **social media accounts**: follow **@TheBUCLD** or look for our hashtag **#BUCLD42** on Twitter, or search "BUCLD" on Facebook.

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 (NIH) David Moore and Joan Maling (NSF)

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

# **Code of Conduct**

To help ensure a safe and respectful environment for everyone at BUCLD, all conference participants (including attendees, speakers, exhibitors, and volunteers) are expected to uphold the following code of conduct at conference venues and conference-related social activities. (Of course, we think people should uphold this code outside conference activities too!)

BUCLD is dedicated to providing a harassment-free conference experience for everyone, regardless of gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, ethnicity, or religion (or lack thereof). We do not tolerate harassment of conference participants in any form at any conference venue, including talks, workshops, receptions, and social media. **Conference participants who engage in harassing behavior may be expelled from the conference without a refund at the discretion of the conference organizers.** 

#### Harassment includes, but is not limited to:

- verbal comments that reinforce social structures of domination related to gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, age, religion, and/or nationality
- · sexual images in public spaces
- · deliberate intimidation, stalking, or following
- · harassing photography or recording
- · sustained disruption of talks or other events
- inappropriate physical contact
- unwelcome sexual attention
- advocating for, or encouraging, any of the above behavior

If a participant engages in harassing behavior, the BUCLD organizers may take any action they deem appropriate to keep the event a welcoming environment for all participants. This includes warning the offender, expelling them from the conference with no refund, and banning them from the conference in the future. Participants asked to stop any harassing behavior are expected to comply immediately.

If you are being harassed, notice that someone else is being harassed, or have any other concerns, please report this as soon as possible, either personally or anonymously

You can make an anonymous report through our online form: https://bucld.wufoo.com/forms/zcuymsllesu7xa/. Although we cannot follow up on an anonymous report with you directly, we will fully investigate it and take whatever action is necessary to prevent a recurrence.

You can also speak directly with any member of the BUCLD organizing committee at the conference. These individuals, including the BUCLD faculty advisors (Sudha Arunachalam, Charles Chang, and Paul Hagstrom; contact information below), will be wearing special name badges. You can also call or message the organizing committee at 347-77-BUCLD (monitored by a member of the organizing committee throughout the conference). When taking a personal report, we will ensure you are safe and cannot be overheard; this may involve other event staff to ensure your report is managed properly. Once safe, we will ask you to tell us about what happened. This can be upsetting, but we will handle it as respectfully as possible, and you can bring someone to support you. You will not be asked to confront anyone, and we will not tell anyone who you are.

Additionally, BUCLD staff will be happy to help conference participants contact venue management or local law enforcement, to provide escorts, or to otherwise assist those experiencing harassment to feel safe for the duration of the conference. We value your attendance, and wish everyone a stimulating and enjoyable conference.

- The BUCLD Organizing Committee | langconf@bu.edu

BUCLD Faculty Advisors: Sudha Arunachalam | 617-353-7491 | sarunach@bu.edu Charles Chang | 617-353-8718 | cc@bu.edu Paul Hagstrom | 617-353-6220 | hagstrom@bu.edu

**Code of Conduct Hotline (during conference) | (347) 77-BUCLD** George Sherman Union Operations Desk | 617-353-5498 Boston University Police Department | 617-353-2121 Boston University Sexual Assault Response & Prevention Center | 617-353-7277 Boston Medical Center | 617-638-8000

# Schedule at a Glance

# Thursday, November 2

11:00 AM	Registration opens	
1:00 PM - 5:15 PM	Society for Language Development Annual Symposium	
5:15 PM - 6:00 PM	Society for Language Development Reception	
Friday, November 3		

8:00 AM	Registration opens
9:00 AM - 5:00 PM	Book exhibit
9:00 AM - 10:30 AM	Talks
10:30 AM - 11:00 AM	Morning break, with refreshments
11:00 AM - 12:30 PM	Talks
12:30 PM - 2:00 PM	Lunch break / NIH/NSF Funding Symposium (Conference Auditorium)
2:00 PM - 3:00 PM	Talks
3:00 PM - 4:15 PM	Poster Session I attended, with refreshments
4:15 PM - 5:45 PM	Talks
5:45 PM - 7:45 PM	Evening break
7:45 PM - 9:00 PM	Keynote Address: Jenny Saffran, "Learning begets learning: Statistical learning and the emerging lexicon"
9:00 PM - 9:45 PM	Reception, Poster Session I unattended, with refreshments

8:00 AM	Registration opens
9:00 AM - 5:00 PM	Book exhibit
9:00 AM - 10:30 AM	Talks
10:30 AM - 11:00 PM	Morning break, with refreshments
11:00 AM - 12:00 PM	Talks
12:30 PM - 2:15 PM	Saturday Symposium
2:15 PM - 3:15 PM	Talks
3:15 PM - 4:30 PM	Poster Session II attended, with refreshments
4:30 PM - 5:30 PM	Talks
5:45 PM - 7:15 PM	Plenary Address: Núria Sebastián Gallés, "Divide and conquer: The onset of bilingualism"
	Sunday, November 5

8:00 AM	Registration opens	
9:00 AM - 10:30 AM	Talks	
10:30 AM - 11:00 AM	Morning break, with refreshments	
11:00 AM - 1:00 PM	Sunday Symposium	
1:15 PM - 2:45 PM	Student Workshop: Janet Randall, "One talk, 3 ways"	

# FRIDAY, November 3, 2017

Time	Session A (Metcalf Small)	Session B (Conference Auditorium)	Session C (Terrace Lounge)
9:00- 5:00	BOOK EXHIBIT		
9:00	Sustained Attention in Infancy Impacts Vocabulary Acquisition in Low-Income Toddlers <i>P. Brooks, R. Flynn, T. Ober</i>	Learning words in an unfamiliar language: The role of statistics and context J. Hay, A. Shoaib, T. Wang, D. Moore, J. Lohman, J. Lany	Learning attitude verb meanings in a morphosyntactically-poor language via syntactic bootstrapping <i>N. Huang, C. Liao, V. Haquard, J. Lidz</i>
9:30	Can parent coaching affect parent-child language interactions and improve outcomes? <i>N. Ferjan Ramirez, S. Lytle, M. Fish, P.</i> <i>Kuhl</i>	What words do children say first? Using known words to bootstrap the acquisition of new words J. Willits, J. Montag, S. Yang	"Look! It is not a bamoule!" 18-month- olds understand negative sentences <i>A. de Carvalho, A. Barrault, A.</i> <i>Christophe</i>
10:00	Are language and social-communicative abilities separable in infancy? <i>A. Yamashiro, A. Sorcinelli, A.</i> <i>Vouloumanos</i>	Subjective little learners: Hyperarticulated input and the early development of adjective ordering preferences <i>G. Bar-Sever, R. Lee, G. Scontras, L. Pearl</i>	Learning to filter non-basic clauses for argument structure acquisition L. Perkins, N. Feldman, J. Lidz
10:30		BREAK (Ziskind Lounge)	
11:00	The cup on the table is green: Children's comprehension of embedded PPs <i>E. Hall, A. Perez</i>	Mutual Exclusivity and Ad-hoc Scales in children's inferences D. Skordos, D. Barner	Acquisition of agreement in German: Sensitivity to grammar is reflected in 3-year-olds' pupil dilation <i>A. Süss, P. Hendriks, B. Höhle</i>
11:30	Repetition Brings Success: Revealing knowledge of the passive voice K. Deen, I. Bondoc, A. Camp, S. Estioca, H. Hwang, G. Shin, M. Takahashi, F. Zenker, C. Zhong	Assessing truth and speaker knowledge when utterances are not maximally true L. Simon-Pearson, K. Syrett	Bilinguals' sensitivity to grammatical gender cues in Russian N. Mitrofanova, Y. Rodina, O. Urek, M. Westergaard
12:00	A Filled Gap Stage in German Relative Clause Acquisition <i>K. Yatsushiro, U. Sauerland</i>	Contextual inferences through variable exemplars: An artificial adjective learning study <i>C. Lee, C. Kurumada</i>	Children's and adults' processing of variable agreement patterns: Agreement neutralization in English <i>C. Lukyanenko, K. Miller</i>
12:30	LUNCH BREAK (Ziskind	Lounge) / NIH/NSF FUNDING SYMPOSIUM	(Conference Auditorium)
2:00	Prediction at the discourse level in L2 English speakers: an eye-tracking study <i>P. Dussias, C. Contemori</i>	A little labeling goes a long way: Semi- supervised learning in infancy <i>A. LaTourrette, S. Waxman</i>	Syntactic optionality delays acquisition: late acquisition of passives in Mandarin vs. early acquisition in Cantonese <i>E. Lau, Z. Mai, V. Yip</i>
2:30	Second Language Learners Generate Predictions at the Level of the Discourse: Evidence from Event-related Potentials J. Alemán Bañón, C. Martin, E. Fano	The profile of abstract rule learning in infancy: Evidence from a meta-analysis and a multi-lab experiment <i>H. Rabagliati, B. Ferguson, C. Lew-Williams</i>	The Impact of Argument-Omitted Sentences in the Learning of the Japanese Direct Object Case-Marker <i>A. Zhao, H. Sakai, Y. Luo</i>
3:00	ATTENDED	POSTER SESSION I (Metcalf Large and Zisl	kind Lounge)
4:15	Co-Speech Pointing Gestures Produced by Human Instructors rather than Robots Improve Word Learning in Children with Autism S. Kelly, K. Wong, W. Lam, C. Cheng, W. So	Trajectories of Lexical Comprehension Improvement: Investigating the 14month Boost <i>E. Bergelson</i>	Production-Comprehension Asymmetry in Children's Medial Wh-questions <i>C. Lutken, A. Omaki</i>
4:45	Do parents model gestures differently when children's gestures differ? <i>S. Özçalışkan, L. Adamson, N. Dimitrova,</i> <i>S. Baumann</i>	Is the noun bias the default? Testing novel word learning in Japanese toddlers using simple scenes <i>A. Matsuo, L. Naigles, T. Ogura</i>	A Performance Account for Medial Wh- Questions in Child English <i>E. Grolla, J. Lidz</i>
5:15	Gestures Facilitate Word Learning in Shared Storybook Reading: A Dual Eye- tracking Study <i>Y. Zhang, C. Yu</i>	Being Suspicious of Suspicious Coincidences: The Learning of Subordinate Terms by Children and Adults <i>F. Wang, L. Gleitman, J. Trueswell</i>	Negative questions in children with Specific Language Impairment K. Rombough, R. Thornton, J. Martin, L. Orton
	DINNER BREAK		
5:45			
5:45 7:30		DINNER BREAK KEYNOTE ADDRESS (Metcalf Large) gets learning: Statistical learning and the emer enny Saffran (University of Wisconsin—Madison)	

# SATURDAY, November 4, 2017

Time	Session A (Metcalf Small)	Session B (Conference Auditorium)	Session C (Terrace Lounge)
9:00- 5:00	BOOK EXHIBIT		
9:00	SES Differences in the Structure of Child- directed Speech S. Tal, I. Arnon	A rabbit by any other name: Lexical alignment in preschoolers' dialogue <i>Z. Hopkins, H. Branigan, L. Lindsay</i>	An Ergative Intervention in Heritage Samoan G. Muagututia, K. Deen, W. O'Grady
9:30	Simple Sentences aren't all the Same: Variation in Input and Acquisition <i>M. Rispoli, P. Hadley, H. Simmons</i>	Bilingual 2-Year-Olds' Code-Switching in Talk about Internal States: Filling Relative Lexical Gaps <i>E. Hoff, M. Shiro</i>	The acquisition of word order variation in German embedded clauses <i>E. Sanfelici, P. Schulz</i>
10:00	Look Who's Talking: Effects of Sibling versus Maternal Input in Child L2 Acquisition <i>T. Sorenson Duncan, J. Paradis</i>	Could both be right? Children's prolonged metalinguistic development in understanding relative and subjective adjectives <i>R. Foushee, M. Srinivasan</i>	Before and after the acquisition of adjunct control <i>J. Gerard, J. Lidz</i>
10:30		BREAK (Ziskind Lounge)	
11:00	Perception of non-native tonal contrasts by Mandarin-English and English-Mandarin sequential bilinguals <i>I. Chan, C. Chang</i>	The emergence of recursion: Evidence from Nicaraguan Sign Language and homesign A. Kocab, A. Senghas, M. Coppola, J. Snedeker	Interactions between number and definiteness: Vietnamese children's comprehension of definites <i>N. Le, H. Forsythe, C. Schmitt</i>
11:30	Stress clash in the acquisition of Greek A. Athanasopoulou	Childhood language deprivation affects dorsal but not ventral white matter tracts: Evidence from late L1 learners of ASL Q. Cheng, E. Halgren, R. Mayberry	Cross-linguistic influence in online processing of indefinites in L2-English <i>T. Ionin, S. Choi, Q. Liu</i>
12:30	SATURDAY SYMPOSIUM (Metcalf Large) "On links between language development and extra-linguistic cognitive knowledge: What we can learn from autism" Jeannette Schaeffer Stephanie Durrleman Inge-Marie Eigsti		
2:15	Building the Evidence: Spatial Frames of Reference in Language and Thought L. Abarbanell, P. Li	Emergence of Patterned Variation in Child Homesign L. Horton, D. Brentari, S. Goldin-Meadow	Phrasal prosody and syntactic knowledge in infants before two years of age S. Massicotte-Laforge, R. Shi
2:45	Bottom-up cues to event segmentation: The use of audiovisual synchrony in speech to preschoolers <i>F. Bulgarelli, N. George, M. Roe, D. Weiss</i>	The point of it: Argument suppliance in delayed Sign L2 <i>H. Koulidobrova</i>	The role of information structure in children's comprehension of complex sentences – testing two hypotheses <i>L. de Ruiter, E. Lieven, S. Brandt, A.</i> <i>Theakston</i>
3:15	ATTENDED POSTER SESSION II (Metcalf Large and Ziskind Lounge)		skind Lounge)
4:30	Spoken word recognition of children with cochlear implants <i>T. Mahr; J. Edwards</i>	Language learning in the face of inter-talker variation: When talker voice proves helpful <i>K. Gonzales, L. Gerken, R. Gomez</i>	Gender Agreement and Predictive Lexical Processing in Czech 23-month-olds: Emerging Sensitivity to Bound Gender Inflections V. Bláhová, F. Smolík
5:00	Distractibility during speech-processing: The effects of background noise familiarity <i>B. McMillan</i>	The threshold for regularization: When children will and will not regularize inconsistent language input <i>K. Schuler, J. Horowitz, E. Newport</i>	Accounting for reduced L2 gender-based anticipation: A direct test of the Lexical Gender Learning Hypothesis <i>K. Shantz, D. Tanner</i>
5:45	PLENARY ADDRESS (Metcalf Large) "Divide and conquer: The onset of bilingualism" Núria Sebastián Gallés (Universitat Pompeu Fabra)		

# SUNDAY, November 5, 2017

Time	Session A (Metcalf Small)	Session B (Conference Auditorium)	Session C (Terrace Lounge)
9:00	The role of age and cross-linguistic similarity in first language perceptual attrition <i>C. Chang, S. Ahn, R. DeKeyser, S. Lee-Ellis</i>	Do structural priming effects rely on interactions between animacy and syntax? <i>L. Buckle, E. Lieven, A. Theakston</i>	Are Children's Overly Distributive Interpretations and Spreading Errors Related? <i>A. de Koster, P. Hendriks, J. Spenader</i>
9:30	What did you say? Infants' early productions match caregiver input <i>C. Laing, E. Bergelson</i>	Cross-Linguistic Structural Priming in Heritage Spanish Speakers: The Effects of Exposure to English on the Processing of Preposition Stranding in Spanish <i>I. Phillips</i>	Intervention Effects in Early Grammar: Evidence from Sluicing V. Mateu, W. Lauren, N. Hyams
10:00	Language-specific Sources of Acoustic Stability in Phonological Development <i>M. Cychosz, S. Kalt</i>	Cumulative Syntactic Priming in Comprehension in Children and Adults N. Havron, T. Linzen, C. Scaff, A. Christophe	The Acquisition of Negated Disjunction: Evidence from Italian, French and Dutch <i>M. Guasti, E. Pagliarini, O. Lungu, A. Van</i> <i>Hout, S. Crain</i>
10:30	BREAK (Ziskind Lounge)		
11:00-	SUNDAY SYMPOSIUM (Metcalf Large)		
12:45	"Event concepts and early word learning" Alon Hafri, Brent Strickland, Anna Papafragou, & John Trueswell Jeffrey Lidz, Alexander Williams, & Laurel Perkins Sudha Arunachalam & Angela Xiaoxue He		
1:15-	STUDENT WORKSHOP (GSU 315)		
2:45	"One talk, 3 ways" Janet Randall (Northeastern University)		

# ALTERNATES

Authors	Title	
J. Cabrelli Amaro, M. Iverson, D. Giancaspro, B. Halloran	The role of dominance and age of acquisition in L3 development	
B. Davies, N. Xu Rattanasone, T. Schembri, K. Demuth	Is 'Dax' Singular or Plural? Preschoolers and Copulas Do Not Agree	
L. Dekydtspotter, C. Gilbert, A. Miller, M. Inverson, K. Swanson, T. Leal, I. Innis	An ERP investigation of domain-specificity: Clause-edge recursion in native and nonnative French	
C. Legrand, R. Shi, M. Babineau	Variable forms in young children's lexical representation	
M. Lei	Children's Knowledge of Domain Restriction: The Case of dou ('all') in Mandarin Chinese	
J. Lu, S. Goldin-Meadow	Age of acquisition effects on signers' use of depiction	
R. Mizrahi, S. Creel	Children ages 3-5 years use language to identify talkers	
I. Polyanskaya, T. Brauner, P. Blackburn	Second-order false beliefs and recursive complements in children with Autism Spectrum Disorder	
T. Reuter, A. Borovsky, C. Lew- Williams	Predict and redirect: How prediction errors influence children's word learning	
C. Richter	Learning allophones: What input is necessary?	
B. Skarabela, M. Srinivasan, H. Rabagliati	The Development of a Generative Lexicon: Evidence from Instrument Verbs	
M. Sundara, C. Ngon, K. Skoruppa, N. Feldman, G. Molino Onario, J. Morgan, S. Peperkamp	Young Infants Discriminate Subtle Phonetic Contrasts	

Friday, November 3, 2017		
Metcalf Large, Metcalf Small, and Ziskind Lounge		
Posters will be attended from 3:00 PM - 4:15 PM and unattended from 9:00 PM - 9:45 PM		

Authors	Title
K. Antoniou, A. Veenstra, M. Kissine, N. Katsos	How does childhood bilingualism and bi-dialectalism affect the interpretation and processing of implicature?
A. Armstrong, N. Bulkes, D. Tanner	Quantificational cues to L2 English verbal agreement: A cross-linguistic ERP investigation
D. Barner, D. Skordos, R. Feiman, A. Bale	The trouble with disjunction
A. Bottoms, Z. Fieldsteel, E. Spurgeon, A. Lieberman	Object labeling in American Sign Language parent input to young deaf children
E. Breen, R. Pomper, J. Saffran	Connecting Phonotactic Learning and Word Learning in Infancy
J. Brennan, R. Lajiness-O'Neill, S. Bowyer, I. Kovelman, J. Hale	Predictive sentence comprehension during story-listening in Autism Spectrum Disorder
J. Cabrelli Amaro, M. Iverson, D. Giancaspro, B. Halloran	The role of dominance and age of acquisition in L3 development
A. Ceolin	Article omission across languages and the syntax of possessives
J. Chen, B. Narasimhan	Information Structure and Ordering Preferences in Child and Adult Speech in English
C. Chiang, S. Geffen, T. Mintz	Distinguishing Questions and Statements Using Sentence-Initial Prosodic Cues
J. Culbertson, G. Braquet	The harmony bias: universal preference or abstract transfer effect?
S. Dailey, E. Bergelson	Why Do Female Infants Say More Words? An Input/Output Analysis of Talking Status and Gender
B. Davies, N. Xu Rattanasone, T. Schembri, K. Demuth	Is 'Dax' Singular or Plural? Preschoolers and Copulas Do Not Agree
L. Dekydtspotter, C. Gilbert, A. Miller, M. Inverson, K. Swanson, T. Leal, I. Innis	An ERP investigation of domain-specificity: Clause-edge recursion in native and nonnative French
M. Erskine, T. Mahr, J. Edwards	Understanding the effects of dialect familiarity on lexical processing efficiency in preschool children using the visual world paradigm
M. Figueroa, L. Gerken	English past tense learning: 16-month-olds know the rule
L. Franklin, J. Morgan	For toddlers, like adults, vowel mispronunciations are readily detected but do little to impede lexical access
C. Gaffney	Can personality traits explain the mismatch between L2 self-assessments and actual L2 ability?
N. Gaggi, P. Brooks, B. Ploog	Discrimination and Generalization of Emotional Prosody in Autism Spectrum Disorder
S. Goico, R. Mayberry	Lexical Development across Young Deaf Homesigners in Peru
B. Halloran	A closer look at causation in L2 Spanish psych verbs
M. Hirzel, A. White, J. Lidz	Biased distributions in dialogs do not shape verb learning
B. Hoot, T. Leal	Processing Information Focus in Spanish Monolinguals and Yucatec Maya/Spanish Biilinguals

Friday, November 3, 2017 Metcalf Large, Metcalf Small, and Ziskind Lounge Posters will be attended from 3:00 PM - 4:15 PM and unattended from 9:00 PM - 9:45 PM	
S. Horvath, S. Arunachalam	Consistency is key: Repetition versus variability in a novel verb-learning task
K. Howitt, W. Sakas	Doing away with defaults: The parametric gradient hypothesis
Y. Huang, M. Bounds, Y. Suzuki	L1 transfer effects in L2 acquisition of the causative alternation: Asymmetric learning potential in a novel- verb paradigm
Y. Huang, B. Yuan	English and Spanish speakers' interpretations of L2 Chinese Double Object Constructions
Y. Ji, A. Papafragou	Children's sensitivity to abstract event structure
A. Kampa, A. Papafragou	Epistemic reasoning during conversational inferences
J. Kodner	Modeling Representational Constraints in Word Segmentation
I. Konrad, Y. Haendler, C. Donati	The acquisition of French ambiguous embedded structures introduced by 'ce que'
J. Lany, A. Shoaib	Individual Differences in Infants' Long-Distance Dependency Learning
R. Lee, C. Chambers, P. Ganea	Generic language diminishes children's reliance on novel discourse information about familiar fantastical characters
D. Levine, K. Hirsh-Pasek, R. Golinkoff	Cutting up events: Children's statistical action segmentation relates to their lexical knowledge
C. Lew-Williams, C. Potter	Infants' learning of embedded regularities in multi-speaker environments
P. Li	The Acquisition of the Mandarin Liandou Construction by L1 Children
D. Lillo-Martin, C. Goodwin, L. Prunier	ASL-IPSyn: A new measure of grammatical development
J. Lu, S. Goldin-Meadow	Age of acquisition effects on signers' use of depiction
I. Martin, M. Goupell, Y. Huang	Syntactic processing and word learning with a degraded auditory signal
R. Mizrahi, S. Creel	Children ages 3-5 years use language to identify talkers
C. Moore, E. Bergelson	More Than Wordplay: An Analysis of Word-form Variability in Speech to Infants
L. Naigles, J. Piskin	Lexical and Syntactic influences on Children's Acquisition of Verb Argument Structure: Comparing Typical Children and Children with Autism Spectrum Disorder
B. Narasimhan, N. Adricula, C. Good, J. Williamson-Lee, L. Goetz-Weiss, K. Zagnoli	Developmental Changes in Spatial Semantic Categories
C. Narayan, A. Peters, V. Woldenga-Racine	Fragile phonetic contrasts in longitudinal infant-directed speech: Implications for infant speech perception
E. Nguyen, W. Snyder	It's hard to coerce: a unified account of Raising-Past-Experiencers and Passives in Child English
P. Requena, M. Dracos	Impermeability of L1 syntax: Spanish variable clitic placement in bilingual children
T. Reuter, A. Borovsky, C. Lew- Williams	Predict and redirect: How prediction errors influence children's word learning

Friday, November 3, 2017 Metcalf Large, Metcalf Small, and Ziskind Lounge Posters will be attended from 3:00 PM - 4:15 PM and unattended from 9:00 PM - 9:45 PM	
C. Richter	Learning allophones: What input is necessary?
S. Ronfard, R. Wei, M. Rowe	Pragmatic development predicts children's performance on the Looking While Listening (LWL) paradigm over and above receptive vocabulary and executive functions
C. Sánchez-Alvarado	The Intonational Realization of Subjects in L2 Spanish
T. Sano	The Acquisition of Parametric Variation in Count Noun Modification using Numerals: Comparing Japanese and English
S. Stefanich, J. Cabrelli Amaro	Phonological spell-out of Spanish/English word internal code-switching
K. Syrett, A. Aravind	When is a part (not) as good as a whole: Factors affecting object individuation in non-counting and counting tasks
E. Valenzuela, R. Llama, J. Simon	Language dominance and bilingualism: Insights from relative clause attachment ambiguities
A. Williams, L. Perkins, A. He, S. Björnsdóttir, J. Lidz	A New Test of One-to-One Matching Between Arguments and Participants in Verb Learning
M. Wu	L1 Influence on L2 English Telicity Judgment with Object NPs
R. Yin	The Person Asymmetry in Agreement in "What BE?" Questions in English
M. Zhang, M. Piñango, K. Davidson	The development of metonymic processing as the growth of context construal ability

# POSTER SESSION II

Saturday, November 4, 2017 Metcalf Large, Metcalf Small, and Ziskind Lounge Posters will be attended from 3:15 PM - 4:30 PM		
Authors	Title	
L. Abed Ibrahim, C. Hamann, D. Oewerdieck	Identifying Specific Language Impairment (SLI) across Different Bilingual Populations: A German Sentence Repetition Task (SRT)	
F. Adani, M. Stegenwallner-Schütz, T. Niesel	Co-Existence of Input Frequency and Structural Intervention Effects on Relative Clause Comprehension: Evidence from 3- to 5-year-old German-speaking children	
M. Babineau, A. Christophe, R. Shi	Semantic seed bootstraps verb categorization in 14-month-olds	
F. Bayram, J. Rothman, M. Iverson, T. Kupisch, D. Miller, E. Puig-Mayenco, M. Westergaard	Equivalency in Representation Despite Divergence in Production: Passives in Turkish Heritage Speakers' Turkish and German	
D. Bernier, K. White	Toddlers interpret common and infrequent child mispronunciations differently	
I. Bondoc, W. O'Grady, K. Deen, N. Tanaka, E. Chua, A. De Leon, J. Siscar	More Relativization Asymmetries: Children Find Locative and Benefactive Relative Clauses Difficult	
C. Bouchon, J. Toro	The origins of the consonant bias in word recognition: the case of Spanish-learning infants	
M. Carbajal, L. Chartofylaka, M. Hamilton, S. Peperkamp	Compensation for phonological assimilation in mono- and bilingual children	
M. Casillas, E. Bergelson, M. Soderstrom, A. Seidl, A. Warlaumont	Characterizing North American Child-Directed Speech by Age, Gender, and SES	
V. Chondrogianni, R. Schwartz	Case and word order in Greek heritage children	
C. Contemori, F. Foppolo, D. Panizza	Some and All in bilinguals: Priming and Linguistic effects	

Saturday, November 4, 2017 Metcalf Large, Metcalf Small, and Ziskind Lounge Posters will be attended from 3:15 PM - 4:30 PM		
L. Covey, T. Girolamo, C. Siew, I. Weyers, X. Yang, A. Vogt-Woodin, C. Coughlin, U. Minai	Examining the role of pragmatics during children's comprehension of only: An eye-tracking study	
A. Creemers, J. Schaeffer, M. van Witteloostuijn	Article Choice, Theory of Mind and Memory in Dutch-speaking children with language impairment	
E. Daskalaki, V. Chondrogianni, E. Blom, F. Argyri, J. Paradis	Vulnerable Domains in Child Heritage Language: The case of Heritage Greek	
S. Eiteljörge, O. Kriukova, N. Mani	Category-based word learning in toddlers	
D. Gagne, A. Senghas, M. Coppola	Peer interaction is necessary for full conventionalization of space in an emerging language: Evidence from hearing children of Nicaraguan signers	
B. Giustolisi, L. Mantovan, F. Panzeri	Irony comprehension in young Deaf signers	
M. Grigoroglou, A. Papafragou	Speaker adjustments in spontaneous event descriptions	
T. Grüter, E. Lau, W. Ling	L2 listeners rely on the semantics of classifiers to predict	
M. Han, N. de Jong, R. Kager	Infant-directed speech is not always slower: cross-linguistic evidence from Dutch and Mandarin Chinese	
Z. Harmon, K. Idemaru, V. Kapatsinski	Distributional learning in phonetic cue weighting: Letting go of a previously informative cue	
M. Hoareau, T. Nazzi, H. Yeung	Audiovisual speech perception, parental input, and vocabulary in the first year of life	
H. Huang, S. Crain	What inferences do Mandarin-speaking children make in negative sentences?	
K. Iwamoto, A. Kondo, H. Kikuchi, R. Mazuka	Japanese children's speaking rates reflect acquisition of mora-timed rhythm	
M. Katsiperi, I. Tsimpli	Syntactic position and definiteness in anaphora resolution	
D. Keydeniers, J. Eliazer, J. Schaeffer	Overgeneration of de/the in young children: Comparing different methods and different theories in child Dutch	
R. Kim, H. Yang	Why Do Nonnative English Learners Perform L2 Statistical Preemption Less than Native Counterparts? : The Role of Different Repertoires for L1 and L2 Constructions	
C. Legrand, R. Shi, M. Babineau	Variable forms in young children's lexical representation	
M. Lei	Children's Knowledge of Domain Restriction: The Case of dou ('all') in Mandarin Chinese	
J. Lidz, L. Perkins	Vocabulary Predicts Filler-Gap Dependency Comprehension at 15 Months	
J. Lima Júnior, L. Sicuro Corrêa	The perception of discontinuous dependencies by 18 months-old: on the process of acquiring verbal passives	
C. Marino, C. Bernard, J. Gervain	Word frequency is a cue to open-class/closed-class membership at 8 months	
A. Martins, S. Ana Lúcia, D. Inês	Comprehension of relative clauses vs. control structures in SLI and ASD children	
C. Marull, M. Goldin	The Relationship between Sensitivity to Morphosyntactic Violations and Morphosyntactic Anticipation in L2 Comprehension	
K. McCarthy, K. Skoruppa	The relationship between first language phonotactics and early reading skills in sequential bilingual children	
S. Mishina-Mori, Y. Nagai, Y. Yujobo	Cross-linguistic influence in the use of referring expressions in school-age Japanese-English simultaneous bilinguals	
S. Moran, S. Stoll	Worldwide frequency of phonemes predicts their age of acquisition	
R. Mykhaylyk	Input-Output Correspondence in the Acquisition of Variation	
A. Ohba, H. Shimada, K. Yamakoshi	The Structure of Sluicing and the Availability of Strict and Sloppy Readings in Child Japanese	

Saturday, November 4, 2017 Metcalf Large, Metcalf Small, and Ziskind Lounge Posters will be attended from 3:15 PM - 4:30 PM		
A. Orena, L. Polka	The relationship between language experience and infants' word segmentation skills	
D. Özge, D. Vidinli, A. Küntay, J. Snedeker	When you eat from the cake, is it all gone? Morphosyntax as a cue to partitivity	
I. Polyanskaya, T. Brauner, P. Blackburn	Second-order false beliefs and recursive complements in children with Autism Spectrum Disorder	
E. Puig-Mayenco, J. Gonzalez Alonso, J. Rothman	A methodological meta-analysis: Implications for models of transfer in L3/Ln acquisition	
R. Quadros, D. Lillo-Martin	Brazilian bimodal bilingual as heritage signers	
J. Schaeffer	Direct Object Scrambling in Dutch-speaking children with SLI and with HFA	
M. Scheidnes	A longitudinal comparison of object clitic production in the spontaneous language of L2 children and children with SLI	
I. Sekerina, N. Mitrofanova	Testing Predictive Power of Morphosyntactic Cues Cross-Linguistically	
R. Shi, M. Babineau	Mis-segmentation of vowel-initial words in toddlers	
B. Skarabela, M. Srinivasan, H. Rabagliati	The Development of a Generative Lexicon: Evidence from Instrument Verbs	
F. Smolík	Verb imageability is related to the acquisition of past tense forms in English	
M. Sundara, C. Ngon, K. Skoruppa, N. Feldman, G. Molino Onario, J. Morgan, S. Peperkamp	Young Infants Discriminate Subtle Phonetic Contrasts	
N. Tanaka, B. Schwartz	Investigating relative clause island effects in native and nonnative adult speakers of Japanese	
R. Thornton, K. Rombough, E. D'Onofrio	Accentuate the Negative: Children's use of Tense in Negative Sentences	
L. Tieu, Z. Shen	Interpretive restrictions on superlatives in full vs. fragment answers	
S. van Ommen, N. Boll-Avetisyan, S. Larraza, C. Wellmann, R. Bijeljac-Babic, B. Höhle, T. Nazzi	Cross-linguistic evidence of language-specific processing of prosodic boundary cues	
K. Von Holzen, L. Nishibayashi, T. Nazzi	Neural bases of phonological processing of newly segmented word forms	
M. Weicker, P. Schulz	Relative and absolute gradable adjectives in child comprehension: same or different?	
N. Xu Rattanasone, B. Davies, K. Demuth, T. Schembri	Assessing Mandarin-Speaking Pre-schoolers' Knowledge of English Plural Morphology	
J. Ziegler, A. Kocab, J. Snedeker	The effect of population size on intergenerational language convergence: An artificial language learning paradigm	

Sustained Attention in Infancy Impacts Vocabulary Acquisition in Low-Income Toddlers

Patricia Brooks (College of Staten Island and The Graduate Center, CUNY) Rachel Flynn (Northwestern University) Teresa Ober (CUNY Graduate Center)

This study used longitudinal data from the control group of the Early Head Start Research and Evaluation Project to explore infant sustained attention to toys as an early manifestation of executive functioning in relation to vocabulary acquisition. The sample comprising children from low-income families showed a normal distribution in cognitive abilities (Bayley MDI) at 14m vet manifested deficits in receptive vocabulary (PPVT) at 36m (M 82). Regression models predicting PPVT scores identified a significant effect of infant sustained attention at 14m over and above significant effects of child cognition at 14m, child gender (favoring girls), HOME environment, and maternal education. Although maternal behaviors (supportiveness and intrusiveness) correlated with infant sustained attention, they were not independently associated with PPVT scores. Findings suggest that executive functioning manifest in sustained attention impacts both the quality of parent-child interaction and vocabulary growth, potentially accounting for significant variability in language outcomes for at-risk children.

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#### Session B--Conference Auditorium

Learning words in an unfamiliar language: The role of statistics and context

Jessica Hay (University of Tennessee, Knoxville) Amber Shoaib (University of Notre Dame) Tianlin Wang (University of Notre Dame) Dora Moore (University of Tennessee, Knoxville) Johanna Lohman (University of Tennessee, Knoxville) Jill Lany (University of Notre Dame)

At 17-months, sound sequences with high transitionalprobabilities (HTPs) are favored over those with low TPs (LTP) as labels for novel objects. Across 3 experiments we showed that infants rely less on statistical cues as they become more proficient in their native language. English-learning 21- to 24-month-olds (n=101) were familiarized with an Italian corpus, and then presented with pairings between HTP and LTP words from the corpus and referents. At this age, although infants continue to track TPs, high TP is no longer sufficient to give sound sequences from an unfamiliar language word-like status, especially for infants with larger vocabularies. However, when Italian HTP and LTP words were presented in contexts with strong referential cues, infants used both TPs and syllable frequency to guide word learning. These results suggest that tracking TPs gets learning off the ground, and that more mature word-learning processes reflect the integration of statistical and language-specific cues.

## Session C--Terrace Lounge

Learning attitude verb meanings in a morphosyntacticallypoor language via syntactic bootstrapping

Nick Huang (University of Maryland, College Park) Chia-Hsuan Liao (University of Maryland, College Park) Valentine Haquard (University of Maryland) Jeffrey Lidz (University of Maryland)

Because attitude verbs describe mental states that lack reliable physical correlates, it has been proposed that children learn their meanings via syntactic bootstrapping rather than via the context of use. In this paper, we argue that syntactic bootstrapping is a feasible strategy for distinguishing "belief" and "desire" verbs (e.g. "think" vs. "want"), even in languages with relatively impoverished morphosyntax. We looked at Mandarin Chinese, which lacks overt tense/mood/case morphology and allows null arguments. Our analysis of three CHILDES corpora shows that Mandarin belief and desire verbs have different syntactic profiles: belief verbs have complements that resemble declarative main clauses in the overall distribution of certain syntactic properties, but desire verbs do not. We further argue that Mandarin provides support for the "declarative main clause syntax hypothesis," where learners associate belief meanings with verbs whose clausal complements resemble declarative main clauses, and desire meanings with verbs whose clausal complements do not.

Can parent coaching affect parent-child language interactions and improve outcomes?

#### Naja Ferjan Ramirez (University of Washington) Sarah Lytle (University of Washington) Melanie Fish (University of Washington) Patricia Kuhl (University of Washington)

This longitudinal randomized control study tested whether parents can be "coached" to increase specific characteristics of language input to causally increase their child's language growth. Families of 6-month old children were randomly assigned to the Experimental (E) and Control (C) group. Infants' audio environments and vocalizations were assessed longitudinally with LENA recorders placed in the pockets of vests that children wore at home. Following each recording, E parents attended a 45-minute coaching session to receive feedback based on the language measures from their own recordings, discuss characteristics of language input that promote learning, and listen to portions of their own recordings that showcased these characteristics. Results show that parent coaching can enrich specific components of language input, such as the proportion of infant directed speech (IDS), and that this can immediately and positively impact child language outcomes.

## Session B--Conference Auditorium

What words do children say first? Using known words to bootstrap the acquisition of new words

#### Jon Willits (UC Riverside) Jessica Montag (UC Riverside) Seanna Yang (UC Riverside)

Previous experimental research in word learning has shown that words that occur in familiar contexts are easier to learn. We investigated whether this idea can be used to predict children's age of acquisition data (using MCDI data from Wordbank). We took the words from the MCDI and got their word cooccurrence counts (using the CHILDES database). We then calculated the proportion of these words that are likely to be known words for children of that age, and used this proportion as a predictor of AoA. In a regression model containing a number of distributional predictors, we found that only known proportion of co-occurring words significantly predicted AoA across grammatical categories (r=0.609). These results show that AoA can be predicted by distributional factors, not just within but across grammatical categories. Our results provide additional support for the hypothesis that learning of new words is greatly aided by building upon existing knowledge.

#### Session C--Terrace Lounge

"Look! It is not a bamoule!" 18-month-olds understand negative sentences

Alex de Carvalho (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Axel Barrault (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Anne Christophe (École Normale Supérieure - PSL Research University (EHESS - CNRS))

This study investigated French-learning infants' understanding of negative sentences at 18 months. Although infants start producing the word "no" in their own speech from about 1 vear of age, several studies have failed to find any evidence for the understanding of negative sentences before 2 years old. Using a word-learning task, we observed that 18-month-olds already have some understanding of negative sentences. After having learnt that bamoule means "penguin" and pirdaling means "cartwheeling", infants showed surprise when listening to negative sentences rendered false by their visual context ("Look! It is not a bamoule!", while watching a video showing a penguin cartwheeling); in contrast, they were not surprised by negative sentences rendered true by their context ("Look! She is not pirdaling!" while watching a penguin spinning). This provides the first evidence for the understanding of negative sentences during the second year of life.

 Notes

Are language and social-communicative abilities separable in infancy?

Amy Yamashiro (New York University) Andrea Sorcinelli (New York University) Athena Vouloumanos (New York University)

Learning language and interacting with others are fundamental to human culture and knowledge acquisition. In typical development, infants' ability to learn language relies heavily on their ability to interact with others. Children with autism spectrum disorder (ASD) have difficulty understanding others' social behaviors, even though many children with ASD are able to learn language. Thus, language and social-communication may be related but separable abilities-a distinction that may originate in infancy. In a prospective longitudinal study, we found that for neurotypical infants and infants later diagnosed with ASD, the ability to process different aspects of a communicative interaction can predict and distinguish later language and social-communicative abilities. Language and social-communication are thus separable in infancy, and may be supported by related but distinguishable developmental processes. Dissociating language and social-communicative abilities in infancy could help detect deficits specific to each ability just as these abilities begin to emerge.

Notes

#### Session B--Conference Auditorium

Subjective little learners: Hyperarticulated input and the early development of adjective ordering preferences

#### Galia Bar-Sever (University of California, Irvine) Rachael Lee (University of California, Irvine) Gregory Scontras (University of California, Irvine) Lisa Pearl (University of California, Irvine)

Adults have robust adjective ordering preferences in multiadjective strings, preferring "small gray kitten" to "gray small kitten" in English and many other unrelated languages. Scontras, Degen, and Goodman (2017) determined that the best predictor of adult ordering preferences is adjective subjectivity, with less subjective adjectives preferred closer to the modified noun. However, it remains unknown when and how the preference develops—a preference that involves both the cognitive representation of subjectivity and the mapping of that cognitive representation onto the linguistic representation of adjective order. We conduct a corpus analysis of English childproduced and child-directed speech and compare it against the adult- to-adult data from Scontras et al., finding evidence for (i) qualitative similarity between adult-to-adult and childdirected data, but with hyperarticulation of subjectivity-based adjective ordering preferences, and (ii) development of adultlike subjectivity-based preferences as early as age two.

## Session C--Terrace Lounge

Learning to Filter Non-Basic Clauses for Argument Structure Acquisition

Laurel Perkins (University of Maryland) Naomi H. Feldman (University of Maryland) Jeffrey Lidz (University of Maryland)

"Non-basic" clauses are problematic for argument structure acquisition. For example, a child hearing "What did Amy fix?" might not recognize that "what" stands in for the direct object of "fix," and might think that "fix" is occurring without a direct object. Previous literature has proposed that children might filter non-basic clauses out of the data used for verb learning. However, this assumes that children can identify which data to filter. We demonstrate that it is possible for learners to filter out non-basic clauses in order to infer verb transitivity, without knowing in advance which clauses are non-basic. Our model instantiates a learner that considers the possibility that it misparses some of the sentences it hears. By doing so, the model learns to filter out those parsing errors and correctly infers transitivity for the majority of 50 frequent verbs in childdirected speech.

The cup on the table is green: Children's comprehension of embedded PPs

# Erin Hall (University of Toronto) Ana Perez (University of Toronto)

How do children learn to integrate structurally complex noun phrases? NPs internal to PP modifiers are inaccessible to predication (Arsenijevic & Hinzen 2012). We compared children's comprehension of embedded modifiers and coordinated NPs, adapting Zuckerman et al.'s (2016) coloring task. Experimenters read sentences such as (1)-(3) and invited participants to color a picture accordingly:

(1) [The dog [with the ball]] is green (PP embedding-comitative)
 (2) [The cup [on the table]] is green. (PP embedding-locative)
 (3) [[The cup] and [the table]] are green. (NP coordination)

Children were near ceiling with coordinates and control sentences, and performed well with locatives, but were not different from chance level for comitatives. The most common error in the comitative condition was to color both referents; i.e., a coordinated interpretation. These findings suggest that the structural and semantic differences between coordination and embedding are not generally problematic for children, but the lexical semantics of prepositions is.

## Session C--Terrace Lounge

Acquisition of agreement in German: Sensitivity to grammar is reflected in 3-year-olds' pupil dilation

Assunta Süss (University of Potsdam, University of Groningen, IDEALAB) Petra Hendriks (University of Groningen)

Tom Fritzsche (University of Potsdam) Barbara Höhle (University of Potsdam)

Sensitivity to agreement is crucial for children's development of language production and comprehension. Depending on the language, the time course of acquisition of subjectverb agreement varies, while little is known so far about the acquisition of adjectival gender agreement. The present study tested sensitivity to German subject-verb agreement as well as adjectival gender agreement in the same group of 3-yearold children. Stimuli were sentences with either grammatical agreement or a violation thereof. In a single-picture setting, we measured the children's pupil dilation while they listened to a sentence. We did not find differences in pupil dilation between grammatical and ungrammatical subject-verb agreement, but for gender agreement pupil dilation was higher in the ungrammatical condition, indicating sensitivity. This finding with adjectival but not subject-verb agreement can be explained by the adjacency of the agreeing expressions in adjectival agreement.

#### Session B--Conference Auditorium

Mutual Exclusivity and Ad-hoc Scales in children's inferences

## Dimitrios Skordos (UC San Diego) David Barner (UC San Diego)

Before the age of 2, children expect that novel words contrast in meaning with familiar words, and exhibit mutually exclusive (ME) reference. For example, when shown a dog and a novel animal, a child who knows "dog" infers that "blicket", refers to the novel entity. By some accounts, this computation is Gricean in nature, and might be involved in "scalar implicatures" (SI) wherein a listener strengthens an utterance by negating stronger alternatives. No previous study has compared these two inferences using the same paradigm, making it difficult to reach strong conclusions about whether they indeed differ developmentally, and if so, why. To investigate, we tested children aged 2;0 to 4;11 in two between-subjects conditions. We found that while even some 2-year-olds show a capacity to make SI, children's ability to consistently make SI nevertheless trails their ability to make ME inferences, albeit modestly.

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Repetition Brings Success: Revealing knowledge of the passive voice

Kamil Deen (University of Hawai'i at Mānoa) Ivan Paul Bondoc (University of Hawai'i at Mānoa) Amber Camp (University of Hawai'i at Mānoa) Sharon Joy Estioca (University of Hawai'i at Mānoa) Haerim Hwang (University of Hawai'i at Mānoa) Gyu-ho Shin (University of Hawai'i at Mānoa) Maho Takahashi (University of Hawai'i at Mānoa) Fred Zenker (University of Hawai'i at Mānoa) Jing Crystal Zhong (University of Hawai'i at Mānoa)

We show that the passive voice is acquired by children as young as 4yrs (O'Brien, et.al., 2006) and that failure on the truth value judgment task(e.g., Nguyen & Snyder, 2016) is not due to the absence of knowledge of the passive, but due to parsing difficulty created by children's expectations for canonical thematic role mapping. In Experiment 1 (TVJT, following O'Brien et.al.'s exact protocol) children aged 4;6-5;6 showed knowledge of the passive, while children aged 4;0-4;6 failed, rejecting nonactional mismatch items only 50% of the time. In Experiment 2, we followed the same protocol, but the test sentence was presented followed by a onesecond pause, and then an exact repetition of the test sentence. In such conditions, children aged 4:0-4:6 accurately rejected nonactional mismatch items at a rate of 78%. We interpret this to mean that younger children strongly favor the canonical mapping of agent/experiencer onto the first nominal, with online revision being particularly difficult. The repeated test sentence provides the opportunity to consider a non-canonical thematicrole mapping, and allows children to successfully respond to the test sentence. We conclude that knowledge of the mechanics of the passive is not absent, but just occluded by parsing preferences based upon canonical word order.

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#### Session B--Conference Auditorium

Assessing truth and speaker knowledge when utterances are not maximally true

#### Laura Simon-Pearson (Rutgers - New Brunswick) Kristen Syrett (Rutgers - New Brunswick)

We report on a TVJT experiment with 48 children age 4-6 and adult controls, which demonstrates that children of this age compute truth values of  $[T \land F]$  conjunctions as predicted by propositional logic, and further, take such utterances to indicate degraded speaker knowledge, as shown using a ternary judgment scale. Children consistently judged conjunctions to be false when each statement is maximally informative, but one is false, patterning with adults. Children are more likely to say that the speaker lacks knowledge, while adults attribute partial knowledge to the speaker. When the second conjunct violates homogeneity and is not entirely false of the set, children-like adults-reject the conjoined statement less often, and attribute more knowledge to the speaker. However, unlike with adults, children's behavior is not modulated by whether the subject is a bare plural or a plural definite description, an expression that should have a maximality component.

#### Session C--Terrace Lounge

Bilinguals' sensitivity to grammatical gender cues in Russian

Natalia Mitrofanova (UiT The Arctic University of Norway) Yulia Rodina (UiT The Arctic University of Norway) Olga Urek (UiT The Arctic University of Norway) Marit Westergaard (UiT The Arctic University of Norway & Norwegian University of Science and Technology)

The present study uses novel nouns to investigate how bilingual Norwegian-Russian children assign gender in Russian, their minority language (N=34, age 3-10). The study asks new important research questions: 1) What mechanisms do bilingual speakers use to predict gender? 2) Are they sensitive to gender cues? and 3) Do they develop a system of formal gender assignment rules? The results of the elicited production experiment suggest that child bilinguals are sensitive to the gender cues in their minority language and can productively assign gender based on transparent cues. They also show sensitivity to distributional patterns in the opaque cases. Yet, lack of exposure can reduce this sensitivity suggesting that nominal endings may play no role in gender assignment in some bilingual language learners.

A Filled Gap Stage in German Relative Clause Acquisition

## Kazuko Yatsushiro (Leibniz-Zentrum Allgemeine Sprachwissenschaft) Uli Sauerland (Leibniz-Zentrum Allgemeine Sprachwissenschaft)

In this paper, we examine German children's production of relative clauses. Previous studies found there is an asymmetry between relative clauses involving extraction from the subject position and that from the object position. Friedmann et al. (2009) argue that children's difficulties arise because of relativized minimality effect. We examined whether (mis)match in number between the relative head and the subject of relative clause affects the production of relative clauses in children. We observed that (i) children produce non-target ungrammatical structure, involving resumptive DPs and pronouns in both conditions, but more in the mismatched condition, and (ii) older age group produced more relative clauses with resumptive expressions. Our analysis is that the resumptive expression is one of the copies of the moved phrase, and that children go through a stage where both copies of the moved phrase are overtly expressed, before being able to delete the copy in the base-position.

# Session C--Terrace Lounge

Children's and adults' processing of variable agreement patterns: Agreement neutralization in English

# Cynthia Lukyanenko (George Mason University) Karen Miller (Pennsylvania State University)

Children and adults use consistent linguistic patterns in comprehension, and track patterns down to the lexical level (e.g., verb bias). We ask whether this ability is even more finegrained. Preschoolers and adults use the predictive dependency between an agreeing verb and its subject as a cue in online comprehension. However, agreement in English existentials is sociolinguistically variable: A plural noun may follow either a plural or a contracted-singular form of the copula, but not a full-singular form (Here are/Here's/\*Here is some examples). We test adults' and 3- to 5-year-olds' use of contracted and full forms of the copula in comprehension of existentals. We find that participants use plural and full-singular forms as cues to target number, but not contracted-singular forms. This suggests that listeners track cue-reliability at the sub-lexical level: for different agreeing forms of the same verb, and even for contracted and full versions of the same agreeing form.

#### Session B--Conference Auditorium

Contextual inferences through variable exemplars: An artificial adjective learning study

## Crystal Lee (University of Rochester) Chigusa Kurumada (University of Rochester)

Language learners acquire meanings of absolute gradable adjectives despite tremendous variability in observed referents (e.g., a 90% full cup is "full" at dinner). We ask whether learners induce adjective meanings by attributing observed variability to contextual justifications (e.g., a 90% full cup is sufficiently full or it will spill). Using a paradigm from Syrett et al. (2010), we investigated learning of a novel adjective ("pelty") in children (4-7 year olds) and adults. "Pelty" can be comprehended as an absolute or relative gradable adjective (meaning "snugly tightfitting" or "tighter-fitting of the two"). Participants watched 24 videos illustrating the usage of "pelty" (i.e., "tight-fitting-ness" of various degrees), with or without contextual justifications. In test, only adults that heard contextual justifications inferred "pelty" as an absolute gradable adjective. We argue that this contextual inference likely presents a challenge to young children and develops gradually as they encounter an adjective in diverse contexts



#### Conference Auditorium

# **NIH/NSF Funding Symposium**

Ruben Alvarez National Institutes of Health

David Moore National Science Foundation

Research on the acquisition and development of language is supported by several federal agencies including the National Science Foundation (NSF) and the National Institutes of Health (NIH). This presentation will focus on funding opportunities at these agencies for research in different areas of language development. Within NSF, several programs fund basic science designed to illuminate theoretical questions about language development, including the Linguistics, Science of Learning, and Developmental Sciences programs, and some programs within NSF's Education directorate. Dr. David S. Moore, co-director of the Developmental Sciences program (DS), will present an overview of NSF's mission and the opportunities available through the DS and Linguistics programs. Dr. Ruben P. Alvarez, director of the program on Language, Bilingualism, and Biliteracy, in the Child Development and Behavior Branch at the National Institute of Child Health and Human Development (NICHD), will discuss opportunities at NIH and NICHD and how to navigate the grants process.

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Prediction at the discourse level in L2 English speakers: an eye-tracking study

#### Paola E. Dussias (Pennsylvania State University) Carla Contemori (University of Texas at El Paso)

Studies on prediction in bilinguals have shown conflicting results; it is unclear whether bilinguals can achieve native-like predictive abilities and what factors contribute to their success/ difficulties. Another question is in what contexts bilinguals' predictions are weaker than those of native speakers.

Here we investigate bilinguals' prediction at the discourse level, focusing on the ability to predict an upcoming referent based on the Implicit Causality (IC) bias of the verb (NP1: Sally<sub>i</sub> frightened Mary because  $she_i...$ / NP2: Sally blamed Mary<sub>i</sub> because  $she_i...$ ).

Using the eye-tracking technique we demonstrate that bilinguals show a delay in the use of the verb IC-bias during online processing to predict the upcoming referent, compared to monolinguals. We hypothesize that the processing cost of activating the verb IC information in bilinguals may be related to the lower quality of the lexical representations of the IC verbs.

#### Session C--Terrace Lounge

Syntactic optionality delays acquisition: late acquisition of passives in Mandarin vs. early acquisition in Cantonese

Elaine Lau (Chinese University of Hong Kong) Ziyin Mai (Chinese University of Hong Kong) Virginia Yip (Chinese University of Hong Kong)

This study compares the acquisition of passives in two closely related languages, Mandarin and Cantonese, to investigate the effect of syntactic optionality on child acquisition of syntax. Mandarin and Cantonese passives differ minimally in the optionality of the agent NP: Mandarin allows omission of the agent NP as in languages like English, whereas Cantonese requires the obligatory presence of the agent. With a picture selection task, Cantonese children were able to comprehend passives as young as 3;0; however, Mandarin children, similar to their English counterparts as reported in the literature, continued to experience difficulty with all types of passives even at 5;0. We argue that the cause for the delay in the acquisition of passives in Mandarin is the optionality of the agent.

#### Session B--Conference Auditorium

A little labeling goes a long way: Semi-supervised learning in infancy

## Alexander LaTourrette (Northwestern University) Sandra Waxman (Northwestern University)

Labels play a powerful role in children's object categorization. Providing the same label for a set of distinct individuals promotes children's ability to identify an object category to which they all belong. In daily life, however, children's caregivers cannot possibly label every object that children encounter. As a result, children often receive a mix of labeled and unlabeled exemplars in their real-world category learning. Here, we ask whether 2-year-old children can integrate these labeled and unlabeled exemplars when learning new categories, a strategy called "semi-supervised learning." Our results suggest they can: children learned categories as successfully in a semi-supervised condition as they did in a fully labeled condition. These findings reveal that the power of labels extends beyond the individual exemplars being labeled: labeling facilitates children's learning from subsequent, unlabeled exemplars as well.

Notes

Second Language Learners Generate Predictions at the Level of the Discourse: Evidence from Event-related Potentials

José Alemán Bañón (Stockholm University) Clara Martin (Basque Center on Cognition, Brain and Language) Elena Fano (Uppsala University)

We used ERP to investigate whether L2ers can use the cue provided by an it-cleft to anticipate the NP that is assigned Focus. Participants read contexts followed by a wh-question. In the main conditions, the answer included an it-cleft. Focus was assigned either to an accessible or to an inaccessible NP. In the control conditions, the answer did not involve the itcleft, making Focus assignment less predictable. To better tap on prediction, the two accessible NPs and the inaccessible one selected different articles (a/an). This allowed us to examine prediction at the article, before semantic integration occurred.

Nineteen L1-Spanish L2-English learners (intermediate/ advanced) showed an Anterior Positivity for unexpected relative to expected articles. This effect, linked to prediction disconfirmation, only emerged in the conditions with the itcleft. Unexpected nouns also yielded a larger N400 relative to expected ones. These results suggest that L2ers generate predictions at the level of the discourse.

Notes

#### Session B--Conference Auditorium

The profile of abstract rule learning in infancy: Evidence from a meta-analysis and a multi-lab experiment

#### Hugh Rabagliati (University of Edinburgh) Brock Ferguson (Strong Analytics) Casey Lew-Williams (Princeton University)

Do infants possess domain specific learning mechanisms? Marcus et al (2007) argued that infants preferentially learn abstract rules from speech, rather than non-linguistic stimuli such as tones. Subsequent work has demonstrated rule learning from some non-linguistic stimuli (e.g., multi-modal stimuli), but we still lack a coherent explanation for the diverse and contradictory conditions under which infants do learn rules. Indeed, some positive findings might be explicable through publication bias. Using both meta-analysis and a multi-site replication experiment, we tested what conditions reliably elicit rule learning. The meta-analysis demonstrated that infants' preference for learning from speech was in fact subsumed by a preference to learn from ecologically meaningful stimuli. A multi-site replication confirmed that infants learned rules more easily from non-speech stimuli, if a pre-exposure suggested those stimuli were communicative and meaningful. We discuss implications for theories of learning, as well as additional findings concerning publication bias in infant cognition.

#### Session C--Terrace Lounge

The Impact of Argument-Omitted Sentences in the Learning of the Japanese Direct Object Case-Marker

## Akiko Zhao (Hiroshima University) Hiromu Sakai (Waseda University) Yingyi Luo (Chinese Academy of Social Sciences)

This study investigates how argument structure input affects language acquisition. It focuses on Japanese object case-marker learning where argument omission is common. We conducted two experiments. Experiment 1 examined the effectiveness of full-argument sentences or argument-omitted sentences in 7-year-olds learning artificial object case-markers. The result shows that argument-omitted sentences are more effective than full-argument sentences for children learning object case-markers. Experiment 2 examined the percentage (80% or 20%) of effective sentences (i.e., argument-omitted sentence) that need to appear in the input. The result suggests that both 80% and 20% of the groups comprehend object case-markers well. Moreover, 7-year-olds exposed to more argument-omitted sentences in the learning phase had better comprehension performance in the test. These findings support the statistical learning view that learning improves with the increase of effective input, which is argument-omitted sentences rather than full-argument sentences in the case of learning object casemarker.

#### Co-Speech Pointing Gestures Produced by Human Instructors rather than Robots Improve Word Learning in Children with Autism

Spencer Kelly (Colgate University) Kit-Yi Miranda Wong (The Chinese University of Hong Kong) Wan-Yi Monique Lam (The Chinese University of Hong Kong) Chun-Ho Erica Cheng (The Chinese University of Hong Kong) Wing Chee So (The Chinese University of Hong Kong)

Previous research shows that children with autism spectrum disorders (ASD) have difficulty comprehending and producing proto-declarative pointing gestures. We explored this in a word learning context by comparing the influence of gaze and hand gesture when learning new words from humans and robots. Sixty-five Chinese-speaking 4- to 6-year old children with ASD learned words for novel objects indexed by eye gaze and speech vs. gaze, pointing gestures and speech produced by human or robot "instructors." We found that although children with ASD were above chance in learning word labels in all conditions, they learned the most words from a human instructor that produced pointing gestures with the hands. This pattern suggests that there may be something special about the natural coupling of gesture, gaze and speech in humans, supporting theories that gesture and speech form an integrated system of pragmatic meaning, even in an ASD population.

# Session C--Terrace Lounge

Production-Comprehension Asymmetry in Children's Medial Wh-questions

#### C. Jane Lutken (Johns Hopkins University) Akira Omaki (University of Washington)

English-speaking children sometimes make syntactic errors in production and comprehension of bi-clausal wh-questions. In production, this appears as a 'medial wh-phrase' (i.e. What do you think what is in the box?). In comprehension, children answer questions like How did the boy say what he caught? with A fish!, responding to a medial what question. Both behaviors may suggest children are treating the sentence-initial wh-phrase as a 'dummy' question scope marker (SM), and the sentence medial wh-phrase as the target question. This SM structure is used in languages such as German, but not English. These findings are often taken as evidence of a parametric approach to language acquisition. However, these results could also indicate immature processing. The current study used improved experiment designs to explore children's production (Exp1) and comprehension (Exp2) of wh-questions. We show that SM structures appear only in production, and suggest these errors indicate immaturity in production mechanisms.

## Session B--Conference Auditorium

Trajectories of Lexical Comprehension Improvement: Investigating the 14month Boost

#### Elika Bergelson (Duke University)

We examine how infants' comprehension of common nouns improves over time, to determine whether there is an earlier receptive correlate of the proposed vocabulary 'boost' in production around 18 months. We further examine whether testing infants on new (unfamiliar) exemplars of common words may influence our conclusions about their comprehension abilities.

Participants were part of a yearlong study, which included monthly home recordings (daylong audio and hour-long video) from 6-17 months and in-lab looking-while-listening eyetracking experiments every two months. In the eyetracking experiments, infants either saw generic images of common nouns, or individually-tailored images/words based on the nouns and referents in each child's home environment.

Our results suggest that there is indeed an early comprehension boost, across and within infants, and that infants' experiences with words (more than with particular instantiations) scaffolds this boost.

Notes

Do parents model gestures differently when children's gestures differ?

Şeyda Özçalışkan (Georgia State University) Lauren B. Adamson (Georgia State University) Nevena Dimitrova (Vaud University Hospital) Stephanie Baumann (Georgia State University)

Children with autism spectrum disorder (ASD) or with Down syndrome (DS) show diagnosis-specific differences from typically developing (TD) children in gesture production. We asked whether these differences reflect the differences in parental gesture input. Our systematic observations of 23 children with ASD and 23 with DS (Mages=2;6)-compared to 23 TD children (Mage=1;6) similar in expressive vocabulary size-showed that across groups children and parents produced similar types of gestures (i.e., deictic, conventional, iconic) and gesture-speech combinations (i.e., complementary, supplementary). However, only children-but not their parents-showed diagnosis-specific variability in the rates with which they produced each type of gesture and gesturespeech combination. These findings suggest that, even though parents model gestures similarly, the rate with which children produce each type largely reflects diagnosis-specific abilities.

Notes

#### Session B--Conference Auditorium

Is the noun bias the default? Testing novel word learning in Japanese toddlers using simple scenes

## Ayumi Matsuo (Kobe College) Letitia Naigles (University of Connecticut) Tamiko Ogura (Kobe University)

Children learning most European languages show a noun bias in their early lexical development whereas children learning Asian languages produce as many or more verbs/action words. We investigate the novel word learning of monolingual Japanese toddlers (15-30 months) using very simple scenes. Children viewed side-by-side videos in which six novel words were taught and then tested. During teaching, unfamiliar puppets undergoing unfamiliar actions were paired with nonce words (e.g., ajoru-yo). During control and test, children saw the original puppet undergoing a new action presented sideby-side with a new puppet undergoing the original action. The audio was either neutral: "they are different now!" or directing "Which one is ajoru-yo?" Children looked reliably longer at the original puppet during test trials relative to control, demonstrating a Noun Bias. Younger toddlers (18 months) tended to show this 'puppet preference' more consistently and quickly than Older toddlers (26 months). These findings support the claim that the noun bias is a default early in lexical acquisition, with language-specific preferences emerging after 24 months.

## Session C--Terrace Lounge

# A Performance Account for Medial Wh-Questions in Child English

# Elaine Grolla (Universidade de São Paulo) Jeffrey Lidz (University of Maryland)

Children's 'medial questions' – long-distance wh-questions with an extra wh-element in intermediate [Spec,CP] – are analyzed as a performance error resulting from an interaction between sentence planning and executive control (EC). Dell 1986 proposes that in sentence production, the items that get pronounced are selected from highly activated alternatives. After being pronounced, their activation level decreases. In slips of the tongue, highly active items perseverate being pronounced in inappropriate positions.

In wh-questions, after the wh-word is pronounced, its activation must be maintained in order to establish a relation with the verb. In Adults, EC inhibits pronunciation of the wh-word in intermediate [spec,CP]. However, children's EC is not fully developed, leading to the prediction that medial questions will be produced by children with worse EC.

We elicited long distance wh-questions and administered 2 EC tests. Children with more limited EC produced medial questions more often than children with higher EC.

## Gestures Facilitate Word Learning in Shared Storybook Reading: A Dual Eye-tracking Study

### Yayun Zhang (Indiana University-Bloomington) Chen Yu (Indiana University-Bloomington)

Shared storybook reading is one of the most common everyday word-learning activities children experience in middle-class, educated American families. To learn word-object mappings in storybook-reading context, infants need to link what they see with what they hear. However, given multiple objects on every book page, it is not clear how infants direct their attention to objects named by parents. Previous studies show that the development of joint attention (JA) plays an important role in infant-parent interactions that benefit word learning (Hirsh-Pasek et al., 2015). The aim of the current study is to provide a mechanistic account of how JA may be established in the context of book reading. We hypothesize that infants and parents may not be able to jointly attend to the same object on a page easily, but their abilities to follow and use gestures to direct the other social partner's attention facilitate JA at parents' naming moments.

### Session B--Conference Auditorium

Being Suspicious of Suspicious Coincidences: The Learning of Subordinate Terms by Children and Adults

#### Felix Wang (University of Pennsylvania) Lila Gleitman (University of Pennsylvania) John Trueswell (University of Pennsylvania)

Even when learners encounter a novel word with a unique referent, they are faced with semantic uncertainty: does "mipen" mean Dalmatian, dog or animal? A well-known Bayesian account of word learning claims the level of meaning can be inferred by reasoning about sampling statistics: exposure to three "mipen"-Dalmatian pairings should lead to a subordinate category inference since it is unlikely three random dogs would all be Dalmatians. In a series of cross-situational word-learning experiments with adults and children, we provide evidence that questions this account. Subjects tend to think "mipen" means dog even with 5-dalmatian samples if they are encountered cross-situationally. Non-basic level meanings are only obtained when the situation introduces a semantic contrast, e.g., via mutual exclusivity, linguistic support ("mipen is a kind of dog"), or the co-presence of a specific test-array containing Dalmatians and other dogs, as done in previous studies taken as support for the Bayesian account.

#### Session C--Terrace Lounge

Negative questions in children with Specific Language Impairment

> Kelly Rombough (Macquarie University) Rosalind Thornton (Macquarie University) Jasmine Martin Linda Orton

This study evaluates negative wh-question productions in 21 5-year-old children with Specific Language Impairment, 21 age-matched children and 21 children whose language skills were matched by MLU. The children with SLI produced roughly half the number of analysable negative questions as the control groups. Although inversion of a negative auxiliary verb is challenging even for typically-developing 5-year-old children, the SLI group produced almost no questions with inversion. The talk presents data from children's positive and negative questions, and examines whether the source of difficulty is (i) generating the appropriate wh-question structure (ii) the status of the negative marker in children's grammars which is examined in children's declarative negative sentences or (iii) children's ability to produce a tensed auxiliary or some combination of (i) to (iii). Notes

# **KEYNOTE ADDRESS**

# "Learning begets learning: Statistical learning and the emerging lexicon"

Jenny Saffran University of Wisconsin-Madison

For the past two decades, researchers in language development have been interested in exploring the potential explanatory power of statistical learning. In my presentation, I will focus on the relationship between statistical learning and the emerging lexicon. In particular, I will discuss results concerning how learning about sound patterns impacts word learning. I will then turn to consideration of early lexical representations and the emerging lexicon. I'll end with recent studies from my lab exploring how statistical learning processes impact learning more generally.

Notes	Notes

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How does childhood bilingualism and bi-dialectalism affect the interpretation and processing of implicature?

Kyriakos Antoniou (University of Cambridge) Alma Veenstra (University of Cambridge) Mikhail Kissine (Université libre de Bruxelles) Napoleon Katsos (University of Cambridge)

Research with bilingual children has revealed two main trends: delays in aspects of language development (e.g. vocabulary) but enhanced socio-pragmatic and executive control skills (Akhtar & Menjivar, 2012). In this study, we tested a large sample of bilingual, bi-dialectal, and monolingual children (n=138) on the comprehension and processing of various pragmatic meanings: relevance, scalar, contrastive, manner implicatures, novel metaphors, and irony. Pragmatic responses were slower than literal responses to control items. Moreover, children were least accurate with novel metaphors and irony. For the latter two types of pragmatic meanings, pragmatic responses to critical items were slower than (incorrect) literal responses to the same items. Despite this variation, there were no group differences in pragmatic responses or speed of pragmatic processing. This was also true despite bilinguals' and bi-dialectals' lower vocabularies. We conclude that bilingual and bi-dialectal children maintain equivalent to monolinguals pragmatic comprehension and processing skills, despite weaker language knowledge.

# POSTER SESSION I

Quantificational cues to L2 English verbal agreement: A crosslinguistic ERP investigation

Andrew Armstrong (University of Illinois at Urbana-Champaign) Nyssa Bulkes (University of Illinois at Urbana-Champaign) Darren Tanner (University of Illinois at Urbana-Champaign)

Tanner and Bulkes (2015) showed native English speakers generated a larger P600 in response to subject-verb agreement violations when the subject contained a quantifier versus a number-neutral determiner (\*Many/The cookies tastes...). This study investigated if nonnative speakers' sensitivity to this violation is affected by the morphological complexity of their L1. We measured ERPs time-locked to the verb in the same type of English sentences above for comprehenders with L1 Mandarin, an isolating language, and L1 Spanish, which has a complex system of overt morphological agreement. Both L2 populations generated a P600 in response to ungrammatical verbs, but the effect of quantification differed. Whereas native Mandarin speakers were more sensitive to agreement violations in the unquantified condition, native Spanish speakers showed no difference. The results suggest that L2 processing patterns can resemble those of native speakers, but certain grammatical features may result in subtle integration differences based on a comprehender's L1.

#### POSTER SESSION I

The trouble with disjunction

David Barner (UC San Diego) Dimitrios Skordos (UC San Diego) Roman Feiman (UC San Diego) Alan Bale (Concordia University)

Preschoolers often struggle to compute scalar implicatures (SI) involving quantifiers (some, all), and disjunction (or), in which they are required to strengthen an utterance by negating stronger alternatives. Two recent reports find that a subset of children (41%-52%) interpret disjunction as conjunction, e.g., concluding from (1) that the boy must have both fruits.

(1) The boy has an apple or an orange

According to these studies, children arrive at conjunctive readings not because they have non-adult-like semantics, but because they lack access to the stronger scalar alternative and, and employ doubly exhaustified disjuncts when computing implicatures. On this account, although all children lack access to "and", only some children doubly exhaustify and arrive at conjunctive readings. Thus, different processes are proposed for different children. Because not all studies find this pattern of findings and because the data require positing additional computations, we sought to test the reliability of the findings. Object labeling in American Sign Language parent input to young deaf children

April Bottoms (Boston University) Zoe Fieldsteel (Boston University) Erin Spurgeon (Boston University) Amy Lieberman (Boston University)

We investigated the linguistic content of parent input in American Sign Language (ASL) during free play interactions between deaf children (n=7, ages 18 months to 3 years) and their deaf mothers. We transcribed mothers' utterances over a 20-minute period for a range of linguistic features including MLU, lexical diversity, and points. Mothers used a greater proportion of verbs than any other word class. Across participants, 30% of utterances contained nouns, and 56% contained verbs. Verb use was comprised of action verbs (DRIVE, FEED), mental verbs (WANT, SEE), and classifiers. Linguistic points most frequently occurred in utterances without an overt noun, suggesting that points served a pronominal role in many cases. Maternal MLU and type-token ratio varied across individuals but were not correlated with the child's age or CDI vocabulary. These data provide a first step in understanding the linguistic properties of maternal input during free play with objects in ASL.

Notes	

#### POSTER SESSION I

Connecting Phonotactic Learning and Word Learning in Infancy

Ellen Breen (University of Wisconsin-Madison) Ron Pomper (University of Wisconsin-Madison) Jenny Saffran (University of Wisconsin-Madison)

Children have rich knowledge of native language phonotactics and this knowledge impacts novel word learning; this impact is stronger for children with larger compared to smaller vocabularies. Less is known about how phonotactic learning influences novel word learning. In the current experiment, 2-year-olds (n=41) were pre-familiarized to a novel phonotactic regularity: a series of nonsense words that began with the same consonant. Following pre-familiarization, children were taught novel label-object pairs in which labels were consistent or inconsistent with the regularity. While children with smaller productive vocabularies learned all novel label-object pairings, children with larger vocabularies only learned pairings that were consistent with the novel phonotactic regularity. These findings demonstrate that even brief exposure to a novel phonotactic regularity constrains infants' mapping of sounds to meaning, and further highlight individual differences between infants in their selectivity of candidate word forms.

#### POSTER SESSION I

Predictive sentence comprehension during story-listening in Autism Spectrum Disorder

Jonathan Brennan (University of Michigan) Renee Lajiness-O'Neill (Eastern Michigan University) Susan Bowyer (Henry Ford Hospital) Ioulia Kovelman (University of Michigan) John Hale (Cornell University)

A clear understanding of language comprehension in ASD remains elusive in part because co-morbid social deficits lead to problems with behavioral task compliance. We overcome this challenge in the domain of predictive sentence comprehension by engaging participants in a naturalistic task while passively collecting neural signals. 16 high-functioning participants with ASD and 16 age- and gender-matched control participants simply listened to chapter 1 of "Alice in Wonderland" while magnetoencephalography (MEG) signals were recorded. To examine prediction, a computational model quantified the surprisal of each word's part-of-speech given the two linearly preceding words. A linear regression against MEG signals, which included (sub-)lexical control predictors, shows that surprisal correlates with right-temporal activity 120-290 ms after word onset. The same pattern was seen regardless of diagnosis (non-significant surprisal-by-group interaction, p > 0.1). This indicates that sentence-level predictions may be processed similarly between high-functioning children with ASD and typically developing peers.

The role of dominance and age of acquisition in L3 development

Jennifer Cabrelli Amaro (University of Illinois at Chicago) Michael Iverson (Indiana University) David Giancaspro (University of Richmond) Becky Halloran (Indiana University)

This study investigates the role of age of acquisition (AoA) vs. dominance in the finding that L1 transfer is slower to overcome than L2 transfer in L3 acquisition (Cabrelli Amaro et al., 2018). We compare three types of English/Spanish bilinguals that have initially transferred Spanish into L3 Brazilian Portuguese (BP): L1 Spanish/L2 English, L1 English/L2 Spanish, and Englishdominant heritage speakers (HSs) of Spanish. We examine acceptability of differential object marking (DOM) in BP as our test case for morphosyntactic development. In Spanish, certain accusative object DPs are marked with a; neither English nor BP exhibit this contrast. Acceptability judgment task data reveal that although all three types of bilinguals accept DOM in BP initially, at advanced proficiency only the L1 English group patterns with BP controls. Since the HS group and L1 Spanish pattern together, the result favors age of acquisition as an explanatory variable in L3 developmental rate.

#### POSTER SESSION I

Information Structure and Ordering Preferences in Child and Adult Speech in English

Jidong Chen (California State University, Fresno) Bhuvana Narasimhan (University of Colorado Boulder)

Adults typically order old referents before mentioning new referents in discourse (e.g. Bock and Irwin 1980). Recent studies reveal that children prefer to order "new" before "old" referents (e.g. Narasimhan & Dimroth 2007). Is children's non-adultlike ordering preference a language-specific phenomenon or a language-independent cognitive preference? We employed an elicited production task to investigate word order in conjoined noun phrases in 15 English-learning children (mean age 4;5, 3(10-5) and 12 adult native English speakers (mean age 27, 21 - 54). Findings showed that adults were more likely to use the "old-before-new" word order than children ( $\beta$ =2.17, Z=5.8, p<.0001). But whereas adults produced "old-before-new" significantly higher than chance ( $\beta$ =1.78, Z=5.97, p<.0001), children did not prefer the 'new-before-old' order significantly above chance (p=0.07). Our finding suggests that children acquiring different languages may not start out with a robust 'new-before-old' preference, but converge on a preference for the "old-before-new" order by adulthood.

#### POSTER SESSION I

Article omission across languages and the syntax of possessives

#### Andrea Ceolin (University of Pennsylvania)

It has been noted that children speaking Romance languages learn how to correctly produce articles faster than children speaking Germanic languages. Lleo and Demuth (1999) argue that the prosody of Romance languages facilitates the acquisition of articles, while Chierchia et al. (1999) and Guasti et al. (2008) propose that differences in semantic types and syntactic categories can explain the delay. These works have argued that in this domain frequency effects do not play a role, because the amount of bare nouns in the languages studied do not correlate with rates of article omission. Here we show that there is a syntactic factor that influences the co-occurrence of articles and nouns in the input data, i.e. the syntax of possessive constructions. We argue that input frequencies might play a crucial role in explaining the different patterns of article omission.

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Distinguishing Questions and Statements Using Sentence-Initial Prosodic Cues

#### Cindy Chiang (University of Southern California) Susan Geffen (Occidental College) Toben Mintz (University of Southern California)

Questions constitute a large percentage of infant directed speech. In English and many other languages, questions also have different word order and structural properties from canonical statements. Hence, successfully differentiating questions and statements early in grammatical acquisition is crucial. Previous research indicates that utterance-final prosodic cues differ reliably between statements and polar interrogatives, but not statements and wh-questions. Here, we investigated the utility of utterance-initial prosodic cues in distinguishing these sentence types. We measured prosodic variables across utterance-intial syllables, deriving factors from a principle component analysis. From logistic regressions with sentence types as the dependent variable and the top components as predictors, we found that both questions types were discriminated from statements at above-chance levels, while prosodic cues were similar across the two types of questions. These results demonstrate that sentence-initial prosody is correlated with sentence type and is available as a source of information to distinguish questions and statements.

Notes

#### POSTER SESSION I

The harmony bias: universal preference or abstract transfer effect?

#### Jennifer Culbertson (University of Edinburgh) Guillaume Braquet (University of Edinburgh)

Previous research has documented a cognitive bias for word order harmony (i.e., consistent head-direction) in Englishspeaking adults and children learning miniature artificial languages (e.g., Culbertson & Newport 2015). Learners taught phrases with a noun and an adjective or number word with variable order tend to overuse harmonic patterns relative to the input. While this bias is in line with a well-documented typological tendency for harmony (Dryer 1992, Baker 2001), it is also consistent with abstract transfer from English, which is harmonic in this domain. Here we report the first investigation of harmony in learners whose L1 is non-harmonic, namely French. We find that French children strongly prefer a particular harmonic pattern, in which both modifiers are post-nominal. These results suggest that both universal cognitive biases and L1 influence are at work; a bias for post-nominal adjectives from the L1 is extended to numerals under a pressure for harmony.

## POSTER SESSION I

Why Do Female Infants Say More Words? An Input/Output Analysis of Talking Status and Gender

> Shannon Dailey (Duke University) Elika Bergelson (Duke University)

Gender differences in language abilities start in infancy and persist over time, yet the development of these differences, and the factors that underlie them, are poorly understood. The present study investigated whether male and female infants hear different input, as a function of their own word production and age. We combined both input and production data within a single set of infants longitudinally, spanning the typical onset of word production. 44 infants were recorded at home from 6-17 months, and child-directed and child-produced object words were analyzed. Overall, girls talked more and exhibited larger lexical diversity. However, we found no gender differences in input (types or tokens) before or after word production began, or overall. We explore the implications of our results, which suggest an under-appreciated biological component (surely paired with environmental influences) in this early gender difference in lexical development.

Is 'Dax' Singular or Plural? Preschoolers and Copulas Do Not Agree

> Benjamin Davies (Macquarie University) Nan Xu Rattanasone (Macquarie University) Tamara Schembri (Macquarie University) Katherine Demuth (Macquarie University)

Subject-verb agreement can resolve ambiguity (the lox/locks (is/are) sold out), and can help learners understand new words with ambiguous forms (the dax is sharp vs. the dax are empty). English-acquiring 24-month-olds can better comprehend novel noun number with both copula (is/are) and determiner (a/ some) agreement (e.g., there are some blickets!), yet it is not known what role copula agreement alone plays. In a forced choice task, 116 3- to 5-year-olds were tested on their ability to disambiguate novel word number across three conditions: Multiple cues (noun morphology plus copula agreement: where is/are the dup/s?); Nominal cue (noun morphology only: find the tep/s); and Verbal cue (copula agreement with ambiguous /ks/-final noun morphology: where is/are the dax). The results showed children largely ignored copula agreement, and interpreted ambiguous nouns such as dax as plural. These results raise questions about what roles agreement and morphological marking play in early sentence comprehension.

#### POSTER SESSION I

Understanding the effects of dialect familiarity on lexical processing efficiency in preschool children using the visual world paradigm

Michelle Erskine (University of Maryland) Tristan Mahr (University of Wisconsin-Madison) Jan Edwards (University of Maryland)

Successful language learning relies on children's ability to recognize familiar words quickly and accurately. Children who speak a nonmainstream dialect at home experience the added challenge of recognizing words in both their familiar home dialect and the unfamiliar school dialect when they begin school. This study used the visual world paradigm to evaluate the effect of dialect familiarity on spoken word recognition in young children who spoke either a nonmainstream dialect of English, African American English (AAE), or a mainstream dialect of English, General American English (GAE). Our results suggest children, as early as age 4, have flexible representations and can reliably adapt to some forms of linguistic variation such as dialect. This result was consistently observed for preschool children who were speakers of AAE, who have some experience with GAE, as well as for children who speak GAE, who have very little or no experience with AAE.

#### POSTER SESSION I

An ERP investigation of domain-specificity: Clause-edge recursion in native and nonnative French

Laurent Dekydtspotter (Indiana University) Charlene Gilbert (Indiana University) A. Kate Miller (Indiana University Purdue University Indianapolis) Mike Inverson (Indiana University) Kyle Swanson (Indiana University) Tania Leal (University of Nevada, Reno) Isaiah Innis (Indiana University)

ERP correlates of anaphora resolution linked to the presentation of complementizer que 'that' in wh-movement are discussed in NSs and NNSs of French. Moved wh-expressions included nouncomplements and NP-modifiers. Complements, but not modifiers, involve re-representation across phases (Chomsky, 1995). Twentytwo NNSs and twenty-four NSs read stimuli including 100 experimental items presented in randomized blocks, at 550ms per word, each word appearing for 300ms followed by a 250ms blank slide. Subjects responded to comprehension questions after 2/3 of stimuli. ERPs were analyzed at 250-350ms (for parse generation) and 450-550ms (for parse maintenance). Whole-head statistical analyses with FDR protection revealed broad left-hemisphere negativities for anaphora with noun-complements relative to modifiers at 250-350ms spreading at 450-550ms (10 NSs, 10 NNSs) or bilateral centroparietal positivities at 250-350ms, left-hemisphere dominant at 450-550ms (14 NSs, 12 NNSs). There was no statistical role for NS/NNS status. This suggests similarities between NSs and NNSs for core language properties.

Notes

English past tense learning: 16-month-olds know the rule

#### Megan Figueroa (University of Arizona) LouAnn Gerken (University of Arizona)

Children around 3;0 have been observed to go through a stage of overgeneralization—producing \*'breaked' instead of 'broke'. Does this phenomenon reflect a change in children's generalizations about the past tense morpheme '-ed'? Given children's early grammatical abilities in receptive language, it is possible that children generalize about verbs and the morphemes that attach to them before production of overregularizations. Across two experiments with 16-month-olds, children preferred previously unheard forms like \*'breaked' to either nonce verbs or nouns + '-ed', suggesting relatively early tacit knowledge that '-ed' applies to English verbs.

We explore the possibility that overregularizations are an epiphenomenon of how production data have been aggregated and that the small number of regressions to overregularized forms reflects constraints on language production, particularly on phonotactics. We provide a proposed timeline for the development of sensitivity to past tense morphology and its use in production.

Notes

#### POSTER SESSION I

For toddlers, like adults, vowel mispronunciations are readily detected but do little to impede lexical access

#### Lauren Franklin (Brown University) James Morgan (Brown University)

The current work explores toddlers' sensitivities to vowel mispronunciations and compares these to adults' sensitivities. Recent work has shown that for adults, vowels and consonants do not play symmetric roles: adults appear to detect vowel mispronunciations earlier than consonant mispronunciations, but vowel mispronunciations have less effect on lexical access. Twenty-four nineteen-month-olds were presented with displays containing one familiar and one novel object. In test conditions, toddlers heard the name of the familiar object either correctly pronounced or mispronounced by one, two, or three phonological dimensions (height, backness, and roundedness) in positiveaffect infant-directed speech. Looking was recorded using a remote eye-tracker, and proportion of looking time to target was computed as time fixating on the target image divided by the time fixating anywhere on the screen. Toddlers and adults are similarly sensitive to vowel (mis)pronunciations, but in general vowel mispronunciations do not alter word recognition.

#### POSTER SESSION I

Can personality traits explain the mismatch between L2 selfassessments and actual L2 ability?

#### Caitlin Gaffney (University of Toronto)

This presentation explores the extent to which a personality trait, extraversion, can explain variability observed in 47 learners' self-assessed L2 French vocabulary. We predicted a significant effect since extraverted learners are more assertive, enthusiastic (Hirsh & Peterson, 2008), and experience a higher sense of personal accomplishment (Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003) than their more cautious (Dewaele, 2002), introverted counterparts. A hierarchical regression revealed that after accounting for objectively measured vocabulary (via a Vocabulary Levels Test), extraversion (measured using the Big Five Aspect Scales test) proved to be a significant predictor, explaining 13% of the variance in selfassessments of vocabulary (p < .05). Furthermore, the regression analysis demonstrated that VLT scores did not have significant partial effects in the two-predictor model, highlighting the need to reconsider self-assessment as a proficiency indicator as variables aside from L2 ability (e.g., personality) play a significant role in determining them.

Discrimination and Generalization of Emotional Prosody in Autism Spectrum Disorder

Naomi Gaggi (College of Staten Island, CUNY) Patricia Brooks (College of Staten Island, CUNY; CUNY Graduate Center) Bertram Ploog (College of Staten Island, CUNY; CUNY Graduate Center)

This study used a discrimination task, embedded in a custommade videogame, to explore attention to lexical content and emotional prosody of spoken sentences in youth with Autism Spectrum Disorder (ASD). Youth (N=13, range 7y; 1m-21y; 3m, 6 verbal, 7 nonverbal) exhibited a lack of attention to emotional prosody relative to lexical content, as evidenced by poor performance on test trials requiring them to distinguish target sentences from foils differing only in emotional tone-ofvoice. In contrast, they exhibited no difficulties in generalizing content and prosodic features of spoken sentences to a voice of opposite gender. The findings of intact generalization contradict widespread views of atypical generalization in ASD, suggesting the need for future research to test for generalization under varying task demands. The utility of the videogame for testing verbal and nonverbal individuals with ASD suggests potential therapeutic applications as a method of rewarding attention to emotional cues in speech.

#### POSTER SESSION I

A closer look at causation in L2 Spanish psych verbs

Becky Halloran (Indiana University)

While all Class II Spanish psych verbs are causatives, this research proposes a distinction between internal and external causation which is attributed to a [+/-control] feature associated either with the subject (external control verbs, e.g. sorprender 'to surprise') or the object (internal control verbs, e.g. aburrir 'to bore'). This difference has syntactic consequences which are manifested in the following pattern: external causation verbs allow the eventive passive, but not the 'ponerse + adjective' construction, while internal causation verbs display the inverse pattern. Four groups of L1 English/L2 Spanish speakers and a group of NSs completed a written contextual acceptability judgment task containing 12 verbs in the syntactic configurations mentioned above. NSs made distinctions consistent with this analysis; L2 learners displayed evidence of development as proficiency increases, indicating sensitivity to universal semantic features that determine argument structure possibilities and the possibility of convergence on the target grammar.

#### POSTER SESSION I

Lexical Development across Young Deaf Homesigners in Peru

#### Sara Goico (University of California, San Diego) Rachel Mayberry (University of California, San Diego)

Research on language acquisition has demonstrated the importance of lexical development to enable grammatical development. It is unclear, however, how lexical development proceeds in the absence of linguistic input. Homesigns, the idiosyncratic gestural systems developed by deaf individuals without access to a conventional language, provide the unique opportunity to investigate such an inquiry. Little is known, however, about the homesign lexicon. Researchers note that the pointing gestures of young homesigners are used with the same frequency as children acquiring language use words to refer to nominal categories. Nevertheless, there has been no research detailing how the homesign lexicon develops over time. In this study, we explore the lexicons of young homesigners to understand the role of language exposure on lexical development and the concepts that arise even with limited linguistic input.

Notes

Biased distributions in dialogs do not shape verb learning

#### Mina Hirzel (University of Maryland) Aaron White (Johns Hopkins) Jeffrey Lidz (University of Maryland)

Infants can learn about a verb's transitivity on the basis of brief dialogs. Moreover, infants can use their knowledge of verb distribution to anticipate syntactic structure. In this experiment, we put these abilities together and ask whether the transitivity information acquired in a brief dialog can feed forward to drive on-line parsing behavior and word learning. We show (a) that infants can use the syntactic environment of a novel noun to infer its meaning but (b) that this ability is not affected by the verb's likelihood to take a direct object in the dialog.

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#### POSTER SESSION I

Processing Information Focus in Spanish Monolinguals and Yucatec Maya/Spanish Bilinguals

#### Bradley Hoot (DePaul University) Tania Leal (University of Nevada, Reno)

The syntax-discourse interface has been claimed to be the locus of special vulnerability for bilinguals, but the source of this vulnerability is debated, with some influential accounts pointing to processing as the root cause. The present study tests competing accounts of interface vulnerability by examining the offline representation and online processing of one syntaxdiscourse interface construction: information focus in Spanish. Two tasks-an offline forced-choice task and an online selfpaced reading task-were conducted with Mexican Spanish monolinguals and Yucatec Maya/Spanish bilinguals. Results reveal that participants are able to process contextual felicity in real time, and the groups are similar in both processing and judgments, challenging the notion that syntax-discourse interface constructions are the locus of special difficulty for bilinguals due to processing differences between monolinguals and bilinguals.

#### POSTER SESSION I

Consistency is key: Repetition versus variability in a novel verb-learning task

Sabrina Horvath (Boston University) Sudha Arunachalam (Boston University)

A verb's linguistic context can support or hinder children's acquisition of its meaning. In prior work, novel verbs were learned better when flanked by content nouns than pronouns (e.g., Arunachalam and Waxman, 2011), but pronouns support other aspects of learning (e.g., Childers & Tomasello, 2001). Because variability in exemplars generally benefits learning, we asked if hearing both context types would be better than content nouns alone. Two-year-olds heard novel verbs either with only content nouns (Constant Condition, e.g., The girl is pilking the cup, The girl pilked the cup) or with both content nouns and pronouns (Varied Condition, e.g., The girl is pilking the cup, She pilked it), and were tested on whether they had learned their meanings. Children preferred the target in the Constant Condition compared to the Varied Condition. This suggests that in verb acquisition, the benefit of content nouns overrides the benefit of variability.

Doing away with defaults: The parametric gradient hypothesis

Katherine Howitt (The Graduate Center, CUNY) Meredith Lancaster (Hunter College) William Sakas (Hunter College; the Graduate Center, CUNY)

Adopting a P&P framework, we propose that parameter values exist on a gradient confidence scale. One binary value of a parameter gains or loses cogency through exposure to sentences that reveal specific linguistic features of the child's environment. We simulate a No Defaults Learner (NDL) on languages in the CUNY-CoLAG Domain. CoLAG is an artificial language domain generated by 13 syntactic parameters that contains phenomena typical of child-directed speech. A significant aspect of our parametric gradient hypothesis is that parameters can incrementally encode indirect negative evidence. Unlike other learners (e.g. Bayesian), the NDL couples the rejection of defaults with the use of 'e-triggers' combining both statistical and structure-driven learning to create a psychologically plausible model. Our hypothesis offers a theoretically compelling way to model an individual's syntactic competence and can further be used to simulate group consistency, differences in idiolect, and the effects of language contact.

#### POSTER SESSION I

English and Spanish speakers' interpretations of L2 Chinese Double Object Constructions

> Yuhsin Huang (University of Cambridge) Boping Yuan (University of Cambridge)

This study investigates the L2 acquisition of the Chinese Sourceand Possessor-Double Object Constructions (DOC) by speakers of English and Spanish, with a focus on testing Yuan's (2014) Dormant Features Hypothesis (DFH). According to the DFH, it is hypothesized that L1-English and L1-Spanish properties which are absent in Chinese, such as the Goal-DOC, are likely to lose vigour and become dormant because no evidence in the L2 input confirms or disconfirms them. The dormant status may lead to learners' random behaviours in L2 interpretation. This hypothesis is tested in an Acceptability Judgment Task (AJT) and an Animation Matching Task (AMT). Both results converge and confirm the DFH. That is, while the Source- and Possessor-DOC remain active in Spanish speakers' L2 as a result of available positive evidence, the Goal-DOC becomes dormant. They are found to behave randomly when interpreting this construction. These random behaviours are also observed in English speakers' interpretations of the Goal-DOC.

#### POSTER SESSION I

L1 transfer effects in L2 acquisition of the causative alternation: Asymmetric learning potential in a novel-verb paradigm

Yi Ting Huang (University of Maryland, College Park) Mary Bounds (University of Maryland College Park) Yuichi Suzuki (Kanagawa University)

Acquiring argument structure involves tracking distributional evidence, but less is known about how this process is shaped by knowledge of event semantics and existing verbs. To examine these effects, English and Japanese speakers saw events paired with novel verbs embedded in frames and rated descriptions for new scenes. In the Japanese-like familiarization, events with prototypically internal agents (die) appeared with transitives and intransitives, generating no syn-tactic preference during test. However, in the English-like familiarization, events occurred with intransitives only, and generated a stronger intransitive preference in English compared to Japanese speakers. This demonstrates that distributional evidence is interpreted via existing verb patterns. Events with external agents (rock) always occurred with both frames, but a spurious preference for transitives emerged in the Japanese-like familiarization. This suggests that salient semantic differences motive a bias for corresponding syntactic distinctions. Together, this demonstrates that current and prior experiences influence how distributional cues are assessed.

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#### POSTER SESSION I

Children's sensitivity to abstract event structure

#### Yue Ji (University of Delaware) Anna Papafragou (University of Delaware)

In linguistic theory, bounded events include an inherent endpoint; unbounded events do not. Canonically, bounded events are encoded by telic VPs (eat a pretzel) and unbounded events by atelic VPs (eat pretzels). Here we explore how language and cognition connect in representing the abstract property of boundedness. In Experiment 1, 4-to-5-year-old children and adults were exposed to videos of bounded and unbounded events and had to learn the corresponding event categories. Both children and adults were better at forming the category of bounded events than that of unbounded events. In Experiment 2, children of the same age and adults described the videos used in Experiment 1. Both children and adults gave more target descriptions for bounded than for unbounded events. Our results suggest a parallel between language and cognition in representing abstract event structure. Furthermore, in both cognition and language, bounded events are encoded more precisely compared to unbounded events.

Notes

Epistemic reasoning during conversational inferences

#### Alyssa Kampa (University of Delaware) Anna Papafragou (University of Delaware)

Recent evidence has indicated that adults derive scalar implicatures according to the epistemic state of the speaker. Two studies have investigated the epistemic step in implicature derivation with children; both found that 5-year-olds had some degree of success, but 4-year-olds failed (Papafragou et al., in press; Hochstein et al. 2016). In the present study, preschoolers were administered a simple linguistic task inspired by referential communication paradigms. In this experiment, 5-year-olds were found to be adult-like in incorporating speaker knowledge into the derivation of scalar implicatures, and 4-year-olds were found to be significantly different from chance. A follow-up non-linguistic study found that this ability did not extend to non-linguistic stimuli for 4-year-olds, possibly due to the exhausitivity requirements of the task or the relative ease of computing linguistic, as opposed to pictorial, alternatives.

#### POSTER SESSION I

Modeling Representational Constraints in Word Segmentation

#### Jordan Kodner (University of Pennsylvania)

Computational models of word segmentation often focus on purely distributional cues and report divergent performance on various languages. However, accumulated evidence in the developmental literature points to structural cues, for example stress position, word minimality, and prosodic cues, as well in the process of segmentation. We study the varied impact of word well-formedness cues on performance for English, Spanish, French, and Japanese. Given a syllable-based segmentation baseline, we study the marginal improvements provided by each of the above structural cues for each language. While the English and French baselines are quite good, the Spanish and Japanese baselines are much weaker. We demonstrate that performance both converges and improves with an algorithmic model taking structural cues into account and that cues which appear critical for some languages provide little or no benefit to others.

The acquisition of French ambiguous embedded structures introduced by 'ce que'

#### Ingrid Konrad (Université Paris Diderot) Yair Haendler (Université Paris Diderot) Caterina Donati (Université Paris Diderot)

Our study focuses on the acquisition of clauses introduced by 'ce que' in French. These ambiguous structures can be either relative clauses or indirect questions, like 'what'-clauses in English. We initially assume that, at least in adult grammar, 'ce que' is analyzed as a new wh-element (ska). How children deal with the double usage of 'ce que' has not been studied so far. We tested this for the first time by conducting an elicited imitation task with French-speaking children aged 3;0-6;0. Interestingly, we found that children are sensitive to the double usage of 'ce que'. In relative clauses, they correctly analyze this element as a Determiner+Complementizer. In indirect questions, they tend to replace 'ce que' with a wh-element. This seems to indicate that 'ce que' cannot play a role as a wh-element in their grammar. The implications regarding the nature of 'ce que' and children's knowledge thereof are discussed.

#### POSTER SESSION I

Individual Differences in Infants' Long-Distance Dependency Learning

#### Jill Lany (University of Notre Dame) Amber Shoaib (University of Notre Dame)

There is considerable controversy over whether tasks assessing statistical learning in artificial languages can tell us about how infants learn the grammar of their native language(s). We addressed this question by testing whether infants' performance on an artificial-language task assessing sensitivity to longdistance statistical dependencies (LDDs) at 15 months predicts sensitivity to native-language LDDs at 18 months. For females, LDD-learning at 15 months predicted sensitivity to nativelanguage LDDs at 18 months, and both were strongly related to their receptive language skills. However, for males the only relation to emerge was between performance on the LDDlearning at 15 months and expressive language development. Females' LDD-learning at 15 months was also predicted by how much caregivers used infant-directed speech, while males' was not. These data suggest that individual differences in performance on the artificial language-learning task reflect native language skill, and that females and males may be learning LDDs differently.

#### POSTER SESSION I

Generic language diminishes children's reliance on novel discourse information about familiar fantastical characters

Ruth Lee (University of Toronto) Craig Chambers (University of Toronto Mississauga) Patricia Ganea (University of Toronto)

Generic language implies a type of universal truth that applies to categories, and may therefore enhance the salience of information in comprehenders' mental representations of events. Using real-time eye-movement measures, we examined the effect of generic language on children's and adults' ability to use novel discourse information to interpret an unfolding story. Participants listened to brief stories while viewing pictures of familiar fantastical characters on an eye-tracker. In a non-generic language block children heard stories about an individual (e.g., 'Chloe the fairy') carrying out unusual actions (e.g., eating snow). In a generic language block, children heard that 'fairies' carry out the unusual actions. Children relied more on stored semantic and real world knowledge, and less on story information, when they heard generic language. These results suggest that when children hear generic language, they interpret novel unusual actions by familiar fantastical characters as violations of their prior story world knowledge.

Cutting up events: Children's statistical action segmentation relates to their lexical knowledge

#### Dani Levine (Temple University) Kathy Hirsh-Pasek (Temple University) Roberta Golinkoff (University of Delaware)

Does children's action segmentation relate to their vocabulary knowledge? By 7-9 months, infants segment events into units by tracking statistical regularities (Roseberry et al., 2011; Stahl et al., 2014). This study evaluates the link between children's event individuation and their vocabularies, particularly for words with relational referents like verbs. Three-year-olds were presented with a statistical sequence of dynamic human body actions in an action segmentation task. They were later tested for their ability to distinguish statistically consistent units from statistically inconsistent non-units. Children also completed assessments of vocabulary, language process and syntax, and nonverbal spatial working memory. Results indicate that children's action segmentation performance uniquely relates to their vocabulary knowledge after accounting for age, nonverbal intelligence, and linguistic processes and syntax. This finding parallels links between speech segmentation and lexical development and suggests a potential role of event segmentation in vocabulary acquisition.

Notes

#### POSTER SESSION 1

Infants' learning of embedded regularities in multi-speaker environments

#### Casey Lew-Williams (Princeton University) Christine Potter (Princeton University)

Infants have been shown to be adept at discovering structure, but past studies have employed deterministic input from a single source, underestimating the challenge of real-world experience, particularly for bilinguals. We tested whether infants would better discover embedded regularities when structured information was consistently paired with a particular speaker. Infants encountered linguistic input from two speakers (one female, one male). 50% of the input followed a pattern (Target stream); the other 50% had no learnable structure (Nontarget stream). The streams were intermixed and presented in alternation. In Study 1, the female speaker produced the Target stream, while the male produced the Non-target stream. In Study 2, each speaker produced half of each stream. Infants successfully learned the regularities in both simulated bilingual environments. Thus, infants can discover patterns when presented with noisier input than has previously been demonstrated, highlighting their ability to adapt to complex auditory and social environments.

#### POSTER SESSION I

The Acquisition of the Mandarin Lian...dou Construction by L1 Children

#### Pengfei Li (Boston University)

The Mandarin *lian...dou* construction in one context is equivalent to English "even" and has two implicatures: the existential implicature (that alternatives exist) and the scalar implicature (that the mentioned alternative is the least likely). But in another context, *lian...dou* only triggers the existential implicature. Two experiments were conducted to investigate 4to 6-year-old children's knowledge of *lian...dou* in these two contexts. The findings of experiment 1 showed that in the twoimplicature context children by 6 years old still did not have adult-like ability to compute either implicature, though their performance in the existential implicature was significantly better. The findings of experiment 2 showed that in the oneimplicature context children by 5 years old already had adultlike ability to compute the existential implicature. We provide three reasons to explain why children could understand the existential implicature better in the one-implicature context: task type, processing load, and lexical complexity of *lian...dou*.

#### ASL-IPSyn: A new measure of grammatical development

#### Diane Lillo-Martin (University of Connecticut) Corina Goodwin (Haskins Laboratories) Lee Prunier (Haskins Laboratories)

We introduce an American Sign Language (ASL) version of the Index of Productive Syntax, IPSyn, originally devised for English by Scarborough (1990). IPSyn measures morphosyntactic complexity in 2- to 4-year-old children's natural language production. There is a clear need for an ASL-IPSyn, as very few instruments exist for measuring ASL development. We used the English IPSyn as a guide in the development of ASL-IPSyn, substituting ASL-specific grammatical components. The current version of our list has 19 Verb Phrase, 17 Noun Phrase, 22 Sentence Structure, and 8 Depicting Sign items. We will refine and reduce the number of items when we complete the scoring of our current longitudinal and crosssectional samples from native signers, and then reorder the items by order of appearance in the samples. We plan to make the full version available to interested members of the audience.

#### POSTER SESSION I

Age of acquisition effects on signers' use of depiction

#### Jenny Lu (University of Chicago) Susan Goldin-Meadow (University of Chicago)

Age of acquisition (AoA) has been shown to affect signers' ability to combine morphemes (Supalla, 1982). Here we ask whether AoA affects signers' ability to gradiently modify morphemes. We analyzed early (n=9; Mage=1;9) and late (n=10; Mage=13) learners' descriptions of the shape and size of objects. Early learners often produced tracing depicting constructions (DCs) along with mouth movements conveying the same gradient information (e.g., tracing 3 bumps while puffing cheeks 3 times). Compared to early learners, late learners produced fewer DCs with tracing movements (although the same number of static DCs) and fewer mouth movements. However, both groups performed equally well on a test of derivational morphology. Late exposure to language can thus affect signers' ability to gradiently modify linguistic forms even when it has no effect on their ability to add a derivational morpheme to a stem.

#### POSTER SESSION I

Syntactic processing and word learning with a degraded auditory signal

Isabel Martin (University of Maryland) Matthew Goupell (University of Maryland) Yi Ting Huang (University of Maryland, College Park)

Relative to normal-hearing (NH) peers, children with cochlear implants (CIs) face well-documented challenges with language comprehension due to acoustic degradation of the speech signal. Yet, little is known about how signal degradation impacts the strategies of calculating sentence meaning in real time. To simulate the degradation associated with a CI signal, we examined syntactic parsing of active/passive sentences in NH children (Mage=5;5) listening in natural and vocoded speech. Across speech types, children accurately interpreted actives and passives in contexts where familiar NP1s did not elicit an agent-first bias (e.g., "The seal is eating/eaten by the blicket"). However, when novel NP1s elicited an agent-first bias, children had difficulties interpreting passives, particularly with vocoded speech. This demonstrates that signal degradation impairs retrieval of alternative structures during parsing, increasing challenges with revising misinterpretation. This suggests that understanding comprehension challenges in children with CIs requires models of how signal properties interact with interpretive processes.

Notes

Children ages 3-5 years use language to identify talkers

Reina Mizrahi (University of California, San Diego) Sarah Creel (University of California, San Diego)

A central question in language development is how bilingual children form separate representations of the languages they speak. The current studies address this question by testing whether English monolingual (n=32), English-Spanish bilingual (n=20), and bilinguals that speak English and another language not including Spanish (n=32) between 3- to 5-years-old children differ in their ability to associate speakers with particular languages. Participants were familiarized with 2 characters and the language each spoke (English or Spanish); then after listening to a sentence in either language participants were asked to select the character they thought said the sentence, as their eye-movements were tracked. Results suggest that while all children are above chance (p<0.001), bilingual children that comprehend the languages spoken by the characters can more readily use language as a cue for talker identification, visually fixating the target character, p=0.009. Such findings have important implications for bilingual and monolingual language representations throughout development.

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POSTER SESSION I

More Than Wordplay: An Analysis of Word-form Variability in Speech to Infants

#### Charlotte Moore (Duke University) Elika Bergelson (Duke University)

Infant-directed speech contains 'wordplay' where surface-level changes are semantically and morpho-syntactically uninformative (e.g. dog ~ doggy). To characterize the role of wordplay in speech development, we analyzed >300,000 concrete nouns collected from monthly daylong recordings of speech heard by young infants. Each noun was annotated in its surface and lemma form (e.g. surface: 'tooferoo', lemma: 'tooth').

Nouns fell into three groups: 'frozen' nouns appeared exclusively in lemma form, 'morpheme-adding-only' nouns had modifier or pluralization marking, and 'wordplay' nouns underwent uninformative surface changes. Wordplay occurred only on a small proportion of the word-types in the dataset but included most of the highest-frequency words. Relatedly, wordplay nouns were far better represented on the CDI than frozen and morpheme-adding-only nouns.

Wordplay represents little of infants' input at the type level, but disproportionately occurs in common nouns. As such, wordplay must be accounted for in theories of word-form representation and learning.

#### POSTER SESSION I

Lexical and Syntactic influences on Children's Acquisition of Verb Argument Structure: Comparing Typical Children and Children with Autism Spectrum Disorder

#### Letitia Naigles (University of Connecticut) Julie Piskin (University of Connecticut)

To what extent does verb argument structure (VAS) acquisition reflect increasing lexical vs. syntactic sophistication? We relate TD children's VAS performance with their scores on standardized tests and assess the VAS knowledge of children with ASD, whose lexical and syntactic development is often uneven. TD children and children with ASD (5-7 years) enacted 10 transitive and 10 intransitive sentences, both grammatical and ungrammatical (\*The tiger comes the camel; \*The lion takes). Enactments of the ungrammatical sentences were coded for repair (e.g., enacting the tiger comes with the camel; the lion takes something), thereby showing mature VAS. All children enacted at least 75% of the grammatical sentences correctly. Both groups repaired the ungrammatical intransitives significantly more frequently than the ungrammatical transitives. No group differences for repair emerged. TD children with higher vocabulary (but not syntax) scores repaired more consistently; in contrast, more consistent repair in the ASD group was associated with nonverbal IQ. VAS acquisition appears to proceed differently for these groups.

Developmental Changes in Spatial Semantic Categories

Bhuvana Narasimhan (University of Colorado Boulder) Jayne Williamson-Lee (University of Colorado Boulder) Norielle Adricula (University of Colorado Boulder) Caroline Good (Independent Researcher) Lukas Goetz-Weiss (University of Colorado Boulder) Katherine Zagnoli (University of Colorado Boulder)

The natural partitions theory (Gentner & Boroditsky 2009) predicts that children find it easier to acquire referential concepts (e.g., BALL) versus relational concepts (e.g. HOLD, BETWEEN). Here we examine spatial prepositions (e.g., in, on) to ask whether relational meanings also pose a learning challenge in later semantic development.

Children show early sensitivity to notions encoded by spatial prepositions (e.g., containment, support). However, early preposition use does not entail adult-like meanings and extensions. In our study, 4-year-olds, 7-year-olds, and adults described 71 scenes depicting spatial relationships. Correlational analyses were conducted to assess naming similarities between groups.

Children's categories converge early with those of adults. But category boundaries differ between groups, and adults are more likely to distribute spatial meaning between verbs and prepositions. Whereas relational meaning may pose an initial learning challenge, multiple factors (e.g., frequency, perceptual availability) are likely to mitigate the challenge of refining relational prepositional meaning.

#### POSTER SESSION I

It's hard to coerce: a unified account of Raising-Past-Experiencers and Passives in Child English

*Emma Nguyen (University of Connecticut) William Snyder (University of Connecticut)* 

Snyder & Hyams (2015) adopt an idea from Gehrke & Grillo (2009) to account for children's delay of non-actional passives: the problem is children's inability to perform "semantic coercion" that non-actional verbs require before passivization. Orfitelli (2012) finds a tight correspondence between any given child's ability to comprehend some non-actional passives and the same child's ability to comprehend raising-past-experiencers like "John seems to Mary to be nice". Yet, it is unclear how the idea of semantic coercion can extend to raising-past-experiencers.

Pinker (1989) argues the "core" of the English passive is the verb's dyad of Agent-Patient theta-roles, with counterparts in other fields, like Perceiver-Perceptum. We propose that the locus of development is the ability to coerce a theta-role like Perceiver/Possessor into Agent. If a similar type of semantic coercion is necessary for raising-past-experiencers, children are delayed with both raising-past-experiencers and non-actional passives because they are late to master semantic coercion.

#### POSTER SESSION I

Fragile phonetic contrasts in longitudinal infant-directed speech: Implications for infant speech perception

#### Chandan Narayan (York University) Andrew Peters (University of Toronto) Vanessa Woldenga-Racine (York University)

The /nV/-/nV/ contrast is acoustically fragile, exhibiting considerable overlap between tokens along perceptually relevant acoustic dimensions relative to the acoustically robust /nV/-/mV/ contrast. The development of infants' perception of /na/-/na/ in Tagalog differs from the perception of oral placeof-articulation contrasts. Does the nature of Tagalog input to infants predicts the novel perceptual development of the fragile nasal onset contrast? We examined the naturalistic infantdirected and adult-directed Tagalog of five mothers recorded approximately once a month over the course of one year. Striking patterns were revealed, with /n/ representing only 2% of NV tokens. Acoustically, the distance between infantdirected /na/ and /na/ tokens in F2 x F3 space is smaller than the distance between /na/ and /ma/. The F2 x F3 distance between / na/ and /na/ in IDS is comparable to that in the ADS, suggesting that, in general, the infant-directed articulation of the contrast is not necessarily enhanced.

Notes

#### Impermeability of L1 syntax: Spanish variable clitic placement in bilingual children

#### Pablo Requena (University of Montana) Melisa Dracos (Baylor University)

Is L1 syntax subject to transfer in simultaneous bilingual children? Elicited imitation research on Spanish variable clitic placement (VCP) in Spanish-English bilingual children has shown that transfer can occur. However, corpus data indicates the opposite. In order to fill this gap, the present study examines VCP in child bilingual acquisition through an elicited production task to answer whether simultaneous bilingualism impacts Spanish VCP preferences in children. Data from 18 English-dominant Spanish-English bilingual children (9:0-12;0) born in the U.S. to parents of Mexican origin were collected and analyzed. The results support the corpus research showing that Spanish clitic syntax is not impacted by transfer from English. Even in the context of reduced L1 (Spanish) exposure, simultaneous bilingual children access lexically encoded information on VCP preferences, which indicates that any difficulty with the activation of lexical information does not impact grammatical production of VCP.

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#### POSTER SESSION I

Predict and redirect: How prediction errors influence children's word learning

#### Tracy Reuter (Princeton University) Arielle Borovsky (Florida State University) Casey Lew-Williams (Princeton University)

Prediction-based theories claim that prediction errors promote language learning. Correlational findings support this view: Children who generate predictions tend to have larger vocabularies. Additionally, redirecting attention in response to inaccurate predictions correlates positively with children's vocabulary size. However, causal evidence linking prediction errors and language learning is currently lacking. In the present study, we tested this relation directly. We hypothesized that the extent to which prediction errors promote learning may rely on children's ability to rapidly redirect attention to encode novel information. We tested 3-5-year-old children (n=56) in a novel word learning task, using eye-tracking to measure prediction error, attention redirection, and learning. Findings indicate that prediction errors support learning if children are able to rapidly redirect attention in response to the error. This study provides a crucial test of prediction-based theories, and suggests that erroneous predictions play a mechanistic role in language learning.

#### POSTER SESSION I

Learning allophones: What input is necessary?

#### Caitlin Richter (University of Pennsylvania)

We model children's developing phoneme inventory and discovery of allophones as surface alternations accumulate in their vocabulary. The model is applied to grouping English alveolar flaps [r] as allophones of alveolar stops. Our model assumes that children initially treat contrasting surface segments as underlyingly distinct, and they learn more abstract representations only when triggered by alternations in the input. The Tolerance Principle, grounded in considerations of processing efficiency, quantitatively defines the point of sufficient motivation for the child to revise their initial grammar and posit allophonic relations between surface segments. This emphasises how cognitive cost to the learner shapes emerging phonology, in the context of their developing semantic and morphological knowledge, though phonological learning can also be sensitive to distributional information. Our model accounts for the characteristic U-shaped curve of children's productions, with stop allophones sometimes produced in obligatory flap contexts (e.g. [sotə] 'soda') after the allophonic relation is learned.

Pragmatic development predicts children's performance on the Looking While Listening (LWL) paradigm over and above receptive vocabulary and executive functions

#### Samuel Ronfard (Boston University) Ran Wei (Harvard University) Meredith Rowe (Harvard University)

The Looking While Listening paradigm (LWL) is a frequently used measure of children's real time language processing abilities. Infants who have larger vocabularies have higher processing efficiency scores on the LWL. We examined whether processing efficiency as measured by the LWL paradigm also reflects children's pragmatic understanding and executive function abilities. We tested forty 18- to 24-month-old toddlers (M=20 months, SD=2 months) on the LWL paradigm. Parents completed the MacArthur-Bates Communicative Development Inventory to report on their child's vocabulary and the Language Use Inventory to report on their child's social-pragmatic use of language. Children were tested on the Hide-the-Pots task to assess their executive functions (EF). We found that processing efficiency as measured by the LWL paradigm reflects a set of cognitive skills important for language acquisition -the ability to recognize known words, pragmatic understanding, and EF, and that when considered simultaneously the contribution of pragmatic understanding looms largest.

#### POSTER SESSION I

The Acquisition of Parametric Variation in Count Noun Modification using Numerals: Comparing Japanese and English

#### Tetsuya Sano (Meiji Gakuin University)

Cross-linguistic parametric variation exists in count noun modification using numerals (Chierchia 1998, Krifka 1995). In some languages (e.g., English), a numeral directly modifies a count noun (Direct Modification, DM). Other languages (e.g., Japanese) use classifiers: a numeral cannot directly modify a count noun, and so instead, the count noun is modified with an accompanying classifier (Indirect Modification, IM). But then, how do Japanesespeaking children come to know that DM is impossible in their target language? To answer this question, I investigated whether DM overgeneration is seen in Japanese-speaking children's spontaneous production data, and no DM overgeneration was found in my search. This observation can be explained if we assume that some innateness plays a role in avoiding this overgeneration. To be specific, the lack of DM overgeneration in Child Japanese is consistent with Chierchia's (1998) proposal that the Japanese setting is the default for the parameter in question.

#### POSTER SESSION I

The Intonational Realization of Subjects in L2 Spanish

#### Covadonga Sánchez-Alvarado (University of Massachusetts Amherst)

This study explores the L2 acquisition of intonation, testing the predictions from the L2 Intonation Learning theory (Mennen 2015). The realization of subject focus in L2 Spanish is examined, providing an account of the pitch categories employed by 12 American English (AE), 12 Peninsular Spanish (PS), and Spanish learners (12 abroad and 12 in the US) in utterances elicited with a question-answer pairs task. A total of 809 utterances conveying broad focus, informational and contrastive subject focus were transcribed using the ToBI systems for AE and PS. Results suggest that while learners are able to incorporate pitch categories from the target language (L+<H\* in broad focus contexts), they may overgeneralize its use to infelicitous contexts (informational subject focus). Sufficiently similar categories (L+H\*) are successfully transferred to the L2 grammar to convey contrastive focus. Nonetheless, learners show great levels of variability and little differences as a result of their experience abroad.

Notes

Phonological spell-out of Spanish/English word internal codeswitching

#### Sara Stefanich (The University of Illinois at Chicago) Jennifer Cabrelli Amaro (University of Illinois at Chicago)

This paper tests the claim that a code-switched word (i.e. a word comprised of morphological elements from two languages) a) cannot contain phonological elements from two languages (MacSwan & Colina, 2014) and b) will evidence the phonology of the language of the affixes (López et al., 2017). Eighteen early Spanish/English code-switchers participated in a production task in which they produced code-switched nonce verbs with English roots and Spanish affixes. Each English root contained /z/, which is phonemic in English but not in Spanish. As such, [z] was predicted not to surface in the root of the codeswitched word. Results show that participants that produce [z] in a Spanish voicing assimilation context in Spanish produce [z] in the code-switched word, while participants that do not produce [z] in such a context, produce [s] in the code-switched word. This finding thus lends empirical support to the proposed ban on intra-word phonological switches.

#### POSTER SESSION I

When is a part (not) as good as a whole: Factors affecting object individuation in non-counting and counting tasks

#### Kristen Syrett (Rutgers, The State University of New Jersey - New Brunswick)

#### Athulya Aravind (Massachusetts Institute of Technology)

Previous work has revealed that when faced with a display with whole and partial objects and asked about the number of objects, children (unlike adults) often count each discrete spatiotemporally-delimited entity (even partials). This pattern may suggest a conceptual shift in the treatment of count nouns as sortals, mapping onto individuable entities, but more recent papers have suggested pragmatic explanations linked to the generation of alternatives. We present two experiments that together show (a) children distinguish between partial and whole objects when a speaker's intention/goal is explicit, and (b) even adults include partial objects in their count, but their counting is affected by the speaker's intention/goal and type of object split. The results support a view of count nouns as inherently, semantically vague, requiring additional, context-specific information to precisify their interpretation and establish what constitutes a suitable referent/ category member. Children differ from adults in their appeal to this contextual information.

#### POSTER SESSION I

Language dominance and bilingualism: Insights from relative clause attachment ambiguities

Elena Valenzuela (University of Ottawa) Raquel Llama (University of Ottawa) Jerome Simon (University of Ottawa)

Monolinguals and bilinguals differ in how they resolve ambiguities in relative clause attachment. Although English and French allow speakers to attach the RC to either NP (NP1 or NP2), in English the tendency is for low attachment whereas in French monolingual speakers tend to prefer high attachment. For bilinguals, however, previous studies argue that language dominance and exposure play the most important role in determining the parsing strategy of the speaker. In our study we tested two groups of bilinguals (French/ English living in English dominant environment and French/ English living in French dominant environment) on their parsing strategies for monolingual and code-switched RCs. Results suggest a sensitivity to direction of the language switch for the English dominant group with a preference for low attachment. The French dominant group had indeterminate parsing strategies across the board. The latter may suggest an emerging dialect from prolonged language contact with English.

Notes

A New Test of One-to-One Matching Between Arguments and Participants in Verb Learning

Alexander Williams (University of Maryland) Laurel Perkins (University of Maryland) Angela Xiaoxue He (Boston University) Sigríður Björnsdóttir (University of Tromsö - The Arctic University of Norway) Jeffrey Lidz (University of Maryland)

On one verb learning hypothesis, children expect the number of arguments in a clause to match one-to-one the participants in their view of an event it describes: henceforth "Participant-to-Argument Matching" (e.g. Naigles, 1990). A child who hears a new verb in a transitive or intransitive clause may thus infer whether it describes an event perceived with 2 or 1 participants. However, previous preferential looking studies have found inconclusive evidence that children use this strategy with intransitive sentences. To control for possible methodological confounds, we introduce a new "Violation of Fit" method to test the fit between a sentence and a scene. We find that 19-to-22-month-olds familiarized to a 2-participant KNOCK-OVER scene were later surprised to hear an intransitive description, compared to a transitive description. Further investigation is needed to determine whether this behavior is due to Participantto-Argument Matching or to a more specific learning strategy.

#### POSTER SESSION I

The Person Asymmetry in Agreement in "What BE...?" Questions in English

Rong Yin (University of Massachusetts Amherst)

It has been reported in the literature that English-speaking children say sentences like "What is these?", "What's you doing?" (cf. Menyuk 1969; Radford 1990, 1996; O'Grady 1997; and Clark 2003), while "are/'re" are used in English-speaking adult language (i.e., "What are these?", "What're you doing?"). I first present new data that shows a person asymmetry in the usage of 3rd person singular agreement in "What BE...?" questions (e.g., "What is they doing over there?") in present tense from a corpus study, in which I examined all the English-North American data in the CHILDES database. I suggest an analysis to show how a syntactic mechanism could explain the person asymmetry, assuming a generative framework.

#### POSTER SESSION I

L1 Influence on L2 English Telicity Judgment with Object NPs

#### Mien-Jen Wu (University of Illinois at Urbana-Champaign)

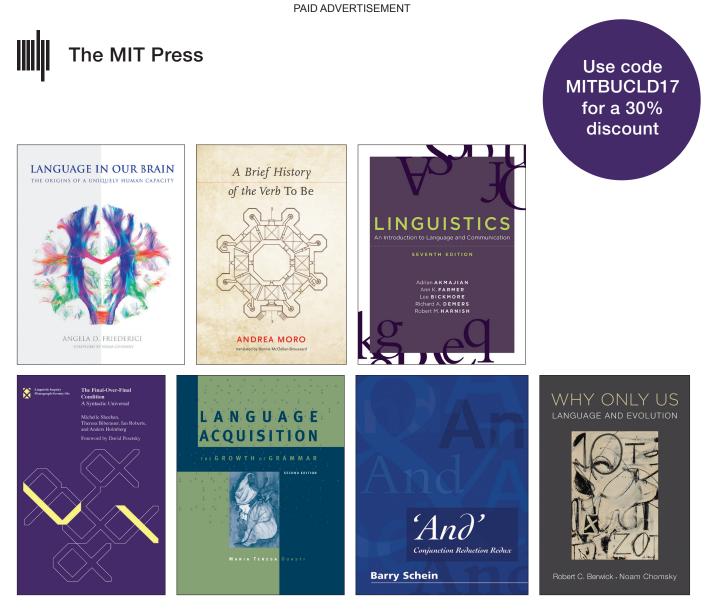
The form of English object NPs can influence the telicity of VP: "drew the pictures" denotes a telic event while "drew pictures" denotes an atelic one. Since Chinese does not have articles, L1-Chinese L2-English learners may not distinguish between "drew the pictures" and "drew pictures". To test for L1 transfer, an acceptability judgment task was implemented, which used the diagnostic proposed by Dowty (1979) and Krifka (1992): telic VPs are more compatible with "in" adverbials, while atelic ones are more compatible with "for" adverbials. Analyses showed that there was no effect of NP form on learners' judgment, and they also rated items with "for" adverbials significantly higher than those with "in" adverbials. The results indicated possible effect of L1 transfer, and learners' preference for "for" adverbials over "in" adverbials may be because a VP with a bare NP object is preferentially interpreted as atelic in Chinese.

#### POSTER SESSION I

The development of metonymic processing as the growth of context construal ability

Muye Zhang (Yale University) Maria Mercedes Piñango (Yale University) Kathryn Davidson (Harvard University)

We investigate the developmental trajectory (ages 5-12) of systematic/circumstantial metonymy processing. SM/CM share an underlying stand-for relation between the explicit entity and an implicit one, but differ in degree of contextual support needed. We hypothesize that children's previously reported comprehension "difficulties" result from an immature ability to construe, in real-time, novel contexts which license the relation. This licensing-context-construal ability relies on independent, non-linguistic developmental constraints (depends on experience and thus grows over time), predicting an age-accuracy interaction whereby CM comprehension develops slower than SM. Through self-paced reading and context-elicitation studies, we conclude that children can comprehend metonymy from an early age. Yet, comprehension is constrained by their ability to build context (subject to maturation). These findings support a model where contextualization is the induction of situations providing required participant-roles. The experience-dependent availability of situations in semantic memory is the developmental constraint for children's ability to construe a metonymy-licensing context.



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SES Differences in the Structure of Child-directed Speech

#### Shira Tal (Hebrew University of Jerusalem) Inbal Arnon (Hebrew University of Jerusalem)

One of the key findings in the literature on language acquisition is that socio-economic status (SES) impacts the amount and type of input children receive in ways that have developmental consequences. In this study, we ask if SES also impacts the structural organization of children's input. Specifically, we examine the effect of SES on the use of variation sets (successive utterances with partial self-repetitions) in child-directed speech (CDS). Variation sets have been found to facilitate language learning, but have been studied only in high SES. Here, we examine the use of variation sets in naturalistic speech in two languages (Hebrew and English) for both low and high SES. We find that variation sets are more frequent in high SES compared to low SES in both languages. These findings show that SES impacts not only global measures (like the number of words) but also structural properties of CDS.

#### Session C--Terrace Lounge

An Ergative Intervention in Heritage Samoan

Grant Muagututia (University of Hawai'i at Mānoa) Kamil Deen (University of Hawai'i at Mānoa) William O'Grady (University of Hawai'i at Mānoa)

What little research there is on ergativity in heritage speakers shows ergativity to be fragile and often lacking entirely (Schmidt, 1985; Montrul et al., 2012). This paper shows that heritage speakers rarely exhibit ergative features in Samoan, but that after a targeted intervention (i) morphological and syntactic ergativity are recovered, (ii) maintained to a delayed posttest, and (iii) generalized to patterns not in the intervention.

Participants were administered a (i) pretest, (ii) intervention, (iii) post-test and (iv) delayed post-test, eliciting relative clauses and wh-questions. In the intervention (ii), participants heard recasts, imitations, and prosodic emphasis of ergative patterns.

Initially, participants rarely showed evidence of ergativity. Following the intervention, not only did ergative features increase, they did so in constructions that were not part of the intervention, suggesting that a general pattern of ergativity had been acquired. The implications for language maintenance, as well as the Permanence Hypothesis (Benmamoun, et.al, 2012) are discussed.

#### Session B--Conference Auditorium

A rabbit by any other name: Lexical alignment in preschoolers' dialogue

#### Zoe Hopkins (University of Edinburgh) Holly Branigan (University of Edinburgh) Laura Lindsay (University of Edinburgh)

Young children prefer to consistently use one name when referring to a particular object (mutual exclusivity), even though many objects have more than one possible name (e.g., rabbit vs bunny) – yet we know that adults change their referential expressions depending on a partner's usage, tending to align (entrain) on whichever name a partner has previously used, perhaps reflecting perspective-taking, priming, or affiliation goals. Across three experiments, we examined whether typically-developing preschoolers also adapt their referential choices in response to a partner's usage, during a picture-naming game. Consistent with adult studies, children adapted to a partner's referential precedents, even when these conflicted with their own default preferences. Children's alignment was not significantly affected by the existence of an affiliation goal. Our results suggest that children's referential choices are underpinned by priming and/or perspectivetaking mechanisms, and show that preschoolers are sensitive to, and adapt to, referential precedents in their own language production.

Notes	

Simple Sentences aren't all the Same: Variation in Input and Acquisition

Matthew Rispoli (University of Illinois at Urbana–Champaign) Pamela Hadley (University of Illinois at Urbana–Champaign) Hannah Simmons (University of Illinois)

This study investigated the contribution of sentence diversity (i.e., the number of unique subject-verb combinations) in parent input on children's development of simple sentences. We hypothesized that diversity in input would reduce children's later reliance on item-based combinations in language production.

Naturalistic language samples of 29 parent-toddler dyads were collected at 1;9 and 2;6. Measures of parent input at 1;9 and child language at 1;9 and 2;6 were: MLU, number of different words (NDW), subject diversity, verb diversity, and sentence diversity.

Hierarchical regression revealed that parent sentence diversity at 1;9 accounted for 18% of the variance in child sentence diversity at 2;6, after controlling for other parent and child measures.

We propose that input with a variety of subjects and verbs helps children build a more abstract representation of the clause. We suggest that structurally specific, lexical diversity facilitates the acquisition of syntax in general.

Notes

#### Session B--Conference Auditorium

Bilingual 2-Year-Olds' Code-Switching in Talk about Internal States: Filling Relative Lexical Gaps

#### Erika Hoff (Florida Atlantic University) Martha Shiro (Universidad Central de Venezuela)

The present study provides new evidence on the relation between children's vocabulary knowledge and their codeswitching in spontaneous speech. Twenty-five 2.5 year old Spanish-English bilingual children were recorded in interaction with their bilingual mothers, once under the instruction to speak only English and once under the instruction to speak only Spanish. The mothers complied, but the children did not. They codeswitched frequently. For another purpose, each child's use of internal state terms in each language had been tabulated. Here we show that the children showed asymmetries in the direction of their codeswitching within this semantic category and that these asymmetries were systematically related to the relative size of their internal state vocabularies in each language. The relative size of bilingual children's English and Spanish internal lexicons accounted for nearly 70 percent of the variance in the frequency of their use of cross-language internal state terms.

#### Session C--Terrace Lounge

The acquisition of word order variation in German embedded clauses

#### Emanuela Sanfelici (Goethe Universität, Frankfurt) Petra Schulz (Goethe Universität, Frankfurt)

This study investigates the acquisition of verb placement in German embedded clauses that allow both, verb-second (V2) and verb-final word order: complement, weil 'because', and relative clauses. Previous acquisition studies on spontaneous speech data have provided mixed results regarding children's first and preferred word order in these clauses. We designed a picture- supported delayed-imitation task to test whether children allow for alternation between verb-final and V2 in these clause-types and whether they show a preference for the same word order across clause-types. 59 monolingual Germanspeaking children (age 3-5) were tested. Children correctly repeated the verb-final variants significantly more often than the V2 structures in all three clause-types and changed V2 clauses into verb-final clauses significantly more often than vice versa. Our findings reveal a robust preference for verbfinal over V2 structures, which is in line with an economybased strategy that in case of variation in the ambient language favors the underspecified value.

Look Who's Talking: Effects of Sibling versus Maternal Input in Child L2 Acquisition

#### Tamara Sorenson Duncan (University of Alberta) Johanne Paradis (University of Alberta)

This study contrasts the effect of input from siblings - who have been argued to be fluent L2 speakers, with input from mothers - who have been argued to be less fluent L2 speakers, on children's L2 abilities. We found that siblings are effective L2 models for children into the school years. In contrast, increased L2 input from mothers offers limited support for children's L2 acquisition. The crucial factor for maternal input, was fluency. Mothers who are more fluent in the L2 have a positive impact on their children's L2 acquisition. Overall, theses results suggest that the concurrent quality of L2 input at home can make a difference to children's L2 acquisition in addition to the influence of the cumulative quantity of input at school. Additionally, our results suggest that the common practice of aggregation in home input scores might mask important differences in interlocutors' impact on L2 abilities.

#### Session C--Terrace Lounge

Before and after the acquisition of adjunct control

Juliana Gerard (Ulster University) Jeffrey Lidz (University of Maryland)

Previous research on 4-6 year-olds' interpretations of the controlled subject in adjunct clauses has observed non-adultlike behavior for (1):

(1) John\_1 called Mary\_2 after PRO\_1/\*2/\*3 walking to the store.

Several studies have aimed to identify a grammatical source of children's errors. We show that children's difficulty with adjunct control derives from an interaction between finding the controller and remembering the order of events. When we eliminate the need to remember event order, children's performance on adjunct control is significantly improved.

These results suggest that children's knowledge is adultlike, but they have difficulty deploying that knowledge in contexts with a high memory load.

#### Session B--Conference Auditorium

Could both be right? Children's prolonged metalinguistic development in understanding relative and subjective adjectives

#### Ruthe Foushee (University of California, Berkeley) Mahesh Srinivasan (University of California, Berkeley)

Understanding language requires considering both the state of the world and the perspectives of others-and knowing when each is relevant. Four experiments with 4-9.5-year-olds and adults use judgments of faultless disagreement (where neither speaker is wrong) to probe individuals' understanding of the differential subjectivity of different adjectives (e.g., absolute adjectives like "spotted," relative adjectives like "tall," and subjective adjectives like "pretty"). Adults modulate their judgments of faultless disagreement based on their knowledge of speakers' previous experiences or reference distributions: We can faultlessly disagree about what counts as a "big apartment" if we have experienced distinct distributions of apartments previously, but not if we have seen identical ones. This understanding exhibits a prolonged developmental trajectory, where even 9.5-year-olds do not permit faultless disagreement over relative and subjective adjectives at adult rates, and instead "side" with the speaker asserting their own opinion. Ongoing work seeks earlier demonstrations of competence, and explanations for its timing.

Notes


Spoken word recognition of children with cochlear implants

#### Tristan Mahr (University of Wisconsin-Madison) Jan Edwards (University of Maryland)

Children with cochlear implants (CIs) perform more poorly than normal hearing (NH) children on virtually every aspect of speech and language. While these deficits have been attributed in large part to the impoverished signal, children with CIs may also have different processing strategies because of their consistent experience of listening to an impoverished signal. We used the mispronunciation paradigm to examine processing differences in word recognition. 26 children with CIs (age: 31-66 months) were compared to NH children matched for age and sex. Children with CIs recognized one-feature mispronunciations as reliably as their NH peers, but it took them longer to look away from the familiar image. They were also slower and less reliable at recognizing highly familiar words, even in a two-image LWL paradigm. These results suggest that the impoverished signal of the CI may result in more uncertainty and longer lexical decision times, especially for ambiguous speech cues.

Notes

Session B--Conference Auditorium

The emergence of recursion: Evidence from Nicaraguan Sign Language and homesign

Annemarie Kocab (Harvard University) Ann Senghas (Barnard College of Columbia University) Marie Coppola (University of Connecticut) Jesse Snedeker (Harvard University)

Recursion is argued to be a central property of languages. We explore how recursion emerges in a new language, testing 27 deaf signers representing three age cohorts of Nicaraguan Sign Language (NSL) and four adult homesigners. In Experiment 1, we elicited relative clauses (RCs). In Experiment 2, we replicated our results and compared them to controls. NSL signers from all three cohorts produced utterances with the content of RCs. We observed shortening of the RC verb in second- and thirdcohort signers. Homesigners appeared to understand the task; however, their utterances in the Relative-Clause condition did not appear different from those in the control, non-embedded conditions. In sum, utterances with the content of RCs appeared in the first cohort, suggesting that the capacity to express recursive meanings arises as soon as children form a language community. Verb reduction as a morphosyntactic marker of embedding emerges slightly later in a new language.

#### Session C--Terrace Lounge

Interactions between number and definiteness: Vietnamese children's comprehension of definites

Ni-La Le (Michigan State University) Hannah Forsythe (Michigan State University) Cristina Schmitt (Michigan State University)

Studies on children's comprehension of definite DPs suggests that definiteness is difficult to acquire. However, most work has focused on languages with definite determiners and grammaticalized number. Vietnamese realizes number and definiteness in a different way: nouns are underspecified for both properties, addition of a classifier triggers a definite singular interpretation, and a classifier and pluralizer together trigger a definite plural interpretation.

We replicate an act-out task from Munn et al. (2006) testing comprehension of plural and singular definites by Vietnamese children ages 3 to 7. Contra results from English and Spanish, Vietnamese children make few definiteness errors, instead struggling with number. We argue that this difference arises from how children integrate number and definiteness when the task is difficult. Children acquiring languages with definite determiners and grammatical number (English, Spanish) sacrifice definiteness in favor of number, while those acquiring languages like Vietnamese prioritize definiteness, resulting in number errors.

Distractibility during speech-processing: The effects of background noise familiarity

#### Brianna McMillan (Temple University)

How do children's day-to-day experiences with regularities in their home auditory environments affect their ability to process speech-in-noise? To assess whether children are distracted by their own electronic background noise, 46 28-30 month old children were tested on their use of verb informativeness (e.g., "eat the cake" vs "find the cake") as a cue when processing speech while concurrently listening to either familiar or unfamiliar background noise. Background noise was extracted from recordings obtained of each child's home using LENA. Children who heard familiar background noise failed to take advantage of verb informativeness, indicating they were distracted by the familiar noise. These findings point to attention as a key mechanism that is manipulated by background noise.

#### Session C--Terrace Lounge

Cross-linguistic influence in online processing of indefinites in L2-English

Tania Ionin (University of Illinois at Urbana-Champaign) Sea Hee Choi (University of Illinois at Urbana-Champaign) Qiufen Liu (University of Shanghai for Science and Technology)

L2-English learners from languages without articles have difficulty with English article use, but very little is known about whether such learners' article use is subject to crosslinguistic influence from other DP-level categories in their L1. Furthermore, not much is known about learners' sensitivity to articles in processing. This study examines whether learners are sensitive to missing articles both online and offline, and tests for L1-transfer effects. We used a word-by-word selfpaced reading task and an offline grammaticality judgment task with L1-Chinese and L1-Korean L2-English learners and native English controls. We examined learners' sensitivity to missing indefinite articles in referential vs. non-referential contexts, given that Chinese, but not Korean, distinguishes these contexts with regard to the use of numeral+classifier. Preliminary results suggest that L1-transfer affects learners' ability to detect missing articles, but that this effect is visible only in online processing, not in offline judgments.

#### Session B--Conference Auditorium

Childhood language deprivation affects dorsal but not ventral white matter tracts: Evidence from late L1 learners of ASL

#### Qi Cheng (University of California, San Diego) Eric Halgren (University of California, San Diego) Rachel Mayberry (University of California, San Diego)

Previous research identified ventral and dorsal white matter tracts to be crucial for language processing, and their maturation correlates with syntactic development. Unknown is whether growth of these language-relevant pathways is solely biologically determined, or also shaped by early learning. To investigate the effects of early language deprivation on brain connectivity, we examined white matter connectivity of language-relevant pathways among adults who were born deaf with or without early access to American Sign Language. We acquired diffusion MRI data from three deaf individuals who experienced minimal language during childhood and from 12 deaf native signers. Compared with the native group, all three cases demonstrated significantly lower fractional anisotropy for the left dorsal arcuate fasciculate tract, but not for other language-relevant tracts. Our findings indicate that growth of the dorsal language pathways are not solely driven by biological maturation, but also require language acquisition during childhood.

#### SATURDAY SYMPOSIUM

#### "On links between language development and extra-linguistic cognitive knowledge: What we can learn from autism?"

"Dissociations between (morpho)syntax, pragmatics and extra-linguistic cognition" Jeanette Schaeffer University of Amsterdam

> "Syntax and Theory of Mind in Autism Spectrum Disorder" Stephanie Durrleman University of Geneva

"Working memory, TOM, and language skills in autism spectrum disorder" Inge-Marie Eigsti University of Connecticut

Autism Spectrum Disorder (ASD) is characterized by persistent deficits in social communication and social interaction. Unsurprisingly, pragmatics is a domain of significant impairment; however, some pragmatic skills are intact. Furthermore, research also indicates significant syntactic deficits even in verbally fluent individuals with age-appropriate cognitive skills. This symposium asks: *What areas of pragmatics are spared, and what areas of syntax are impaired? What are the links between syntactic and pragmatic development and domain-general processes of intelligence, working memory, and theory of mind?* Drawing on studies in Dutch, French, English and Danish, with individuals with ASD across a range of ages and cognitive levels, we discuss new research providing a unique perspective on the developmental associations among these processes. Findings reveal the degree to which the acquisition of critical language skills requires general intelligence, working memory and theory of mind, and vice versa.

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Building the Evidence: Spatial Frames of Reference in Language and Thought

#### Linda Abarbanell (San Diego State University) Peggy Li (Harvard University)

Does learning language-specific coordinate systems, or frames of reference (FoR) shape spatial cognition? In two experiments, we test 10-12 year old Tseltal (Mayan) speaking children who use a geocentric FoR in their language and do not yet know "left" and "right". In Experiment 1, we used the transitive property to reveal the relationship between three toy buildings shown two at a time across two tables separated by 180° turn. The facing orientation of the buildings was used to indicate which FoR participants should use, egocentric or geocentric, to reconstruct the array. Experiment 2 tested the children's ability to reconstruct a small-scale model of their own town plaza using either an egocentric or a geocentric FoR. In both experiments, we found no difference in the children's performance across the two conditions (p's  $\geq$  .14). These results strengthen and extend prior findings arguing against strong claims for linguistic relativity in this domain.

#### Session C--Terrace Lounge

Phrasal prosody and syntactic knowledge in infants before two years of age

#### Sarah Massicotte-Laforge (Université du Québec à Montréal) Rushen Shi (Université du Québec à Montréal)

In our previous study French-learning toddlers used prosody for syntactic analysis (Massicotte-Laforge & Shi, 2015). After hearing sentences containing all non-words (except French determiners) in two prosodic phrases, e.g., {Un<sub>Det</sub> felli crale} {vure la<sub>Det</sub> gosine}, infants discriminated test trials containing Word-3 as Noun versus as Verb in new contexts. We then asked whether infants simply analyzed local patterns (i.e., using a determiner to categorize a noun within the same prosodic phrase), without activating the larger structure [[Det+Adj+Noun]<sub>NP</sub>[Verb...]<sub>VP</sub>] s. Experiment 2 therefore presented 3-word familiarizationutterances in one prosodic phrase, e.g., {Un<sub>Det</sub> felli crale}, supporting now two syntactic structures: [Det+Noun+Verb]<sub>s</sub>, and [Det+Adj+Noun]<sub>NP</sub>. Accordingly, infants did not discriminate the same test trials, suggesting that the discrimination in Experiment 1 reflected knowledge beyond local analysis. In Experiment-3 the 3-word familiarization-utterances were produced as two prosodic phrases, {Un<sub>Det</sub> felli} {crale}, supporting unambiguously [Det+Noun+Verb]<sub>s</sub>; infants discriminated the same test trials. Altogether, infants' prosodic/distributional analyses showed sophisticated productive syntactic knowledge.

#### Session B--Conference Auditorium

Emergence of Patterned Variation in Child Homesign

#### Laura Horton (University of Chicago) Diane Brentari (University of Chicago) Susan Goldin-Meadow (University of Chicago)

Established languages have strategies to distinguish words that refer to the participants in an event (nominals) from words that refer to the event itself (predicates). Recent work on a young sign language used in Nicaragua (NSL), shows that this contrast emerges rapidly, and can be found in homesign systems, invented by deaf individuals who lack sign language input.

For our experiment, child homesigners described vignettes of objects on a table (No Agent Scenes) or a hand placing objects on a table (Agent Scenes). We analyze the consistency of handshape type (Handling-HS or Object-HS) for Labels (nominals) and Event Descriptions (predicates). Four of nine homesigners use the same handshape type for Labels, but vary the handshape type for Event Descriptions. When we analyze the variation of handshape type in Event Descriptions, we find that these participants show patterned variation, using more Handling-Handshapes in descriptions of Agent Scenes and more Object-Handshapes in descriptions of No Agent Scenes.

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PAID ADVERTISEMENT

Bottom-up cues to event segmentation: The use of audiovisual synchrony in speech to preschoolers

Federica Bulgarelli (The Pennsylvania State University) Nathan George (Adelphi University) Mary Roe (The Pennsylvania State University) Daniel Weiss (The Pennsylvania State University)

Comprehending novel actions requires learners to first segment events into discrete units. One support mechanism for this process is acoustic packaging, the alignment of action descriptions with action boundaries to increase their salience. While prevalent in infant-directed speech, reliance on audiovisual synchrony is hypothesized to decline over the course of development, though the developmental trajectory has never been studied. Consequently, we explored whether parents' acoustic packaging of events persists in speech to preschoolers. Parents were videoed while demonstrating to their children (ages 3-5) how to play with familiar and novel toys. We found action speech was significantly more aligned to action boundaries than non-action speech, though overall alignment was less synchronous relative to speech with younger infants. Our findings are the first to demonstrate that acoustic packaging does not entirely dissipate after word learning begins. Rather, audiovisual synchrony persists in children's learning environments, albeit with somewhat looser alignment.

#### Session C--Terrace Lounge

The role of information structure in children's comprehension of complex sentences – testing two hypotheses

Laura de Ruiter (LuCiD, University of Manchester) Elena Lieven (University of Manchester) Silke Brandt (LuCiD, Lancaster University) Anna Theakston (University of Manchester)

English allows two clause-orders for complex adverbial clause sentences such as Before he eats a pear, he drinks some water vs. He drinks some water before he eats a pear. We tested two hypotheses about how information structure affects processing through systematically manipulating clause-order (main-subordinate, subordinate-main), and the givenness of the clauses (main-given, subordinate-given) by providing a context sentence (e.g., Tom eats a pear). Testing 80 4- and 5-year-old children in a forced-choice paradigm, we found that children understand sentences better if they are in givenbefore-new order, but only when the given information is in the subordinate clause. We discuss the full set of results (including how performance relates to measures of memory, inhibition, vocabulary, and language ability) in connection with our findings from children's comprehension of sentences without supporting context. We argue that comprehension is best supported when clause order is chronological and sentences have typical information-structural properties.

#### Session B--Conference Auditorium

The point of it: Argument suppliance in delayed SignL2.

#### Helen Koulidobrova (Central Connecticut State University)

Research on delayed Sign language (SL) acquisition has shown that affected individuals pattern differently from TD language learners on a variety of linguistic tests. This research has also demonstrated that delayed L1 acquisition of SLs must be disassociated from L2 acquisition. In this study, we examined rates of argument omission in narratives (~100 utterances) of typically developing and language delayed deaf unimodal L2 learners of ASL (L1=EmiratiSL). Rates of argument omission correlated with proficiency scores (r=0.74.4, p=.02). The mean rate of omission was 35% (range: 30-43%), sharply contrasting with the L1 and beginner/lower-intermediate bimodal L2 ASL data reported in previous research. No effect of age of L1 acquisition was observed (p>.05). Two conclusions arise: (i) the data support the executive control account of argument suppliance effects in bilingual production (Sorace 2011, et seq.), (ii) examination of linguistic repertoire of deaf L2 learners offers a unique window into L2 processes.

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Perception of non-native tonal contrasts by Mandarin-English and English-Mandarin sequential bilinguals

#### I Lei Chan (Boston University) Charles B. Chang (Boston University)

This study examined the nature of crosslinguistic influence in perceptual acquisition of a tonal third language (L3) by testing three types of adult late sequential bilinguals (L1 Mandarin-L2 English, L1 English-L2 Mandarin, L1 English-L2 non-tonal) on two unfamiliar tonal languages (Thai, Yoruba). Results of two perception experiments (oddity discrimination, crosslinguistic tonal similarity rating) suggest that L3 tone perception is both facilitated by typological similarity of the L3 to a previously learned tonal language, and inhibited by perceptual similarity between L1/L2 tone categories and target L3 tone categories (which is correlated with reduced L3 perceptual accuracy). Further, while L3 tone perception is generally aided by previous tone language experience, L1 tonal experience yields a greater advantage than does late-acquired L2 tonal experience. Thus, both typological and perceptual similarity between a bilingual's tonal L1/L2 and the L3 tone system play a crucial role at the initial stage of L3 tone acquisition.

Notes

#### Session B--Conference Auditorium

Language learning in the face of inter-talker variation: when talker voice proves helpful

#### Kalim Gonzales (Guangdong University of Foreign Studies) LouAnn Gerken (University of Arizona) Rebecca Gomez (University of Arizona)

How do infants learn rules that not everyone follows, as when people speak different dialects or languages? Using artificial language materials, we asked whether voice characteristics distinguishing talkers might facilitate learning, and whether this depends on the learner's language background. Monolingual and bilingual 12-month-olds heard two interleaved sentence lists simulating input from two grammatically distinct talkers: One list adhered to target rules that the other violated. Critically, lists appeared in different voices or in the same voice. Target rule learning was subsequently probed by testing discrimination of the target rules from opposite rules. Supporting voice-cued learning, infants showed test discrimination only when lists had differed in voice. Interestingly, monolinguals preferred hearing the target rules (familiarity effect), whereas bilinguals preferred the opposite rules (novelty effect). Relative listening time to the latter correlated positively with second language exposure. Results are interpreted in light of infant habituation models and bilingual learning advantages.

#### Session C--Terrace Lounge

Gender Agreement and Predictive Lexical Processing in Czech 23-month-olds: Emerging Sensitivity to Bound Gender Inflections

#### Veronika Bláhová (Czech Academy of Sciences) Filip Smolík (Czech Academy of Sciences)

The study examined the early knowledge of noun gender and gender agreement in Czech. Monolingual children aged 21 to 24 months (N=34) listened to noun phrases such as "takový hezký banán/\*kniha" (such a nice banana/\*book) in which the initial two words, demonstrative and adjective, carried adjectival ending encoding the gender of the upcoming noun. In the correct trials, the gender markers on the initial words were matched with the gender of the final noun; in the ungrammatical trials, they were mismatched. While listening to the stimuli, children watched picture pairs showing the noun referent and a distractor. Children's faces were recorded and gaze direction coded off the recordings. Children were also administered offline language tests. Results show that children before 2 years can use gender information in agreement morphemes to anticipate the upcoming noun. However, this is only true about children with above-average performance on offline tests of language development.

#### Stress clash in the acquisition of Greek

#### Angeliki Athanasopoulou (University of Delaware)

Languages tend to avoid stress clashes, i.e., two consecutive stressed syllables (e.g., thirteen books). When they arise, different clash-resolution strategies may apply depending on the language. One strategy is the Rhythm Rule (RR), the reduction, or perceived movement, of one of the stresses, and the other is the insertion of space (i.e., time) between the stresses (SI). In English, where RR is the main strategy, its acquisition is not complete by age 7. Greek, however, uses SI and only to a lesser extent RR. The present study investigates the acquisition of stress-clash resolution in Greek 6-12-year-old children. The results show that Greek children do not exhibit the full adult behavior (SI and RR) before 11, showing a protracted development of stress-clash resolution. The results support that the phonological structure of prosodic patterns heavily influences their acquisition and may explain cross-linguistic similarities / differences in the acquisition of prosody.

#### Session C--Terrace Lounge

Accounting for reduced L2 gender-based anticipation: A direct test of the Lexical Gender Learning Hypothesis

Kailen Shantz (University of Illinois at Urbana-Champaign) Darren Tanner (University of Illinois at Urbana-Champaign)

Grammatical gender has been shown to ease comprehension by making nouns more predictable in context, and thus easier to recognize. Despite this benefit, late second language (L2) learners struggle to use gender in this manner. The Lexical Gender Learning Hypothesis (LGLH) proposes that learning context and unstable gender representations underlie this deficit. Our study provides the first direct test of these claims by combining an artificial language learning task with a visual world eye-tracking task to assess how learning context influences the predictive use of gender. Anticipatory eye movements are only found when trials are restricted to those with stable gender representations. Moreover, only participants who learned the artificial grammar in a manner that emulated first language acquisition showed robust anticipatory effects. These findings support the LGLH, and have important implications both for how grammatical gender is taught, and for how gender processing in an L2 is assessed.

#### Session B--Conference Auditorium

The threshold for regularization: When children will and will not regularize inconsistent language input

#### Kathryn Schuler (Georgetown University) Jaclyn Horowitz (Georgetown University) Elissa Newport (Georgetown University)

Children receiving inconsistent language input regularize these inconsistencies in their productions (Hudson Kam & Newport, 2005, 2009). Regularization occurs when the dominant form appears in at least 40% of its grammatical contexts, with other forms less frequent; but we have not investigated whether regularization occurs when the dominant form is less widespread. Here we clarify when children will and will not regularize by exposing children to artificial languages in which the dominant form occurred at a variety of input frequencies. Children did regularize when the dominant form was present in at least 40% of appropriate contexts. However, when the dominant form was present only 33% of the time, children no longer regularized; instead they produced the dominant form less than was it was presented in the input. Our results suggest that there is a threshold for regularization. We will discuss possible accounts of this phenomenon.



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#### PLENARY SESSION

### "Divide and conquer: The onset of bilingualism"

Núria Sebastián Gallés Universitat Pompeu Fabra

How different is the process of language learning in infants exposed to two languages from birth? It was not so long ago when the available evidence pointed to a delay in language learning in bilinguals. At present, a bulk of studies indicates the existence of specific adaptations to the process of language learning. In the present talk I will focus on the emergence of such adaptations during the first months of life.

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Identifying Specific Language Impairment (SLI) across Different Bilingual Populations: A German Sentence Repetition Task (SRT)

#### Lina Abed Ibrahim (University of Oldenburg) Cornelia Hamann (University of Oldenburg) David Oewerdieck (University of Oldenburg)

Bilingual children are often misdiagnosed as language impaired due to overlap phenomena in monolingual children with SLI (Mo-SLI) and typical bilinguals (Bi-TD). This study reports on the successful identification of SLI in bilinguals by a German LITMUS-SRT. In the cross-linguistic part of the task, different factors of syntactic complexity are involved: Wh-movement, subordination and intervention. We focus on the scoring measure target-structure-met, excluding lexical and systematic case errors. We investigate 13 Mo-SLIs, 10 monolingual typically developing children (Mo-TD), 11 bilingual children with SLI (Bi-SLI) and 44 Bi-TDs with Arabic/Turkish/Portuguese as L1 (5;6-9;4). Clinical status was verified using a battery of norm-referenced L1/L2 tests. Results show that the German-LITMUS-SRT clearly distinguishes Mo-SLI from Mo-TD, and BiTD from MoSLI and Bi-SLI. However, Turkish and Portuguese BiTDs performed significantly differently from Mo-TDs. Unlike typical groups, Mo-SLIs and Bi-SLIs show difficulties specifically with embedding. We explore different explanations, e.g. typological factors, length-ofexposure and language-dominance.

#### POSTER SESSION II

Semantic seed bootstraps verb categorization in 14-month-olds

Mireille Babineau (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Anne Christophe (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Rushen Shi (Université du Ouébec à Montréal)

We aimed at testing if French-learning infants can exploit previously encountered and memorized syntactic contexts related to known words to facilitate the categorization of new verbs, following the semantic seed hypothesis (Christophe et al., 2016). In a habituation paradigm, French-learning 14-montholds were familiarized with phrases containing two novel words (dase, nuve) and four known words following two pronouns (e.g., Je mange - 'I eat'; Il regarde - 'he looks'; Je nuve - 'I nuve'). In the test phase, the novel words followed a new familiar pronoun in congruent trials, and followed a determiner in incongruent trials. We found that infants discriminated the test trials, showing verb categorization at an earlier age than previously reported in the literature. The benefit associated with the semantic seed could have worked in two ways: it could be semantically-based (i.e., activation of the semantic property 'action') and/or memory-based (i.e., activation of stored sequences with different function words).

#### POSTER SESSION II

Co-Existence of Input Frequency and Structural Intervention Effects on Relative Clause Comprehension: Evidence from 3to 5-year-old German-speaking children

Flavia Adani (University of Potsdam) Maja Stegenwallner-Schütz (University of Potsdam) Talea Niesel (University of Potsdam)

The acquisition of relative clauses was investigated to test the predictions of the input frequency and the structural intervention approaches. To date, the predictions of these language acquisition theories were only tested in separate studies, using different participants and methods. In line with the input frequency approach, we found that the comprehension of frequent object relative clauses is enhanced already in threeyear-olds, but their accuracy does not increase over time. Four- and five-year-olds reveal a greater accuracy for object relative clauses that are disambiguated by number agreement, a finding that is in line with the structural intervention approach. Thus, we were able to uncover that the effects predicted by different theories co-exist and they both influence children's performance on relative clauses in a way that is modulated by age. This study highlights the importance of comparing different theoretical approaches in order to characterize the multifaceted, developmental nature of language acquisition.

Notes

Equivalency in Representation Despite Divergence in Production: Passives in Turkish Heritage Speakers' Turkish and German

Fatih Bayram (Independent Scholar) Jason Rothman (University of Reading; UiT the Arctic University of Norway) Michael Iverson (Indiana University) Tanja Kupisch (University of Konstanz) David Miller (University of Reading) Eloi Puig-Mayenco (University of Reading) Marit Westergaard (UiT The Arctic University of Norway & Norwegian University of Science and Technology)

We examine heritage speakers (HS) of Turkish in Germany at an age earlier than traditionally done in the literature to understand better when, how and why they diverge from monolinguals (age=10-15, n=22). We use an elicited production task probing for passives and test them in both Turkish and German. Beyond checking whether they have the representation of passives in their mental grammars, we endeavor to better understand the relative weight of factors (age at testing, immigration status of the parents, literacy) that potentially contribute to HSs' grammatical competence/performance. Results show that all HSs have the underlying representation for passives in both Turkish and German although production proportions in Turkish only vary from monolingual controls. Only literacy correlated in the statistical model; increased literacy in Turkish correlated with increased monolingual-like production. We discuss these results pertaining to ultimate attainment outcomes in HSs in relation to larger debates in the field.

Notes

#### POSTER SESSION II

Toddlers interpret common and infrequent child mispronunciations differently

#### Dana Bernier (University of Waterloo) Katherine White (University of Waterloo)

Most work on children's language processing presents adult speech. However, language learners are also exposed to the speech of other children, some of whom make obvious phonological errors (e.g. saying wose for rose). In our previous work, we found that toddlers treat a 7-year-old's mispronunciations much the same way as they do an adult's (Bernier & White, 2017). However, that work examined any type of mispronunciation, and young children's mispronunciations tend to be systematic substitutions involving certain types of sounds (e.g., Edwards, 1992; e.g.,  $[r] \rightarrow [w]$ ). We tested 21-23-month-olds' processing of either common or infrequent mispronunciations (between subjects) of familiar words (e.g., tair for chair vs chable for table) from a 6-year-old female. Only toddlers presented with common mispronunciations mapped these mispronounced labels to familiar objects. Preliminary results of a follow-up suggest this pattern may differ for adult speech

#### POSTER SESSION II

More Relativization Asymmetries: Children Find Locative and Benefactive Relative Clauses Difficult

Ivan Paul Bondoc (University of Hawai'i at Mānoa) William O'Grady (University of Hawai'i at Mānoa) Kamil Deen (University of Hawai'i at Mānoa) Nozomi Tanaka (Indiana University) Ellyn Cassey Chua (University of the Philippines Manila) Angela Claudine De Leon (University of the Philippines Manila) Joshua Arvin Siscar (University of the Philippines Manila)

We investigated children's ability to produce and comprehend two typologically unusual relative clauses in Tagalog: locative and benefactive relative clauses (LRCs and BRCs, respectively). We compared these RCs with agent RCs (ARCs) and theme RCs (TRCs), holding animacy constant-inanimate heads for TRCs vs LRCs, and animate heads for ARCs vs BRCs. In an elicited production task, 13 adults (22-67, mean=44.46) and 8 children (6;4-7;2, mean=6;10) produced TRCs and ARCs at a higher rate of grammaticality than LRCs and BRCs. Similarly, in a character selection comprehension task, the same 8 children and 19 native Tagalog adults (19-67, mean=42.26) showed higher accuracy rates for TRCs than for LRCs, and for ARCs than for BRCs. Our results establish the existence of contrasts in children's ability to produce and understand previously understudied LRCs and BRCs, and reveal gradations in success for different RC types, even when animacy is controlled.

The origins of the consonant bias in word recognition: the case of Spanish-learning infants

#### Camillia Bouchon (University Pompeu Fabra) Juan Manuel Toro (University Pompeu Fabra)

Consonants tend to be more important than vowels in words (Nespor, Peña & Mehler, 2003). Accordingly, adults rely more on consonants in lexical tasks (Cutler et al., 2000). Developmental studies on this consonant bias yielded crosslinguistic variations: by the end of the first year, French and Italian infants already exhibit a consonant bias, while in English learners a consonant bias emerges during the second or even third year, and 20-month-old Danish learners still exhibit a vowel bias (Nazzi et al., 2016). In this study, 5, 8<sup>1</sup>/<sub>2</sub>, and 12 month-olds Spanish infants' recognition of words carrying a consonant versus a vowel mispronunciation were compared (Poltrock & Nazzi, 2015). Findings reveal a switch from a vowel bias at 5 months to a consonant bias at 12 months confirming the differences across language families in the infants' initial strategies used in their quest for words.

#### POSTER SESSION II

Characterizing North American Child-Directed Speech by Age, Gender, and SES

Marisa Casillas (Max Planck Institute for Psycholinguistics) Elika Bergelson (Duke University) Melanie Soderstrom (University of Manitoba) Amanda Seidl (Purdue University) Anne Warlaumont (UC Merced)

While previous research has demonstrated the variability in CDS cross-culturally, and within and across SES groups, broader characterizations of CDS across age and demographic variables are lacking. Here we characterize CDS using naturalistic daylong recordings from 61 families in North America across a broad age-range, child/caregiver gender, and SES.

We find that North American infants hear roughly 60% of their input in a register that is hand-tailored to them over their first two years, with ~75% of this input coming from female adults. The proportion of CDS infants hear increases with age, but more so for female talkers than male talkers. SES further modulates the quantities of overall speech and CDS, while child gender plays little role in our findings. Our results provide evidence for which demographic variables predict CDS; this in turn allows mechanistic proposals of how input influences language abilities, over time.

#### POSTER SESSION II

Compensation for phonological assimilation in mono- and bilingual children

M. Julia Carbajal (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Lamprini Chartofylaka (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Mollie Hamilton (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Sharon Peperkamp (École Normale Supérieure - PSL Research University (EHESS - CNRS))

Assimilation rules, by which certain consonants adopt one or more phonetic features of a following consonant, are widespread across languages. Previous research has shown that during word recognition, 24- and 33-month-old English and French monolingual toddlers compensate for their native rule (i.e., voicing assimilation in French, place assimilation in English), but not for a non-native rule (Skoruppa et al., 2013ab). Using a pointing task implemented as a tablet videogame, we examined 6-year-old French monolingual and French-English bilingual children's perception of both voicing (native) and place (non-native) assimilation in French sentences. The results of monolingual children (N=21) replicate previous findings, showing increased sensitivity to their native voicing assimilation rule compared to the hypothetical place assimilation rule. The data from bilingual children (currently >50% tested) will shed light on the hitherto unexplored questions of the acquisition and separation of phonological rules in early bilingualism.

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Case and word order in Greek heritage children

Vicky Chondrogianni (University of Edinburgh) Richard Schwartz (Graduate Center, CUNY)

The present study examined the comprehension of simple transitive sentences in Greek-English bilingual heritage children residing in New York City and in age-match monolingual Greek controls (age range: 6-12 years old). Children participated in a picture verification task containing canonical (OVS) and non-canonical (SVO) sentences with masculine nouns that unambiguously mark nominative and accusative case ('doublecues' condition), and sentences where one of the arguments was a neuter noun carrying ambiguous case-marking cues ('singlecue' condition). Half of the sentences matched the pictures and the other half did not. Results showed that the heritage children had lower accuracy than the monolingual children on the noncanonical but not on the canonical conditions regardless of matching. Furthermore, the heritage children were affected by the nature and position of the cue in the sentence (single vs. double, early vs. late). We discuss the findings within current accounts of heritage language acquisition and crosslinguistic transfer.

#### POSTER SESSION II

Some and All in bilinguals: Priming and Linguistic effects

#### Carla Contemori (University of Texas at El Paso) Francesca Foppolo (University of Milano-Bicocca) Daniele Panizza (Georg-August Göttingen University)

Previous studies have showed that monolingual children are not adult-like in the derivation of the Scalar Implicature (SI) somebut-not-all associated to the weak scalar quantifier some in a context compatible with the more informative alternative all. Studies with bilingual children show mixed results (bilingual advantage: Siegal, et al., 2009; no advantage: Syrett et al., 2017).

In this paper we test the ability to compute SI in bilingual children by means of a Truth-Value-Judgment-Task, a Picture-Selection-Task and a Priming-Task in order to modulate children's access to alternative descriptions.

We found a correlation between SI derivation and language competence; furthermore, we showed a priming effect on SI computation only in those children with high linguistic competence. These results suggest a link between linguistic and pragmatic abilities that sheds new light on the current debate around pragmatic abilities in bilinguals, as well as monolinguals.

#### POSTER SESSION II

Examining the role of pragmatics during children's comprehension of only: An eye-tracking study

Lauren Covey (University of Kansas) Teresa Girolamo (University of Kansas) Cynthia Siew (University of Kansas) Ivonne Weyers (PT DLR) Xiao Yang (University of Kansas) Alex Vogt-Woodin (University of Kansas) Caitlin Coughlin (University of Kansas) Utako Minai (University of Kansas)

Children tend to show difficulty comprehending the focus operator only when it is in subject position (subject-only). While some researchers attribute children's difficulty to impoverished pragmatics in the discourse (Hackl et al., 2015), others argue that children's grammar fundamentally differs from adults' (Notley et al., 2009). The current study conducted a visual-world eye-movement experiment examining the real-time processing of subject-only sentences to evaluate these competing proposals regarding the origin of children's difficulties with subject-only. Following Hackl et al. (2015), we experimentally manipulated whether or not a prompt question preceding the target sentence was pragmatically congruent or incongruent in felicitously introducing the only-statement with respect to which element in the sentence is focused by only. Emerging findings reveal that pragmatic richness in the discourse affected processing of subject-only sentences in both adults and children. Results thus far provide support for an account which posits an important role for pragmatics.

Notes

Article Choice, Theory of Mind and Memory in Dutchspeaking children with language impairment

Ava Creemers (University of Pennsylvania) Jeannette Schaeffer (University of Amsterdam) Merel van Witteloostuijn (University of Amsterdam)

Suggested explanations for overgeneration of the definite article in young TD children include failure to distinguish speaker from hearer assumptions, possibly related to an immature Theory of Mind (ToM). Overgeneration of the indefinite article has been suggested to result from weak working memory (WM). Nevertheless, the studies in case do not provide independent empirical evidence regarding ToM and/or WM. The current study investigates two groups of language-impaired Dutchspeaking children (SLI and High-Functioning-Autism) providing longer windows of language development, and a TD control group, aged 5-14 with an Article Choice Elicited Production Task, a ToM test, and several (working) memory tests. Our results reveal that both clinical groups overgenerate indefinite articles in definite contexts, perform TD-like on ToM, and perform worse-than-TD on memory tasks. We propose that weak (phonological) memory skills make it difficult to draw the scalar implicature required for the correct use of an indefinite article.

#### POSTER SESSION II

Category-based word learning in toddlers

Sarah Eiteljörge (University of Göttingen) Olga Kriukova (University of Göttingen) Nivedita Mani (University of Göttingen)

From early on, infants are efficient in word recognition and word learning, which seem influenced by category knowledge (Borovsky, Ellis, Evans, & Elman, 2015). However, it is not clear whether category knowledge similarly impacts these two processes.

In a priming study, 2- and 3-year-olds (N=35 and N=37) were presented with broad (fruits) and narrow categories (musical instruments) in primed (strawberry – banana) and neutral (guitar – banana) combinations. In a word learning study, the same children were introduced to novel word-object pairings in broad (fruits) or narrow (tools) categories, and tested on their target recognition.

Priming in broad categories was negatively correlated with learning in the broad condition (r = -.41, p = .022), and tended towards a positive correlation with learning in the narrow condition (r = .32, p = .080). Such evidence seems particularly important for models of word learning and word recognition, identifying the nature of connections between words.

#### POSTER SESSION II

Vulnerable Domains in Child Heritage Language: The case of Heritage Greek

Evangelia Daskalaki (University of Alberta) Vicky Chondrogianni (University of Edinburgh) Elma Blom (University of Utrecht) Froso Argyri (University College London (UCL)) Johanne Paradis (University of Alberta)

A recurrent question in the literature of heritage language acquisition, and more generally of bilingual acquisition, is whether all linguistic domains are sensitive to input reduction and to cross-linguistic influence and to what extent. According to the Interface Hypothesis, morphosyntactic phenomena regulated by discourse-pragmatic conditions are more likely loci of non native outcomes than strictly syntactic aspects of the language (Sorace, 2011). To test this hypothesis, we examined subject realisation and placement in Greek-English bilingual children learning Greek as a heritage language in North America and investigated whether the amount of heritage language use can predict their performance in syntax-discourse and narrow syntactic contexts. Results indicated that not only syntax-discourse structures but also narrow syntactic structures are affected, though in a lesser degree, suggesting that the association between the interface status of subject placement and its sensitivity to heritage language use among children heritage speakers is gradient rather than categorical.

Notes

Peer interaction is necessary for full conventionalization of space in an emerging language: Evidence from hearing children of Nicaraguan signers

Deanna Gagne (University of Connecticut) Ann Senghas (Barnard College of Columbia University) Marie Coppola (University of Connecticut)

Children regularize inconsistent language input; this is often considered the driving force for language change and emergence. To examine the effects of having a network of linguistic peers on language regularization, we compared the productions of spatial modulations from three groups of Nicaraguan signers: Cohort 1, the inconsistent, earliest form of Nicaraguan Sign Language; Cohort 2, individuals exposed to the inconsistent input provided by Cohort 1 who also interact with each other; and hearing, signing children of Cohort 1 ("Codas") who were exposed to the same inconsistent input but who do not sign with same-age peers. The Codas regularized their input, but in unexpected ways: they more consistently produced unrotated layouts when the commonlyfound spatial layout is rotated (both among Cohort 2 signers and universally). We suggest that in the absence of linguistic peers, other sociolinguistic forces, such as bilingual experience, exert a stronger influence on the regularization of language.

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#### POSTER SESSION II

#### Irony comprehension in young Deaf signers

#### Beatrice Giustolisi (University of Milano - Bicocca) Lara Mantovan (University of Milano - Bicocca) Francesca Panzeri (University of Milano-Bicocca)

Comprehending irony is a complex skill that in spoken languages emerges at age 6. As for signed languages, the field of verbal irony has been under-investigated.

The goal of the present study was to investigate the development of irony comprehension in Italian Sign Language (LIS) and see: (i) whether it shows a similar pattern as in spoken languages; (ii) which abilities (theory of mind, language) are better predictors. In our sample of 10 school-aged Deaf native signers, irony comprehension skills were variable, but overall irony comprehension seemed not to be fully mastered. Linguistic abilities in LIS were a good predictor of irony comprehension, whereas theory of mind development was not.

Further investigation should delineate what experience Deaf children have with ironic statements. Reduced access to TV and reduced reading experience might result in a reduced exposition to all instances of irony, which could lead to the observed developmental delay.

#### POSTER SESSION II

Speaker adjustments in spontaneous event descriptions

Myrto Grigoroglou (University of Delaware) Anna Papafragou (University of Delaware)

Adults design utterances to match their listeners' 'specific' and 'generic' informational needs (e.g., by telling listeners things they cannot see but need to know, by mentioning atypical/unpredictable components more often than typical). For children, however, relevant evidence is mixed. Here we investigate how generic (typicality of instruments) and specific factors (listener's visual access, conversational goals) affect children's production. In Exp.1, 5-year-old children and adults described typical and atypical instrument events to a passive confederate-listener who could or could not see the events. Exp.2 modified Exp.1 by having participants describe the same events to an interactive listener with a specific goal. Results showed that adults performed both generic and more specific adjustments to addressees' needs. Five-year-olds also made generic adjustments but their ability to make specific adjustments was inconsistent. These findings conform with a developmental picture where children's adjustments to listener needs, even when successful, remain imperfect.

L2 listeners rely on the semantics of classifiers to predict

#### Theres Grüter (University of Hawai'i) Elaine Lau (Chinese University of Hong Kong) Wenyi Ling (University of Hawai'i)

This study explores to what extent L2 learners of Chinese derive predictions from semantic vs. grammatical constraints on classifier-noun co-occurrence. In a Mandarin adaptation of Tsang and Chambers' (2011) Visual World experiment with native Cantonese speakers, we find that both L1 and L2 speakers of Mandarin draw on information encoded by sortal classifiers to anticipate upcoming nouns. However, upon hearing the classifier (e.g., tiáo, 'long/narrow'), L2 but not L1 listeners showed increased looks to objects which cannot co-occur with the classifier but nevertheless share some of its semantic features (e.g., shoubiao 'wristwatch', which is long and narrow, but cannot co-occur with tiáo), suggesting L2 learners give more weight to semantic vs. form-class cues than native speakers. This provides support for Lau and Grüter's (2015) hypothesis that the semantic informativity of classifiers makes it easier for L2 learners to use classifiers for predictive processing than gender-marked articles in European languages.

#### POSTER SESSION II

Infant-directed speech is not always slower: cross-linguistic evidence from Dutch and Mandarin Chinese

#### Mengru Han (Utrecht University) *Nivja de Jong (Leiden University; Utrecht University)* René Kager (Utrecht University)

It has been widely accepted that infant-directed speech (IDS) has a slower speech rate than adult-directed speech (ADS) (e.g., Cristia, 2013), which is assumed to facilitate language development. The current study asked whether IDS is slower than ADS in both Dutch and Mandarin Chinese; and whether Dutch and Chinese mothers slow down speech rate to highlight novel words. We found that across languages. IDS is not always slower than ADS. Dutch IDS addressing 18-month-old children was slower than ADS, but Mandarin Chinese IDS did not slow down compared with ADS. Also, Dutch mothers seemed to be aware of whether their child knew a word or not and slowed down the utterances embedding novel words (but not when utterances consisted of familiar words), which may facilitate word learning. Mandarin Chinese mothers, on the other hand, did not speak slower to their children even when they encountered novel words.

Notes

#### POSTER SESSION II

Distributional learning in phonetic cue weighting: Letting go of a previously informative cue

> Zara Harmon (University of Oregon) Kaori Idemaru (University of Oregon) Vsevolod Kapatsinski (University of Oregon)

We investigated the influence of distributional versus errordriven learning on the learner's ability to downweight the primary cue (VOT) to a voicing contrast (/p/ vs. /b/). 180 native English speakers were exposed to either a bimodal or unimodal distribution along the VOT continuum. F0 was either informative about voicing or constant. Feedback during training provided participants with 50% prediction error, testing the effect of error-driven learning. A unimodal distribution features many trials with ambiguous VOT, which makes feedback on those trials uninformative. However, it provides distributional evidence that all VOT values belong to a single category. The opposite is true of a bimodal distribution. Participants downweighted VOT only when it was distributed unimodally. We argue that a unimodal distribution along an acoustic dimension provides the listener with strong evidence that the dimension is no longer informative by informing him/ her that the speaker has only one production target along the dimension.

Audiovisual speech perception, parental input, and vocabulary in the first year of life

#### Mélanie Hoareau (Université Paris Descartes) Thierry Nazzi (Université Paris Descartes) Henny H. Yeung (Simon Fraser University)

How do individual differences in parental speech input influence visual scanning of a talking face in the first year of life? Twenty-three infants were tested longitudinally at 4, 8 and 12 months of age. We calculated the average number of adult words heard per hour at home at each age. For the audiovisual task, two 45s monologues (native French versus nonnative English) were presented to each infant, and we calculated the PTLT for the eyes and mouth regions. We also collected parental reports of infants' vocabulary at 12 months of age. Our results first confirm a developmental shift away from the eyes from 4 to 12 months. Our preliminary results indicate that more mouth looking at 8 months is associated with increased speech input at the same age, and a tendency for higher vocabulary levels at 12 months, suggesting links between language input, visual scanning, and lexical acquisition.

#### POSTER SESSION II

What inferences do Mandarin-speaking children make in negative sentences?

#### Haiquan Huang (Macquarie University) Stephen Crain (Macquarie University)

This study investigated 5-year-old Mandarin-speaking children's computation of Free Choice Inferences (FCIs) in negative sentences. In previous research, Mandarin-speaking children were found to compute FCIs in affirmative sentences with the disjunction word *huozhe* 'or' and in ones with the polarity sensitive expression renhe 'any'. This study investigated the entailments and inferences that children draw from both kinds of sentences when they contain either internal or external negation. To this end, we conducted five experiments using the Truth Value Judgment Task. The main findings were as follows. Experiment 1 confirmed the distinction between internal and external negation. Experiments 2-5 revealed that five-year-old Mandarin-speaking children understand FCIs are cancelled in sentences with internal negation, but are preserved in sentences with external negation, introduced by the focus adverb zhiyou 'only'. In view of the paucity of relevant input to children, the findings support an innateness account of acquisition of logical expressions.

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Japanese children's speaking rates reflect acquisition of moratimed rhythm

Kyoji Iwamoto (Riken Brain Science Institute, Laboratory for Language Development) Ayako Kondo (Riken Brain Science Institute, Laboratory for Language Development) Hideaki Kikuchi (Waseda University) Reiko Mazuka (Riken Brain Science Institute, Laboratory for Language Development)

#### POSTER SESSION II

Overgeneration of de/the in young children: Comparing different methods and different theories in child Dutch

Darlene Keydeniers (University of Amsterdam) Jeanne Eliazer (University of Amsterdam) Jeannette Schaeffer (University of Amsterdam)

Across languages, children overgenerate definite articles in indefinite contexts. However, proportions and ages at which children make this error vary. Contributing to resolving the mixed results, we combined the methods of two different studies (Schaeffer & Matthewson 2005 (SM) and van Hout, Harrigan & de Villiers 2010 (HHV)) and administered them to one group of 82 Dutch-acquiring children aged 2-9 and adult controls. The results show that definite article overuse takes place in a) only in the youngest children(2;1-3;7) in the SM indefinite condition, b) only the two oldest child groups (6;0-9;4) in the HHV indefinite condition, and c) adults score at ceiling in the SM conditions, while only around 70% correct in the HHV conditions. We argue that a) the indefinite conditions of the two article choice experiments test different types of knowledge, and therefore their results cannot be compared, b) the HHV task has more methodological drawbacks than the SM task, and c) the results provide less evidence for HHV's unranked-constraint hypothesis than for SM's lack-of-Conceptof-Non-Shared-Assumptions hypothesis.

#### POSTER SESSION II

Syntactic position and definiteness in anaphora resolution

#### Maria Katsiperi (Aristotle University of Thessaloniki) Ianthi Tsimpli (University of Cambridge)

Anaphora resolution can be a demanding process as it is regulated not only by syntactic constraints but also pragmatic bias. To examine whether and when children are able to use these discourse cues, we examined 3 age groups of typically developing monolingual Greek-speaking children (mean age: 6.7, 8.9 & 10.8). Children heard short sentences consisted of a main clause introducing two referents followed by a subordinate clause with either a null or an overt subject and they were asked who performed the action. Prominence of the referential expression was manipulated through pronominal form (null vs. overt) and antecedents prominence through syntactic position (subject vs. object) and +/- definiteness. The results suggest that children are sensitive from an early age to the distributional properties of the overt pronoun while the interpretation of the null pronoun appears to be more delayed and vulnerable to prominence manipulation (definiteness).

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Why Do Nonnative English Learners Perform L2 Statistical Preemption Less than Native Counterparts? : The Role of Different Repertoires for L1 and L2 Constructions

#### Rakhun Kim (Seoul National University) Hyun-Kwon Yang (Seoul National University)

Previous studies discover that it is only when competing alternative(CA) expressions are readily available that native speakers perform Statistical Preemption (SP), rejecting highfrequency verbs more strongly in novel constructions than in canonical formulations. Although nonnatives (L2ers) are reported to perform SP more restrictively than native counterparts, less has been understood about the role of constructional disparity between L1&L2 upon L2ers' limited SP uses. This study aims to explore how crosslinguistic constructional mismatch contributes to limited SP performances by L2ers. Experiment 1 examined how 34 Korean English learners generated L2-CAs in English Paraphrasing Test. Results showed that L1-interference distorted L2ers to generate English CAs in an "exactly opposite way" to native counterparts. In Experiment 2, 165 Korean English learners participated in AJT, and the results confirmed that L2ers did not use SP as much as native counterparts. To conclude, constructional mismatch between L1&L2 is a likely source for L2ers' restricted use of SP.

Notes

#### POSTER SESSION II

Variable forms in young children's lexical representation

#### Camille Legrand (Université du Québec à Montréal) Rushen Shi (Université du Québec à Montréal) Mireille Babineau (École Normale Supérieure - PSL Research University (EHESS - CNRS))

In a mispronunciation study we examined the impact of consonant intrusion on children's lexical representation. In French liaison consonants are inserted and syllabified as the onset of vowel-initial words, e.g., un /n/éléphant. We asked whether children store multiple forms of a word (e.g., éléphant, néléphant, téléphant) due to hearing liaison consonant intrusions. Thirty-six French-learning 30-montholds completed an eye-tracker experiment. Each trial presented two objects while one was named. There were three trial types: 1) correct vowel-initial (e.g., joli éléphant – 'pretty elephant'); 2) incorrect frequent intrusion (e.g., joli téléphant, /t/-intrusion before 'éléphant'); 3) incorrect infrequent intrusion (e.g., joli géléphant, /g/-intrusion). Results showed that target recognition was efficient in both correct vowel-initial and incorrect /t/intrusion trials, whereas /g/-intrusion delayed recognition. Our findings demonstrate that children's lexicon contains multiple variants, especially frequent variants, for words subject to phonological/phonetic changes. This differs from the general view that children's representation is stable for familiar words.

#### POSTER SESSION II

Children's Knowledge of Domain Restriction: The Case of  $d\bar{o}u$  ('all') in Mandarin Chinese

#### Margaret Lei (The Chinese University of Hong Kong)

This study investigates Mandarin-speaking children's interpretation of the domain restriction of  $d\bar{o}u$  'all' – a universal adverb quantifier that is invariant in occupying a preverbal syntactic position to quantify over a constituent to its left. Using a Truth Value Judgment task, we tested 53 preschoolers (age range: 4;4-6;3) on dou-sentences containing either a bare noun object or a numeral phrase object, presented in situations involving universal quantification over the subject (leftward quantification of  $d\bar{o}u$ ) and those involving universal quantification over the object (rightward quantification of  $d\bar{o}u$ ). Our findings show that children are sensitive to the leftward directionality requirement of dou; accepting the domain of dou as quantifying over the subject but not over the object. Around one-third of the children, however, exhibit errors of "symmetrical interpretation" (Philip 1995) or "quantifier spreading" (Roeper and Mattei 1974) in wrongly assuming the domain of  $d\bar{o}u$  as extending over both the subject and the object.

Vocabulary Predicts Filler-Gap Dependency Comprehension at 15 Months

#### *Jeffrey Lidz (University of Maryland) Laurel Perkins (University of Maryland)*

15-month-olds behave as if they comprehend filler-gap dependencies such as wh-questions and relative clauses. Gagliardi, Mease, & Lidz (2016) argue that this success does not reflect adult-like representations, but rather a parsing heuristic based on verb knowledge. Infants who know that "feed" is transitive may notice that a predicted direct object is missing in "Which monkey did the frog feed \_\_?" and then search the display for the animal that got fed. This account predicts that 15-month-olds will perform accurately only if they know enough verbs to deploy this parsing heuristic; therefore, performance should depend on vocabulary. We test this prediction in a preferential looking task and find corroborating evidence: only 15-month-olds with higher vocabulary behave as if they comprehend wh-questions and relative clauses. As vocabulary is correlated with many other capacities in infancy, this work invites further investigation into the nature of fillergap dependency representations at 15 months.

## POSTER SESSION II

The perception of discontinuous dependencies by 18 monthsold: on the process of acquiring verbal passives

João Claudio de Lima Júnior (Pontifical Catholic University of Rio de Janeiro) Letícia Maria Sicuro Corrêa (Pontifical Catholic University of Rio de Janeiro)

This paper focuses on the early perception of the discontinuous dependency of periphrastic verbal passives (Auxiliary+V-participle). 22 monolingual children acquiring Brazilian Portuguese, equally divided into 2 age groups (15 month olds vs 18 month olds), listened to two types of stories (preferential attention paradigm - Habit software). Mean listening times were compared in two conditions: stories containing the normal passive complex (Aux\_foi+V-do) and stories with modified complexes. The participial morpheme "-do" was replaced by the imperfective past tense morpheme (-va), which is ungrammatical (\*Aux\_foi+V-va). The effects of type of story and age were significant, as well as the effect of the interaction between them. Children are sensitive to modified passive complexes by the age of 18 months. It is assumed to be the first step in the process of acquiring verbal passives.

Notes

#### POSTER SESSION II

Word frequency is a cue to open-class/closed-class membership at 8 months

Caterina Marino (Université Paris Descartes) Carline Bernard (Université Paris Descartes) Judit Gervain (Université Paris Descartes)

Evidence from recent studies suggests that pre-lexical infants possess a rudimentary representation of word order, being able of tracking statistical regularities (e.g. frequency of occurrence of items). It seems that they might treat frequent words as functors (closed-class) and infrequent ones as content words (open-class). However, direct evidence for this assumption is currently missing. One way to test this hypothesis is to examine whether infants accept new items within the infrequent category, but not in the frequent one. We tested this assumption in 8-month-old French learning infants using an artificial grammar-learning task. First, we established French infants' preference for the frequent-word initial order, corresponding to the word order of the native language. Secondly, we demonstrated infants' awareness of the "open/closed-class property" of content and functors word. Together, these results suggest that both frequency distribution and position of the two categories contribute to bootstrap the word order of the native language.

ference on Language Development

Comprehension of relative clauses vs. control structures in SLI and ASD children

Alexandrina Martins (Universidade de Lisboa) Santos Ana Lúcia (Universidade de Lisboa) Inês Duarte (Universidade de Lisboa)

We compare children with Specific Language Impairment (SLI) and linguistically impaired children with Autism Spectrum Disorders (ASD) by measuring comprehension of relative clauses (A'-movement) and control structures (according to some, a case of A-movement).

We tested 11 SLI children (8 to 11 years), 11 high-functioning ASD children (8 to 11 years), and 82 typically developing children (3 to 11 years) on 2 tasks (act-out and reference judgment). We tested: subject and object relatives and subject and object control in complement clauses (dizer para 'tell' vs. prometer 'promise').

The results indicate that: (i) the syntactic impairment in (syntactic) SLI and in linguistically impaired ASD is of different nature; (ii) the nature of the problem posed by object relatives and subject control (with promise-type verbs) is not the same. The different behavior of SLI and ASD groups supports (i). The different developmental patterns in the two different structures support (ii).

Notes

#### POSTER SESSION II

The Relationship between Sensitivity to Morphosyntactic Violations and Morphosyntactic Anticipation in L2 Comprehension

> Crystal Marull (Rutgers University) Michele Goldin (Rutgers University)

In native sentence comprehension, listeners recruit both predictive and integrative strategies to interpret meaning, but L2 learners have a Reduced Ability to Generate Expectations (Grüter, Rohde, & Schafer, 2014). This study attempts to identify the source of L2 divergence by examining the relationship between L2 learners' ability to detect morphosyntactic violations in reading with their ability to use morphosyntactic cues to anticipate upcoming input. Native Spanish-speakers (n=32) and intermediate and advanced English learners of Spanish (n=67) completed a picture-selection task and a self-paced reading task. The findings revealed a negative relationship between the two tasks for the natives and the advanced learner groups, but no correlation for the intermediate group, suggesting that when both integrative and predictive processes are efficiently employed, recovery from an unexpected violation is faster than when predictive mechanisms are less efficient. These results help us understand the individual contributions of processes responsible for L2 sentence comprehension.

#### POSTER SESSION II

The relationship between first language phonotactics and early reading skills in sequential bilingual children

#### Kathleen McCarthy (Queen Mary, University of London) Katrin Skoruppa (University of Basel)

The aim of the current study was to investigate the influence of sequential bilingual children's L1 phonotactics on their L2 phonological awareness skills, and its relationship with L2 word reading. 101 children aged 5;9-6;9 years (58 Sylheti-English bilinguals, 43 monolingual English) participated. Children were assessed using two tasks: 1. English-based nonword repetition, and 2. English real word phoneme elision. To test for the influence of L1 phonotactics, half of the items contained phoneme sequences that are illegal in Sylheti and the other half contained legal sequences. The findings showed an influence of L1 phonotactics, such that the bilinguals displayed more errors for illegal Sylheti sequences than legal items. Overall, the bilinguals had lower scores than the monolinguals for the Sylheti illegal words, but not for the Sylheti legal words. The bilinguals' accuracy with Sylheti illegal sequences predicted their English single word reading accuracy.

Cross-linguistic influence in the use of referring expressions in school-age Japanese-English simultaneous bilinguals

#### Satomi Mishina-Mori (Rikkyo University) Yuki Nagai (Rikkyo University) Yuri Jody Yujobo (Tamagawa University)

The current study investigates if syntax-pragmatics interface with partial overlap in the structures is vulnerable to crosslanguage effects in school-age Japanese-English simultaneous bilinguals growing up in the Japanese context. Referring expressions to introduce, re-introduce and maintain the topic in the narratives of seven bilingual children were compared with those of the monolingual peers in each language. Our analysis reveals a unidirectional influence from English to Japanese, adding evidence for both the interface hypothesis and the ambiguity hypothesis. The findings indicate that interaction between the two languages at interface structure is a feature of both younger and older bilinguals, and that language-internal factor solely determines the directionality of influence. We further argue that cross-linguistic influence may not be an indication of delay in acquiring language-specific rules limited to the earliest stages of dual language development, but a manifestation of the persisting difficulties unique to interface structures.

#### POSTER SESSION II

Input–Output Correspondence in the Acquisition of Variation

Roksolana Mykhaylyk (Harvard University)

This study addresses the issue of the acquisition of input variations with novel data on direct object (DO) types (i.e., null, pronouns and NPs) in Ukrainian - the language that allows all of these DO types in certain contexts. Since in general the output is conditioned by the input, the child grammar is likely to be governed by the same constraints as the adult grammar. This prediction was tested in an experimental study with 38 monolingual children and 22 adult native speakers. The results show that while the child group as a whole differs significantly from the adult group, these differences concern only the overuse of one of the correct variants (i.e., null DO) in Specified contexts, and they mostly disappear by the age of 6. This suggests that the child grammar constraints, but some variants are maximized in the output at early stages of language development.

#### POSTER SESSION II

Worldwide frequency of phonemes predicts their age of acquisition

#### Steven Moran (University of Zurich) Sabine Stoll (University of Zurich)

Although infants discriminate between virtually all phonetic contrasts at birth, adult-like production of their native phonemes takes years to master. Children of some languages cannot produce the full range of native sounds in their phonological inventory until around age seven, which may be expected given that there are more than two thousand categorically distinct sounds in the world's languages. Here, we ask whether age of acquisition of phoneme production is predicted by the frequency distribution of phonemes cross-linguistically. We test this question with a database of longitudinal corpora including eight typologically diverse languages: Chintang, Cree, Indonesian, Inuktitut, Japanese, Sesotho, Turkish and Yucatec. We extract the transcribed speech produced by 46 children between ages one and five-and-a-half. and construct a generalized linear mixed-effects model of age of acquisition as a function of phoneme frequency. We show that uncommon sounds crosslinguistically are typically acquired later by children regardless of the language.

#### POSTER SESSION II

The Structure of Sluicing and the Availability of Strict and Sloppy Readings in Child Japanese

> Akari Ohba (Ochanomizu University) Hiroyuki Shimada (Meiji Gakuin University) Kyoko Yamakoshi (Ochanomizu University)

This study examines children's comprehension of sluicing in Japanese. Sluicing is one type of ellipsis which has remnant whphrases (ex. John bought something but I don't know what). In particular, we focus on two types of sluicing: Japanese standard sluicing (JSS) and Japanese pronominal sluicing (JPS). JSS and JPS have different interpretations, in that JSS has sloppy and strict readings whereas JPS has only a strict reading. We examined whether Japanese children accepted sloppy readings in JSS but not in JPS in order to inspect whether Japanese children expect pro or ellipsis in JSS. Through our experiment with the Truth Value Judgment Task, we found that Japanese children allow both sloppy and strict readings for JSS but only a strict reading for JPS. Our experiment shows that 1) Japanese children know the interpretational differences between JSS and JPS, and 2) they know the case that JSS includes ellipsis.

The relationship between language experience and infants' word segmentation skills

#### Adriel John Orena (McGill University) Linda Polka (McGill University)

Many studies show that young monolingual infants use language-specific cues to segment words in their native language. Here, we asked whether 8-month-old infants have the capacity to segment words in a bilingual context. Infants heard an English-French mixed passage that contained one target word in each language, and were then tested on their recognition of the two target words. The English-monolingual and Frenchmonolingual infants showed evidence of segmentation in their native language, but not in the other unfamiliar language. As a group, the English-French bilingual infants segmented in both of their native languages. However, closer inspection of the data suggests that language dominance may play a role in their performance in the task. Taken together, these results suggest a dose-response relationship between speech input and word segmentation: more input in a language may give infants more opportunities to learn about how that language indexes word boundaries.

#### POSTER SESSION II

Second-order false beliefs and recursive complements in children with Autism Spectrum Disorder

Irina Polyanskaya (Roskilde University) Torben Brauner (Roskilde University) Patrick Blackburn (Roskilde University)

Second-order (SO) false belief (FB) is a developmental component of Theory of Mind (ToM), underlying complex social behavior such as idiom understanding and peer coordination. Links between language and false belief reasoning in \*first-order\* ToM have been established in both typically developing and children with Autism Spectrum Disorder (ASD). \*Second-order\* ToM development is less studied, and its links with language remain unclear.

We have carried out a correlation and training study of secondorder social reasoning competency in high-functioning Danish children with ASD. Our hypothesis is that training in linguistic recursion will improve their SOFB reasoning abilities.

Our correlational study (n=62) indicates that mastery of recursive complements is a significant predictor of second-order false belief understanding, even after accounting for age, general grammatical knowledge, and working memory. Our training study (n=27) shows that a five day recursive embedding training leads to significant improvement in SOFB mastery.

#### POSTER SESSION II

When you eat from the cake, is it all gone? Morphosyntax as a cue to partitivity

Duygu Özge (Middle East Technical University) Deniz Vidinli (Middle East Technical University) Aylin Küntay (Koç University) Jesse Snedeker (Harvard University)

We investigate whether 4-year-old Turkish children use the contrast between the accusative and ablative case to interpret the part-whole denotation. Study-1 used two animation-videos showing two girls consuming a mass entity (cake), where one of them finishes it up while the other consumes some of it. Children then saw two pictures portraying the final-state of the events (empty-dish/dish-with-half-consumed-cake), accompanied by an utterance in ablative (partitive) versus accusative condition (whole). Children selected the correct picture depicting the utterance. In Study-2, to test whether priming the quantitydenoting nature of the event would improve the performance, this target task was preceded by an unrelated quantifiercomprehension test. Whole interpretation was assigned regardless of case in Study-1, but accuracy improved in Study-2 with priming. This suggests children have a default focus on what-happens when perceiving events; and they begin to realize the quantificational/aspectual properties of events when the hypothesis-space is constrained by a supportive context.

#### POSTER SESSION II

A methodological meta-analysis: Implications for models of transfer in L3/Ln acquisition

Eloi Puig-Mayenco (University of Reading) Jorge Gonzalez Alonso (UiT The Arctic University of Norway) Jason Rothman (University of Reading; UiT the Arctic University of Norway)

The meta-analysis examines what factors determine when, how and to what extent previous linguistic experience (from the L1, L2 or both languages) affects the initial stages and beyond of adult L3 acquisition. In doing so, we address what a birds' eye view of the data tell us regarding competing theoretical accounts in the L3 literature. Data couple together to suggest that some factors are much more influential than others (e.g. typological proximity between L3 and L1 or L2) and that the findings can be translated to support a small cohort of the competing theories only. As discussed, the meta-analysis transcends the field of adult multilingualism precisely because of what it reveals as a prima facie example in behavioral research in terms of how different types of methodological considerations impact how data are interpreted to be supportive or not of particular claims.

Brazilian bimodal bilinguals as heritage signers

Ronice Müller de Quadros (Universidade Federal de Santa Catarina) Diane Lillo-Martin (University of Connecticut)

This paper presents an analysis of adult bimodal bilinguals as heritage language users. Bimodal bilinguals are hearing children of Deaf parents who acquired a sign language at home with their parents, and the spoken language of the surrounding community through hearing family members, friends at school, neighbors and other hearing people. This is a type of heritage language context, in which speakers have access to their parents' language, which is in this case, Brazilian Sign Language, Libras, as a first language; as well as the language of their community, here Brazilian Portuguese, BP, as a second first language. Analyzing bimodal bilinguals who possess pairs of languages in different modalities as heritage languages shows a new kind of evidence for the understanding of the heritage language phenomenon.

#### POSTER SESSION II

A longitudinal comparison of object clitic production in the spontaneous language of L2 children and children with SLI

Maureen Scheidnes (Memorial University of Newfoundland)

Object clitic omission may be a clinical marker of SLI in French-speaking monolinguals, but it is unclear if this is the case for children acquiring L2 French since typically developing L2 children also omit object clitics. The role of language exposure (LoE) complicates this issue. In order to better understand the impact of LoE, object clitic production was evaluated in spontaneous language samples which were collected twice at 12-month intervals (T1, T2) from L2 children (L1 English, L2 French) and 19 children with SLI (L1 French). The L2 overlapped with the SLI at T1, but not at T2. LoE was significantly correlated with object clitic production at T1, but not at T2. At T1, L2 children with < 1;6 LoE produced very few object clitics, but not at T2. The results support the idea that object clitics could useful in identifying SLI in L2 children with >18 months LoE.

#### POSTER SESSION II

Direct Object Scrambling in Dutch-speaking children with SLI and with HFA

#### Jeannette Schaeffer (University of Amsterdam)

In Dutch, referential direct objects scramble over negation/ adverbs, while non-referential direct objects follow negation/ adverbs. Hypothesizing that a) scrambling requires both pragmatic and syntactic knowledge, and b) children with SLI have (morpho)syntactic deficits and children with HFA weak pragmatics, we predict that both populations fail to scramble, but for different reasons. The results of our Scrambling Elicited Production Task and several other tests with three groups of Dutch-speaking children aged 6-14 (SLI, HFA, and TD) confirm our prediction: The SLI and HFA groups both score significantly more poorly than the TD group on scrambling. The SLI group also performed relatively poorly on other morphosytactic tests, but TD-like on relevant pragmatic tests, suggesting that their scrambling failure is due to weak syntax. In contrast, the HFA group scored TD-like on both morphosyntax and relevant pragmatics. We attribute the HFA group's non-TD-like scrambling to failure to integrate the relevant pragmatic and syntactic knowledge.

#### POSTER SESSION II

Testing Predictive Power of Morphosyntactic Cues Cross-Linguistically

Irina Sekerina (College of Staten Island) Natalia Mitrofanova (UiT The Arctic University of Norway)

Two goals of the present study are (1) cross-linguistic comparison of the predictive power of the two morphosyntactic cues (case and word order) in Russian with German, and (2) fine-tuning the hierarchy of sources of information by testing two types of visual contexts that present a transitive event differently (2-picture vs. 3-referent). Russian-speaking 3-6-year-old children participated in a VWP study using the materials modified from Özge et al. (2016). The design was 2x2, Word Order (SVO vs. OVS) x Visual Context (2 pictures side-by-side vs. 3 single referents). The accuracy in both age groups in the OVS condition was excellent, but the older group was better (5-6-yos: 98%, 3-4yos: 86%). The eye movements of both groups in the OVS condition, showed an early Agent advantage. Interaction (ROI x Visual Context x Group) revealed that the 3-Ref context was more powerful in predicting the OVS for the 3-4-yos.

Mis-segmentation of vowel-initial words in toddlers

Rushen Shi (Université du Québec à Montréal) Mireille Babineau (École Normale Supérieure - PSL Research University (EHESS - CNRS))

Many studies reported that infants' segmentation of vowel-initial words is delayed in comparison with consonant-initial words (Mattys & Jusczyk, 2001; Seidl & Johnson, 2008; Babineau & Shi, 2014). In this study we used French resyllabification cases to examine whether a syllable-aligned bias guides infants' segmentation when facing vowel-initial words. Enchaînement is a language-general type of resyllabification, which occurs when the coda consonant at the word offset is produced more as the onset of the following vowel-initial word (e.g., the resyllabication of /d/ in 'cold ice' in English, /k/ in 'chaque enfant' in French). Segmentation of enchaînement cases was assessed in a preferential looking task with a total of 32 Frenchlearning 20-month-olds. Results showed that infants followed a syllable-aligned bias despite transitional-probability cues supporting subsyllabic vowel-initial (correct) segmentation, and despite the presence of relatively strong acoustic cues to vowel-initial word onset. Taken together, a lasting syllabic bias strongly influences infants' segmentation.

#### POSTER SESSION II

Verb imageability is related to the acquisition of past tense forms in English

Filip Smolík (Institute of Psychology, Czech Academy of Sciences)

Imageability is the ability of words to elicit mental sensory images of their referents. Highly imageable words are processed faster and acquired earlier than less imageable words, and their inflected forms are produced faster (e. g. Morrison, Chappell, Ellis, 1997; Prado, Ullman, 2009). It is thus possible that imageability also facilitates the acquisition of inflections, and there is some evidence that this is the case in English nouns and Czech verbs and nouns (Smolík, 2014; Smolík, Kříž, 2015). The present study tested the effect of imageability on the timing of the early occurrences of past tense verb forms in longitudinal corpora of child English. Box-Cox proportional hazards regression models were used to analyze data extracted from longitudinal corpora in Childes (Manchester and dense English corpora). The results confirm that imageability affects the acquisition of past tense forms in verbs, and that its effect is moderated by frequency.

#### POSTER SESSION II

The Development of a Generative Lexicon: Evidence from Instrument Verbs

#### Barbora Skarabela (University of Edinburgh) Mahesh Srinivasan (University of California, Berkeley) Hugh Rabagliati (University of Edinburgh)

In English and many other languages we often use the same word for an action and the tool we use to perform the action (e.g., we hammer with a hammer and brush with a brush). Are young children aware of this and do they use their knowledge of one meaning (e.g., that an action involving a tool is called 'pabbing') to infer other meanings (e.g., that the tool is a 'pab' but a novel label like 'neefoo' must refer to the patient)? In a series of experiments we found that in the third year of life children begin to generalize novel instrument verbs to the instrument and that four-year-olds spontaneously infer that the meaning of a novel label that is not related to the instrument verb (e.g., 'neefoo') must refer to the patient. These findings suggest that structured polysemy may play an important role in children's rapidly growing lexicon.

#### POSTER SESSION II

Young Infants Discriminate Subtle Phonetic Contrasts

Megha Sundara (University of California, Los Angeles) Céline Ngon (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Katrin Skoruppa (University of Basel) Naomi H. Feldman (University of Maryland) Glenda Molino Onario (Northeastern University) James Morgan (Brown University) Sharon Peperkamp (École Normale Supérieure - PSL Research University (EHESS - CNRS))

Narayan, Werker, and Beddor (2010) claimed that some phonetic contrasts might not be discriminated until the end of the first year. Specifically, they argued that infants initially demonstrate broad acoustic sensitivity in F2-F3 space that allows early discrimination of Filipino /ma/-/na/ while the more subtle Filipino /na/-/na/ contrast must wait upon specific lexical language experience before becoming discriminable. That is, more subtle contrasts must be induced. Using a fully infant-controlled visual habituation procedure, we show that English-learning 4- and 6-month-olds successfully discriminate the Filipino /na/-/ŋa/ contrast. Moreover, both English- and French-learning 6-month-olds can discriminate comparably subtle nasal and lateral contrasts from Tamil. We discuss the methodological causes of these divergent results and their implications and argue that attunement theories omitting induction mechanisms are sufficient to characterize and explain development of speech perception in infancy.

Investigating relative clause island effects in native and nonnative adult speakers of Japanese

#### Nozomi Tanaka (Indiana University) Bonnie D. Schwartz (University of Hawai'i at Mānoa)

This study examines whether L1-English L2ers of Japanese can come to know that in-situ wh-questions inside a relative clause (RC) are possible in Japanese, despite the ungrammaticality of their L1 counterparts (RC island; Ross, 1967). Sixteen L1-English L2ers of Japanese and 16 L1 Japanese controls completed an acceptability judgment task with a 2×2 factorial design: EMBEDDED-CLAUSE (RCs vs. finite complement clauses) × QUESTION (wh-questions vs. yes/no- questions). All groups, including Japanese natives, show the RC island effect. However, comparing performance on ungrammatical fillers with in-situ naze 'why' questions-which are attested to be island sensitive in both Japanese and English-to performance on RC island items, we found that Japanese natives rated the latter significantly higher than the former but L2ers rated them equally low. This finding suggests that (1) the native results are likely not a true indication of the RC island effect and (2) the L2 results point to L1 transfer.

#### POSTER SESSION II

Neural bases of phonological processing of newly segmented word forms

Katie Von Holzen (Laboratoire Psychologie de la Perception, Université Paris Descartes) Léo-Lyuki Nishibayashi (University of Ottawa) Thierry Nazzi (Université Paris Descartes)

We use ERPs to investigate the neural bases of early word form segmentation, and of the early differential processing of consonants and vowels, exploring how individual variability in these early skills might be related to later language outcomes. Our results with French-learning 8-month-old infants support previous studies that found that the word familiarity effect in segmentation is developing from a positive to a negative polarity at this age (Kooijman et al., 2013; Männel & Friederici, 2013) and that the C-bias has emerged by 8 months in French (Nazzi et al., 2016; Nishibayashi & Nazzi, 2016). Infants showing a more mature, negative response to newly segmented words at test also had greater growth in word production over the second year of life. Contrary to our predictions, however, we failed to establish a relationship between a C-bias and vocabulary growth.

#### POSTER SESSION II

Accentuate the Negative: Children's use of Tense in Negative Sentences

#### Rosalind Thornton (Macquarie University) Kelly Rombough (Macquarie University) Elena D'Onofrio (Not affiliated with a university)

This talk reports data from an elicited production study of past tense morphology in a group of 17 2-3-year-old children. The novelty of the experiment was to elicit affirmative and negative sentences in the past tense in separate sessions, but using the same task. The main finding was that there was a large difference in the provision of past tense morphology in affirmative and negative sentences. In affirmative sentences children provided the 'ed' about 30% of the time, used the stem form 28% of the time, and used the progressive another 25% of the time. In negative sentences, however, the progressive was absent, and the large majority (about 85%) of children's productions were with 'didn't'. We discuss whether children's productions with 'didn't' demonstrate knowledge of tense or not, and possible reasons for children's apparent elevated use of tense morphology in negative sentences.

#### POSTER SESSION II

Relative and absolute gradable adjectives in child comprehension: same or different?

Merle Weicker (Goethe-University, Frankfurt) Petra Schulz (Goethe-University, Frankfurt)

Our study investigated preschool-children's interpretation of different gradable adjectives (GA) regarding effects of their comparison-class and the nature of the scale.

For relative GAs (=RA, big/small), which refer to open scales, the standard is determined relative to a comparison-class and is located around the midpoint of the scale. Absolute GAs (=AA, clean/dirty) refer to closed scales; the comparison-class is irrelevant for their interpretation and the standard is always one of the endpoints of the scale (Kennedy/McNally, 2005). Our study examined whether children determine different standards for AAs and RAs and whether changing the comparison class, encoded by the modified noun, influences the interpretation of RAs and AAs. Thirty-five 4- to 5-year-old German children were tested with a forced picture-choice task (cf. Barner/Snedeker, 2008). The results indicate that the standard for AAs and RAs differed and that only the interpretation of RAs is influenced by changes in the comparison class.

Assessing Mandarin-Speaking Pre-schoolers' Knowledge of English Plural Morphology

> Nan Xu Rattanasone (Macquarie University) Benjamin Davies (Macquarie University) Katherine Demuth (Macquarie University) Tamara Schembri (Macquarie University)

Many children learn a second language (L2) that is typologically distinct from their first language (L1). This is the case for L1 Mandarin-speaking learners of L2 English, a phonotactically and morphologically more complex language. School aged Mandarin learner of L2 English use inflectional morphology variably, e.g., cat for cats, suggesting challenges in acquiring English L2 grammatical morphology. We investigated whether younger Early Sequential Bilinguals (ESB) might benefit from L2 exposure during pre-school. Our results show that Mandarin-speaking 3-year-olds can produce plural morphemes when asked to repeat real words, but perform at chance on a forced choice comprehension task with novel words. This suggest that Mandarin ESB 3-year-olds do not yet have plural morphological representations.

#### POSTER SESSION II

The effect of population size on intergenerational language convergence: An artificial language learning paradigm

Jayden Ziegler (Harvard University) Annemarie Kocab (Harvard University) Jesse Snedeker (Harvard University)

Artificial language-learning paradigms using diffusion chains demonstrate that languages become both more learnable and more structured through iterated learning over "generations" (Kirby et al., 2008). Past studies have typically used one participant per generation. However, natural languages are used by multiple individuals. We examined the effect of community size on language convergence using diffusion chain experiments administered online. Across two experiments, we measured the effect of multiple speakers vs. a single speaker in each generation on word order convergence. In both cases, in an SOV-dominant context, we observed fast convergence with 4 (Exp1) and 6 speakers (Exp2) per generation, while in single-speaker chains, participants frequency-matched. For OSV- and VSO-dominant chains, native English-speaking participants converged on the non-dominant, SOV word order. These results suggest that both (1) community size and (2) linguistic properties of the input influence the speed of language convergence.

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#### Session A--Metcalf Small

The role of age and cross-linguistic similarity in first language perceptual attrition

#### Charles B. Chang (Boston University) Sunyoung Ahn (Harvard University) Robert DeKeyser (University of Maryland) Sunyoung Lee-Ellis (University of Maryland)

This study investigated how bilinguals' perception of their first language (L1) differs according to age of reduced contact (ARC) with the L1 after immersion in a second language (L2). Twentyone L1 Korean-L2 English bilinguals in the U.S. ranging in ARC from 3 to 15 years, as well as 17 control participants in Korea, were tested perceptually on three L1 contrasts differing in similarity to L2 contrasts. Compared to control participants, bilinguals were less accurate on L1-specific contrasts, and their accuracy was significantly correlated with age of reduced contact, an effect most pronounced for the contrast most dissimilar to L2 contrasts. These findings suggest that the earlier bilinguals are extensively exposed to their L2, the less likely they are to perceive L1 sounds accurately. However, this relationship is modulated by crosslinguistic similarity. Additionally, a turning point in L1 perceptual attrition is observed at an ARC of around 12.

#### Session B--Conference Auditorium

Do structural priming effects rely on interactions between animacy and syntax?

#### Leone Buckle (The University of Manchester) Elena Lieven (University of Manchester) Anna Theakston (University of Manchester)

Methodological issues with prior structural priming research on datives have made it unclear whether or not priming relies on animacy-syntax interactions. We investigated this in our current study. 143 participants (47 three-year-olds, 48 five-year-olds and 48 adults) alternated with the experimenter in describing animations. Primes were either double-object datives or prepositional datives. Animacy-semantic role mappings were either prototypical (animate goal & inanimate theme) or nonprototypical (animate theme & inanimate goal) and were either matched or mismatched across primes and targets. Target responses were coded for syntactic structure. All age groups exhibited a main structural priming effect. Prepositional dative sentence priming in three-year-olds was increased where there was prime-target match in non-prototypical mappings. Animacy had no effect on structural priming in any other instance. Our results reveal the changing influences animacysyntax interactions on sentence production over the course of development.

#### Session C--Terrace Lounge

Are Children's Overly Distributive Interpretations and Spreading Errors Related?

> Anna de Koster (University of Groningen) Petra Hendriks (University of Groningen) Jennifer Spenader (University of Groningen)

There are two major puzzles in quantification acquisition research: children's spreading errors and their acceptance of non-distributive DPs in distributive contexts.

Musolino (2009) argues that children's well-known spreading errors could also explain their distributive interpretations with non-distributive DPs. Dotlacil (2010), on the other hand, argues that children fail to draw implicatures, which he believes cause the adult collective preference. Since implicature calculation involves working memory (WM), this account links the development of the adult-like collective interpretation to WM. To examine the possible relationship between spreading and distributivity interpretations, we investigated the two phenomena in the same children, also assessing their WM.

The results show a large age gap between the disappearance of spreading errors and the emergence of a collective preference. Besides this, we only found a significant effect of WM on the non-distributive DPs in distributive contexts. Both findings suggest that spreading and distributive interpretations have different origins, and therefore support the implicature account.

Notes

#### Session A--Metcalf Small

What did you say? Infants' early productions match caregiver input

#### Catherine Laing (Duke University) Elika Bergelson (Duke University)

We consider the role of infants' pre-linguistic vocalizations in relation to caregiver input. We analyze a cross-sectional sample to investigate whether early production is driven by infants' perception of segments matching their own phonological capacity. We analyzed 44 infants' consonant productions from an hour of home-recorded video data taken at 10-11 months. Each consonant the infant produced was transcribed, alongside any acoustically salient word produced by the caregiver in the preceding 15s. We coded whether infants' consonant productions were phonetically congruent with caregiver input (e.g. mother says 'ball' 5s before infant produces /bə/).

Compared with scrambled parental-production data, the proportion of parent-matching infant productions was significantly above chance. Furthermore, infants with more stable consonant productions ('vocal motor schemes') responded with congruent consonants significantly more often if that consonant was established in their phonological inventory. These findings have implications for understanding early lexical learning in the context of the perception-production interface.

Notes

#### Session B--Conference Auditorium

Cross-Linguistic Structural Priming in Heritage Spanish Speakers: The Effects of Exposure to English on the Processing of Preposition Stranding in Spanish

#### Ian Phillips (CUNY Graduate Center)

This study probes the limits of cross-linguistic influence during language processing for adult heritage Spanish speakers. Participants completed a structural priming experiment designed to measure whether exposure to typical preposition stranding in English sentences, e.g., (1), facilitates processing of (syntactically-anomalous) preposition stranding in following Spanish target sentences, e.g., (2).

(1) These are the scissors that Mary cut the paper with.

(2) \*Este es el serrucho que Eduardo cortó la rama con para hacer leña

(This is the saw that Eduardo cut the branch with to make firewood.)

Results show preposition stranding in Spanish target sentences is processed significantly faster in prime trials compared to control trials, indicating that comprehension of this structure can be primed by exposure to parallel English sentences. The relationship between individual variables (e.g., Spanish fluency) and priming magnitude will be discussed along with how these results might inform our understanding of the mechanisms driving language change.

#### Session C--Terrace Lounge

# Intervention Effects in Early Grammar: Evidence from Sluicing

#### Victoria Mateu (UCLA) Winans Lauren (University of Southern California) Nina Hyams (UCLA)

Studies show that children have greater difficulty with wh-extraction from object position than subject position (Tavakolian, 1981; Yoshinaga, 1996; Avrutin, 2000; Friedmann et al., 2009, a.o.), arguably an intervention effect (Rizzi, 1990). In this study we provide additional evidence of a S/O asymmetry in A'-dependencies from a novel source – sluicing. The results of our modified TVJ study show that English-speaking 3-6 year olds obey the 'identity condition' on sluicing. Importantly, these results also support syntactic theories of sluicing positing that the ellipsis site has a fully articulated (but unpronounced) TP structure from which the wh-phrase has been extracted (e.g. Merchant, 2001), e.g. Someone wrote this paper, but I don't know who <\_ wrote it>, as opposed to certain semantic/ pragmatic theories that posit no such structure (e.g. Culicover & Jackendoff, 2005).

#### Session A--Metcalf Small

Language-specific Sources of Acoustic Stability in Phonological Development

#### Meg Cychosz (University of California, Berkeley) Susan Kalt (Roxbury Community College)

Variability in child speech can be attributed to anatomical underdevelopment or motor immaturity. Here we examine an additional source: phonological structure. Previous conclusions on vocalic development were drawn from languages with large vowel inventories (e.g. English, French). This impedes our understanding because vowel inventory size and intra-category dispersion may be negatively correlated. We compared spectral variability across adult and child speakers of Chuquisaca Bolivian Quechua, a highly-agglutinating three-vowel (/a, i, u/) language. Child participants aged 5;0-6;0, 7;0-8;0, and 9;0-10:0 completed a picture selection and description task and adults narrated the Duck Story. Results show that children's formant variability did not reliably differ from adults', but all speakers varied more in suffixes than roots. We interpret this as evidence that variability may not stem entirely from children's articulatory limitations - inventory size may influence attainment of acoustic stability. Furthermore, this affirms a need to supplement developmental phonology with data from underrepresented languages.

#### Session C--Terrace Lounge

The Acquisition of Negated Disjunction: Evidence from Italian, French and Dutch

Maria Teresa Guasti (University of Milano-Bicocca) Elena Pagliarini (University Pompeu Fabra) Oana Lungu (University of Nantes) Angeliek Van Hout (University of Groningen) Stephen Crain (Macquarie University)

We investigated the interpretation of negated disjunction sentences, (1), in Italian, French, Dutch children and adults.

(1) The cat did not eat the carrot or the pepper.

Our findings indicate that (1) means not both in French/ Italian, but not in Dutch; while Dutch children and adults do not differ, Italian and French children are split in two groups each: some children are consistently like Italian and French adults and some others are consistently like Dutch speakers. This split was not observed in Mandarin or Japanese. Our data can be explained by appealing to the disjunction parameter (OR is  $\pm$ PPI positive polarity item) and the Semantic Subset Principle: all children start with OR being –PPI and take (1) to have a neither meaning, as it has in Dutch and English. Earlier convergence to the adult Italian/French setting is due to negative concord being built into the system of disjunction.

#### Session B--Conference Auditorium

Cumulative Syntactic Priming in Comprehension in Children and Adults

Naomi Havron (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Tal Linzen (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Camila Scaff (École Normale Supérieure - PSL Research University (EHESS - CNRS)) Anne Christophe (École Normale Supérieure - PSL Research University (EHESS - CNRS))

Adults have been shown to quickly adapt their expectations to their linguistic environment. If a syntactic structure that is typically infrequent is made frequent in an experiment, adults quickly come to expect it more than the usually-frequent one. To date, little research has attempted to examine children's syntactic adaptation, especially in comprehension. We tested adaptation in comprehension in 5-6 year olds and adults, using a tablet device, and sentences that are ambiguous between a noun-attachment and a verb-attachment interpretation (e.g., "the girl is tickling the baby with the brush"). We found that the more noun-attachment primes overall, the more participants selected noun-attachment interpretations, suggesting cumulative priming (as predicted by an adaptation model). They were also faster to give noun-attachment interpretations in the experimental condition where they were more frequent. We discuss our results in light of other findings which support of role of adaptation in language processing and acquisition.

Notes

# SUNDAY SYMPOSIUM

#### "Event concepts and early word learning"

"Rapid and Spontaneous Encoding of Event Structure from Visual Scenes: Implications for Language Acquisition" Alon Hafri, Brent Strickland, Anna Papafragou & John Trueswell

"Conceptual correlates of transitivity in early verb learning" Jeffrey Lidz, Alexander Williams, & Laurel Perkins

"Children's acquisition of nouns that denote events" Sudha Arunachalam & Angela Xiaoxue He

According to one hypothesis, participant-argument matching (PAM), clauses with N argument phrases (a linguistic category) describe events viewed as having N participants (a conceptual category) (Gleitman 1990, Fisher 1996). PAM is challenged by two phenomena. First, event nouns can occur without satellites naming participants (e.g., theft, There have been many thefts). Second, some entailed event participants are not named by arguments, e.g., steal names events with three participants, but can occur in clauses naming two (e.g., Daddy stole the truck). If PAM is correct, either its scope is limited, or children view events differently from what we expect. Alternatively, children might utilize other correlations, such as links between argument positions and specific roles (e.g., patients are objects). We explore these issues in three talks.

Notes	Notes

The role of dominance and age of acquisition in L3 development

Jennifer Cabrelli Amaro (University of Illinois at Chicago) Michael Iverson (Indiana University) David Giancaspro (University of Richmond) Becky Halloran (Indiana University)

This study investigates the role of age of acquisition (AoA) vs. dominance in the finding that L1 transfer is slower to overcome than L2 transfer in L3 acquisition (Cabrelli Amaro et al., 2018). We compare three types of English/Spanish bilinguals that have initially transferred Spanish into L3 Brazilian Portuguese (BP): L1 Spanish/L2 English, L1 English/L2 Spanish, and Englishdominant heritage speakers (HSs) of Spanish. We examine acceptability of differential object marking (DOM) in BP as our test case for morphosyntactic development. In Spanish, certain accusative object DPs are marked with a; neither English nor BP exhibit this contrast. Acceptability judgment task data reveal that although all three types of bilinguals accept DOM in BP initially, at advanced proficiency only the L1 English group patterns with BP controls. Since the HS group and L1 Spanish pattern together, the result favors age of acquisition as an explanatory variable in L3 developmental rate.

#### Alternates

An ERP investigation of domain-specificity: Clause-edge recursion in native and nonnative French

Laurent Dekydtspotter (Indiana University) Charlene Gilbert (Indiana University) A. Kate Miller (Indiana University Purdue University Indianapolis) Mike Inverson (Indiana University) Kyle Swanson (Indiana University) Tania Leal (University of Nevada, Reno) Isaiah Innis (Indiana University)

ERP correlates of anaphora resolution linked to the presentation of complementizer que 'that' in wh-movement are discussed in NSs and NNSs of French. Moved wh-expressions included nouncomplements and NP-modifiers. Complements, but not modifiers, involve re-representation across phases (Chomsky, 1995). Twentytwo NNSs and twenty-four NSs read stimuli including 100 experimental items presented in randomized blocks, at 550ms per word, each word appearing for 300ms followed by a 250ms blank slide. Subjects responded to comprehension questions after 2/3 of stimuli. ERPs were analyzed at 250-350ms (for parse generation) and 450-550ms (for parse maintenance). Whole-head statistical analyses with FDR protection revealed broad left-hemisphere negativities for anaphora with noun-complements relative to modifiers at 250-350ms spreading at 450-550ms (10 NSs, 10 NNSs) or bilateral centroparietal positivities at 250-350ms, left-hemisphere dominant at 450-550ms (14 NSs, 12 NNSs). There was no statistical role for NS/NNS status. This suggests similarities between NSs and NNSs for core language properties.

#### Alternates

Is 'Dax' Singular or Plural? Preschoolers and Copulas Do Not Agree

> Benjamin Davies (Macquarie University) Nan Xu Rattanasone (Macquarie University) Tamara Schembri (Macquarie University) Katherine Demuth (Macquarie University)

Subject-verb agreement can resolve ambiguity (the lox/locks (is/are) sold out), and can help learners understand new words with ambiguous forms (the dax is sharp vs. the dax are empty). English-acquiring 24-month-olds can better comprehend novel noun number with both copula (is/are) and determiner (a/some) agreement (e.g., there are some blickets!), yet it is not known what role copula agreement alone plays. In a forced choice task, 116 3- to 5-year-olds were tested on their ability to disambiguate novel word number across three conditions: Multiple cues (noun morphology plus copula agreement: where is/are the dup/s?); Nominal cue (noun morphology only: find the tep/s); and Verbal cue (copula agreement with ambiguous /ks/-final noun morphology: where is/are the dax). The results showed children largely ignored copula agreement, and interpreted ambiguous nouns such as dax as plural. These results raise questions about what roles agreement and morphological marking play in early sentence comprehension.

Variable forms in young children's lexical representation

Camille Legrand (Université du Québec à Montréal) Rushen Shi (Université du Québec à Montréal) Mireille Babineau (École Normale Supérieure - PSL Research University (EHESS - CNRS))

In a mispronunciation study we examined the impact of consonant intrusion on children's lexical representation. In French liaison consonants are inserted and syllabified as the onset of vowel-initial words, e.g., un /n/éléphant. We asked whether children store multiple forms of a word (e.g., éléphant, néléphant, téléphant) due to hearing liaison consonant intrusions. Thirty-six French-learning 30-month-olds completed an eyetracker experiment. Each trial presented two objects while one was named. There were three trial types: 1) correct vowel-initial (e.g., joli éléphant - 'pretty elephant'); 2) incorrect frequent intrusion (e.g., joli téléphant, /t/-intrusion before 'éléphant'); 3) incorrect infrequent intrusion (e.g., joli géléphant, /g/-intrusion). Results showed that target recognition was efficient in both correct vowel-initial and incorrect /t/-intrusion trials, whereas /g/-intrusion delayed recognition. Our findings demonstrate that children's lexicon contains multiple variants, especially frequent variants, for words subject to phonological/phonetic changes. This differs from the general view that children's representation is stable for familiar words.

Notes

#### Alternates

Children's Knowledge of Domain Restriction: The Case of dou ('all') in Mandarin Chinese

#### Margaret Lei (The Chinese University of Hong Kong)

studv investigates Mandarin-speaking children's This interpretation of the domain restriction of dou 'all' - a universal adverb quantifier that is invariant in occupying a preverbal syntactic position to quantify over a constituent to its left. Using a Truth Value Judgment task, we tested 53 preschoolers (age range: 4;4-6;3) on dou-sentences containing either a bare noun object or a numeral phrase object, presented in situations involving universal quantification over the subject (leftward quantification of dou) and those involving universal quantification over the object (rightward quantification of dou). Our findings show that children are sensitive to the leftward directionality requirement of dou; accepting the domain of dou as quantifying over the subject but not over the object. Around one-third of the children, however, exhibit errors of "symmetrical interpretation" (Philip 1995) or "quantifier spreading" (Roeper and Mattei 1974) in wrongly assuming the domain of dou as extending over both the subject and the object.

#### Alternates

Age of acquisition effects on signers' use of depiction

#### Jenny Lu (University of Chicago) Susan Goldin-Meadow (University of Chicago)

Age of acquisition (AoA) has been shown to affect signers' ability to combine morphemes (Supalla, 1982). Here we ask whether AoA affects signers' ability to gradiently modify morphemes. We analyzed early (n=9; Mage=1;9) and late (n=10; Mage=13) learners' descriptions of the shape and size of objects. Early learners often produced tracing depicting constructions (DCs) along with mouth movements conveying the same gradient information (e.g., tracing 3 bumps while puffing cheeks 3 times). Compared to early learners, late learners produced fewer DCs with tracing movements (although the same number of static DCs) and fewer mouth movements. However, both groups performed equally well on a test of derivational morphology. Late exposure to language can thus affect signers' ability to gradiently modify linguistic forms even when it has no effect on their ability to add a derivational morpheme to a stem.

Children ages 3-5 years use language to identify talkers

Reina Mizrahi (University of California, San Diego) Sarah Creel (University of California, San Diego)

A central question in language development is how bilingual children form separate representations of the languages they speak. The current studies address this question by testing whether English monolingual (n=32), English-Spanish bilingual (n=20), and bilinguals that speak English and another language not including Spanish (n=32) between 3- to 5-years-old children differ in their ability to associate speakers with particular languages. Participants were familiarized with 2 characters and the language each spoke (English or Spanish); then after listening to a sentence in either language participants were asked to select the character they thought said the sentence, as their eye-movements were tracked. Results suggest that while all children are above chance (p<0.001), bilingual children that comprehend the languages spoken by the characters can more readily use language as a cue for talker identification, visually fixating the target character, p=0.009. Such findings have important implications for bilingual and monolingual language representations throughout development.

#### Alternates

Predict and redirect: How prediction errors influence children's word learning

Tracy Reuter (Princeton University) Arielle Borovsky (Florida State University) Casey Lew-Williams (Princeton University)

Prediction-based theories claim that prediction errors promote language learning. Correlational findings support this view: Children who generate predictions tend to have larger vocabularies. Additionally, redirecting attention in response to inaccurate predictions correlates positively with children's vocabulary size. However, causal evidence linking prediction errors and language learning is currently lacking. In the present study, we tested this relation directly. We hypothesized that the extent to which prediction errors promote learning may rely on children's ability to rapidly redirect attention to encode novel information. We tested 3-5-year-old children (n=56) in a novel word learning task, using eye-tracking to measure prediction error, attention redirection, and learning. Findings indicate that prediction errors support learning if children are able to rapidly redirect attention in response to the error. This study provides a crucial test of prediction-based theories, and suggests that erroneous predictions play a mechanistic role in language learning.

Second-order false beliefs and recursive complements in children with Autism Spectrum Disorder

#### Irina Polyanskaya (Roskilde University) Torben Brauner (Roskilde University) Patrick Blackburn (Roskilde University)

Second-order (SO) false belief (FB) is a developmental component of Theory of Mind (ToM), underlying complex social behavior such as idiom understanding and peer coordination. Links between language and false belief reasoning in \*first-order\* ToM have been established in both typically developing and children with Autism Spectrum Disorder (ASD). \*Second-order\* ToM development is less studied, and its links with language remain unclear.

We have carried out a correlation and training study of secondorder social reasoning competency in high-functioning Danish children with ASD. Our hypothesis is that training in linguistic recursion will improve their SOFB reasoning abilities.

Our correlational study (n=62) indicates that mastery of recursive complements is a significant predictor of secondorder false belief understanding, even after accounting for age, general grammatical knowledge, and working memory. Our training study (n=27) shows that a five day recursive embedding training leads to significant improvement in SOFB mastery.

Notes

Learning allophones: What input is necessary?

#### Caitlin Richter (University of Pennsylvania)

We model children's developing phoneme inventory and discovery of allophones as surface alternations accumulate in their vocabulary. The model is applied to grouping English alveolar flaps [r] as allophones of alveolar stops. Our model assumes that children initially treat contrasting surface segments as underlyingly distinct, and they learn more abstract representations only when triggered by alternations in the input. The Tolerance Principle, grounded in considerations of processing efficiency, quantitatively defines the point of sufficient motivation for the child to revise their initial grammar and posit allophonic relations between surface segments. This emphasises how cognitive cost to the learner shapes emerging phonology, in the context of their developing semantic and morphological knowledge, though phonological learning can also be sensitive to distributional information. Our model accounts for the characteristic U-shaped curve of children's productions, with stop allophones sometimes produced in obligatory flap contexts (e.g. [sotə] 'soda') after the allophonic relation is learned.

Notes	

Alternates

The Development of a Generative Lexicon: Evidence from Instrument Verbs

#### Barbora Skarabela (University of Edinburgh) Mahesh Srinivasan (University of California, Berkeley) Hugh Rabagliati (University of Edinburgh)

In English and many other languages we often use the same word for an action and the tool we use to perform the action (e.g., we hammer with a hammer and brush with a brush). Are young children aware of this and do they use their knowledge of one meaning (e.g., that an action involving a tool is called 'pabbing') to infer other meanings (e.g., that the tool is a 'pab' but a novel label like 'neefoo' must refer to the patient)? In a series of experiments we found that in the third year of life children begin to generalize novel instrument verbs to the instrument and that four-year-olds spontaneously infer that the meaning of a novel label that is not related to the instrument verb (e.g., 'neefoo') must refer to the patient. These findings suggest that structured polysemy may play an important role in children's rapidly growing lexicon.

#### Alternates

Young Infants Discriminate Subtle Phonetic Contrasts

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Narayan, Werker, and Beddor (2010) claimed that some phonetic contrasts might not be discriminated until the end of the first year. Specifically, they argued that infants initially demonstrate broad acoustic sensitivity in F2-F3 space that allows early discrimination of Filipino /ma/-/na/ while the more subtle Filipino /na/-/na/ contrast must wait upon specific lexical language experience before becoming discriminable. That is, more subtle contrasts must be induced. Using a fully infant-controlled visual habituation procedure, we show that English-learning 4- and 6-month-olds successfully discriminate the Filipino /na/-/na/ contrast. Moreover, both English- and French-learning 6-month-olds can discriminate comparably subtle nasal and lateral contrasts from Tamil. We discuss the methodological causes of these divergent results and their implications and argue that attunement theories omitting induction mechanisms are sufficient to characterize and explain development of speech perception in infancy.

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