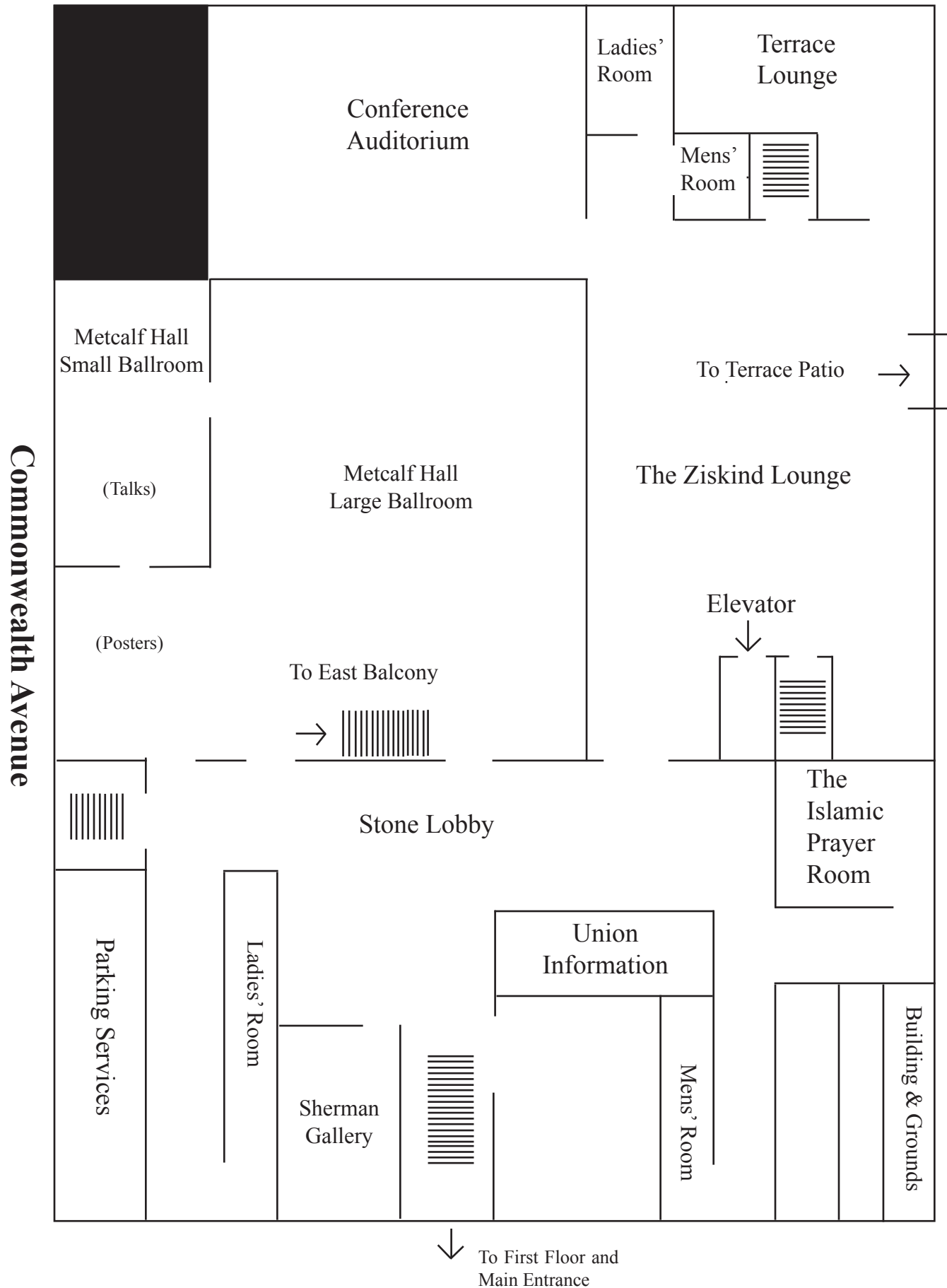# The Fortieth Annual Boston University Conference on Language Development

Meeting Handbook
November 13-15, 2015
George Sherman Union

Map of George Sherman Union (Second Floor)

Conference Auditorium

Ladies' Room

Terrace Lounge

Mens' Room

Metcalf Hall Small Ballroom

To Terrace Patio →

(Talks)

Metcalf Hall Large Ballroom

The Ziskind Lounge

(Posters)

Elevator

To East Balcony

→

Stone Lobby

The Islamic Prayer Room

Parking Services

Ladies' Room

Union Information

Mens' Room

Building & Grounds

Sherman Gallery

Commonwealth Avenue

↓ To First Floor and Main Entrance

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Welcome

Our 40th Year
Welcome to the 40th anniversary meeting of the Boston University Conference on Language Development.

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

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

Paper and Poster Presentations
The rest of the program is devoted to a wide range of papers and posters chosen from submitted abstracts. This year we received 490 submissions, each of which was sent out to five reviewers for anonymous review. Of these, 69 papers (with 12 alternates) and 120 posters were selected for presentation—with an acceptance rate of 38%. We are sorry not to have had space to include more of the many excellent submissions we received.

Proceedings
Once again this year we will be publishing the Proceedings of the Conference, which includes papers presented, as well as those selected for alternate status. Information about ordering copies is available in your handbook and at the Cascadilla Press table during the book exhibit. We will also have an online supplement to the proceedings for papers given as posters, which will be published on the web by BUCLD.

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

The 2015 Conference Organizing Committee
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Deb Waughtal

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Sudha Arunachalam
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Boston University Conference on Language Development
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Boston, MA 02215
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For general information about the conference, visit our website at http://www.bu.edu/bucld.

Acknowledgements

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Jennifer Culbertson	Arild Hestvik Makiko Hirakawa	Elena Lieven	Lisa Pearl
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Carson Schütze	John Trueswell	Kie Zuraw
Bonnie D. Schwartz	Sho Tsuji	
Amanda Seidl	Sigal Uziel-karl	

General Information

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

Plenary Events

- The **Keynote Address** entitled "The Linguistic Representation of Symmetry" will be delivered by Lila Gleitman on Friday at 7:45 PM in Metcalf Large, followed by a reception in Ziskind Lounge. Poster Session I (unattended) will immediately follow in Metcalf Large, Metcalf Small, and Ziskind Lounge.

- A special **Plenary Roundtable Session** entitled "40 Years of BUCLD: Looking Back and Looking Forward," featuring Jean Berko Gleason, Eve Clark, Elissa Newport and Ken Wexler and moderated by Roberta Golinkoff and Kathy Hirsh-Pasek, will take place on Saturday at 5:45 PM in Metcalf Large, followed by a reception in Ziskind Lounge. Poster Session II (unattended) will immediately follow in Metcalf Large, Metcalf Small, and Ziskind Lounge.

- A **Lunchtime Symposium** entitled "In(put)s and Out(put)s of the Syntactic Bootstrapper" with presentations from Anne Christophe, Cynthia Fisher, and Jeffrey Lidz will be held on Saturday at 12:15 PM in Metcalf Large.

- A **Closing Symposium** entitled "What Does Infant Artificial Grammar Learning Tell Us About Language Development?" with presentations from LouAnn Gerken, Rebecca Gómez, and Jill Lany, 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, 60 posters will be on display in Metcalf Large, Metcalf Small, and Ziskind Lounge. There will be one attended Poster Session at 3:00 PM, and an additional unattended session at 9:00 PM. Refreshments will be available at both sessions.

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

Special Sessions

- A special **NIH/NSF Funding Symposium** will be facilitated by Lisa Freund and Ruben Alvarez (NIH), along with Joan Maling and Laura Namy (NSF) on Friday at 12:30 PM in the Conference Auditorium.

- A special **Student Workshop** hosted by Shanley Allen will be held immediately following our Closing Symposium in the Conference Auditorium, from 1:15 PM to 2:30 pm on Sunday.

- The **Society for Language Development** will hold its annual symposium, "The Development of Pragmatics," on Thursday, November 12 at 1:00 PM in Metcalf Large, with a reception following immediately in Metcalf Small. The invited speakers are Eve Clark, Jesse Snedeker and David Barner.

- **NSF and NIH consultation** hours will be held in the Ziskind Lounge. Both sessions will be held on Saturday from 9:30 AM until 12:00 PM, and again from 2:30 PM until 5:00 PM.

- A **BUCLD Business Meeting** will be held on Saturday at 8 AM in the Conference Auditorium.

Additional Information

- **Parking** is available at the Agganis Arena Garage (925 Commonwealth Avenue) for $1 per hour, and at the Granby Lot (665 Commonwealth Avenue) and the Warren Towers Garage (700 Commonwealth Avenue) for $10 per car per day. Please mention that you are with BUCLD if asked. On Sunday, Granby lot is closed, but there will be free on-street parking available instead. More information can be found at http://www.bu.edu/parking.

- **Temporary luggage storage space** will be available immediately adjacent to the information table at registration. This area is staffed during regular conference hours only. Although student volunteers will be present in the registration area, BUCLD is not responsible for any lost/stolen items. All posters and poster containers will be discarded if not picked up by Sunday afternoon.

General Information

- A **nursing room** will be available for nursing mothers in GSU 310-311.

- **Wireless internet access** will be throughout the GSU. Information for connecting will be given at registration.

- **Refreshments** will be served in Ziskind Lounge before the morning sessions, during breaks, and during poster sessions. A list of local restaurants is available at the information table. The Food Court on the ground floor of the George Sherman Union offers a wide selection but is cash-only.

The Information Table at registration will provide the following services:
ASL Interpreters (Please inquire when you arrive) * Lost and Found * Campus Maps * MBTA Maps
Local Tourist and Dining Information * Certificates of Attendance

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NIH/NSF Consultation Hours

Ruben Alvarez and Lisa Freund (NIH)

Joan Maling and Laura Namy (NSF)

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

Schedule at a Glance

Thursday, November 12

11:00 AM	Registration Opens
1:00 PM - 6:00 PM	Society for Language Development Annual Symposium

Friday, November 13

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, Poster Symposium
4:15 PM - 5:45 PM	Talks
5:45 PM - 7:45 PM	Dinner break
7:30 PM - 9:00 PM	Keynote Address
9:00 PM - 9:45 PM	Reception, Poster Session I unattended with refreshments

Saturday, November 14

8:00 AM	BUCLD Business Meeting
8:30 AM	Registration opens
9:00 AM - 5 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
12:15 PM - 2:15 PM	Lunchtime 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 Session: BUCLD Roundtable
7:15 PM	Reception, Poster Session II unattended

Sunday, November 15

8:30 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	Closing Symposium
1:15 PM	Student Workshop

Time	Session A (Metcalf Small)	Session B (Conference Auditorium)	Session C (Terrace Lounge)
9:00-5:00	BOOK EXHIBIT		
9:00	Linguistic and cognitive factors in Elicited Imitation Tasks: A study with mono- and biliterate Greek-Albanian bilingual children. *I. Dosi, D. Papadopoulou, I. Tsimpli*	Processing biases in learning shape cross-linguistically frequent structures *M. Fedzechkina, F. Jaeger, J. Trueswell*	Subject-object asymmetries in the acquisition of clefts *A. Aravind, E. Freedman, M. Hackl, K. Wexler*
9:30	Native and nonnative use of discourse-context information in Chinese sentence processing *Z. Wen, B. Schwartz*	Language learning and word order regularities: Children's errors reflect a typological preference for harmonic patterns *J. Culbertson, E. Newport*	The role of number and gender features in the comprehension of Italian clitic left dislocations *C. Manetti, V. Moscati, L. Rizzi, A. Belletti*
10:00	L2 online sensitivity to English prosodic marking of new and contrastive discourse status *A. Takeda, A. Schafer, B. Schwartz*	Syntactic categories derived from frequent frames benefit early language processing in English and ASL *G. Barsever, L. Pearl*	Syntactic cues in adjective learning *M. Clauss, J. Hartman*
10:30	BREAK (Ziskind Lounge)		
11:00	Neonates can extract words from continuous speech: functional connectivity changes revealed by NIRS during speech segmentation *A. Flo, A. Ferry, P. Brusini, J. Mehler*	What's new to you? Preschoolers' online attributions of disfluency *K. Jin, S. Yoon, S. Brown-Schmidt, C. Fisher*	Comprehension of wh-questions in child Romanian: A case about case and lexical restriction *A. Bentea*
11:30	Eliminating unpredictable linguistic variation through interaction *O. Fehér, N. Ritt, E. Wonnacott, K. Smith*	Young children's developing expectations about the language of events *K. Syrett, S. Arunachalam*	Sluicing and its identity conditions in the acquisition of Japanese *K. Sugisaki*
12:00	Phonological pattern learning involves both implicit and explicit processes *E. Moreton, K. Pertsova*	Incrementality and garden-path recovery in children's resolution of direct object vs. sentential complement ambiguity *A. Apple, A. Omaki*	Clefts and reconstruction in English-speaking children's grammars *R. Thornton, H. Kiguchi, E. D'Onofrio*
12:30	LUNCH BREAK / NIH/NSF FUNDING SYMPOSIUM (Conference Auditorium)		
2:00	Phonological transfer, transfer of L1 schemas, or both? Revisiting the acquisition of tense and agreement in sequential bilingual children *V. Chondrogianni*	A new method for language comprehension reveals better performance on passive and principle B constructions *S. Zuckerman, M. Pinto, E. Koutamanis, Y. Van Spijk*	Speech perception in children with a cleft palate *P. Fikkert, I. Lammertink*
2:30	Tense over time in English L2 learners with SLI *J. Paradis, R. Jia, A. Arppe*	Predictive use of case markers in German children: A case against neural maturation of syntax hypothesis *D. Özge, J. Kornfilt, K. Muenster, P. Knoeferle, A. Küntay, J. Snedeker*	Crosslinguistic differences in the perception of dorsals and coronals: Evidence from English and Dutch *S. van der Feest, P. Fikkert, B. Davis*
3:00	ATTENDED POSTER SESSION I (Metcalf Large and Ziskind Lounge)		
4:15	Indexicals in shifty contexts: Problems for language acquisition *A. Werkmann Horvat, A. Gagliardi, E. Husband*	The scope of conventionality: Do children expect newly-coined words to be mutually known? *M. Srinivasan, R. Foushee, D. Barner*	Patterns in infant babbling: A cross-linguistic analysis *A. Geambasu, M. Scheel, C. Levelt*
4:45	Semantic binding of Korean reflexives *caki* and *caki-casin*: Evidence from the acquisition of Korean *Kum-Jeong Joo, William O'Grady, Kamil Deen*	*Daxing* with a *dax*: Evidence of productive lexical structures in children *S. Al-Mughairy, R. Foushee, D. Barner, M. Srinivasan*	Segmental and suprasegmental details in early lexical representations *J. Ren, J. Morgan*
5:15	Clitics at the interfaces in autism *A. Terzi, T. Marinis, K. Francis*	Learning homophones: Syntactic and semantic contexts matter *I. Dautriche, L. Fibla, A. Christophe*	Hunting highs and lows: Acquiring prosodic focus marking in Swedish and Dutch *A. Romøren, A. Chen*
5:45	DINNER BREAK		
7:45	KEYNOTE ADDRESS (Metcalf Large) The Linguistic Representation of Symmetry *Lila Gleitman, University of Pennsylvania*		
9:00	RECEPTION		

Time	Session A (Metcalf Small)	Session B (Conference Auditorium)	Session C (Terrace Lounge)
8:00	BUCLD Business Meeting (Conference Auditorium)		
9:00-5:00	BOOK EXHIBIT		
9:00	Input subject diversity as a catalyst for grammatical growth *M. Rispoli, P. Hadley*	18-month-olds use the relationship between prosodic and syntactic structures to constrain the meaning of novel words *A. de Carvalho, A. He, J. Lidz, A. Christophe*	Lexical contributions to inflectional variability in L2 predictive processing *H. Hopp*
9:30	The role of caregivers' tense and aspectual distinctions on children's later acquisition *I. Chin, L. Naigles*	Japanese infants are aware of phonemic vowel length in novel words at 18 months *H. Chen, N. Yamane, N. Xu Rattanasone, K. Demuth, R. Mazuka*	Using event-related potentials (ERP) to examine the nature of morphological variability in adult L2 learners *J. Alemán Bañón, J. Rothman, D. Miller*
10:00	An RCT to test the causal role of caregiver contingent talk in infant language learning *M. McGillion, J. Pine, J. Herbert, D. Matthews*	Sensory format of lexical representations in 30-month-old infants *M. Hávy, P. Zesiger*	Verb bias and plausibility in L2 sentence processing *Z. Qian, E. Lee, H. Lu, S. Garnsey*
10:30	BREAK (Ziskind Lounge)		
11:00	The development of narrative structure in an emerging sign language: An episode analysis *M. Coppola, D. Gagne, E. Miranda*	Exploring effects of expressive vocabulary size and maternal education on lexical processing by preschoolers using the visual world paradigm *F. Law II, T. Mahr, J. Edwards*	Comprehension of quantifiers and numerals in Williams syndrome *A. Perovic, E. Carter, C. Donlan*
11:30	The emergence of spatial language and spatial categorization in Nicaraguan Sign Language *J. Pyers, A. Senghas, S. Goldin-Meadow, D. Gentner*	Individual differences in the precision of the link between language and categories at 12 months predict present and future vocabulary growth *B. Ferguson, M. Hávy, S. Waxman*	When pragmatics helps syntax: an eye tracking study on scope ambiguity resolution in 4- to 5-year-old children. *K. Lohiniva, D. Panizza*
12:15	LUNCH SYMPOSIUM (Metcalf Large) In(put)s and Out(put)s of the Syntactic Bootstrapper *Anne Christophe, CNRS, Ecole Normale Supérieure* *Cynthia Fisher, University of Illinois at Urbana-Champaign* *Jeffrey Lidz, University of Maryland*		
2:15	Two-year-olds' sensitivity to phonemic versus subphonemic mismatch in spoken word recognition *M. Paquette-Smith, N. Fecher, E. Johnson*	Early gesture provides a helping hand to later vocabulary development for children with autism, Down syndrome and typical development *Ş. Özçalışkan, L. Adamson, N. Dimitrova, L. Scmuck*	Preschool children's sensitivity to non-local structural dependencies between logical words *A. Vogt-Woodin, A. Johnson, U. Minai*
2:45	Learning words amidst phonemic variability *C. Frye, S. Creel*	MetaLab: A tool for power analysis and experimental planning in developmental research *M. Lewis, M. Braginsky, C. Bergmann, S. Tsuji, A. Cristia, M. Frank*	Effects of topic on children's interpretations of control *V. Janke*
3:15	ATTENDED POSTER SESSION II (Metcalf Large and Ziskind Lounge)		
4:30	Viewpoint preferences in signing children's spatial descriptions *B. Sumer, P. Perniss, A. Ozyurek*	Tracking the development of structural priming in children *E. Kidd, F. Chang, M. Peter, C. Rowland*	Bilingual children with High Functioning Autism Spectrum Disorder: Evidence from oral narratives and executive function tasks *E. Baldimtsi, E. Peristeri, I. Tsimpli, A. Nicolopoulou*
5:00	The predictive nature of American Sign Language verbs during real-time sentence processing in deaf adults and children *A. Lieberman, A. Borovsky, R. Mayberry*	Mechanisms of syntactic priming and individual differences *L. Serratrice*	Development of goal-plan in narratives of Mandarin-speaking children with high-functioning autism spectrum disorders *K. Yeh*
5:45	PLENARY SESSION: BUCLD Roundtable (Metcalf Large) *Jean Berko Gleason (Boston University)* *Eve Clark (Stanford University)* *Elissa Newport (Georgetown University)* *Ken Wexler (Massachusetts Institute of Technology)* *Moderated by Roberta Golinkoff (University of Delaware) and Kathy Hirsh-Pasek (Temple University)*		
7:15	RECEPTION		

Time	Session A (Metcalf Small)	Session B (Conference Auditorium)	Session C (Terrace Lounge)
9:00	Can more be better or is less more? Talker variability and native vowel discrimination in the first year of life *C. Bergmann, A. Cristia*	Predicting past and non-past errors in the acquisition of Japanese verb inflection *T. Tatsumi, J. Pine, B. Ambridge*	Functions of evidentials in Turkish child and child-directed speech in early child-caregiver interactions *B. Uzundag, S. Tasci, A. Küntay, A. Aksu-Koc*
9:30	Flexible but precise signal-to-word mapping strategies in infancy: Evidence from foreign-accented word recognition *M. van Heugten, D. Krieger, M. Paquette-Smith, E. Johnson*	Revisiting 2;0-year-olds' understanding of plural morphology *B. Davies, N. Xu Rattanasone, K. Demuth*	Cross-linguistic variation and the learnability of semantic systems *S. Bartell, A. Papafragou*
10:00	The role of linguistic experience in perceptual narrowing: the case of bilingual infants *G. Pi Casaus, N. Sebastian-Gallés, J. Werker, L. Bonatti*	Order and ordinality: the acquisition of cardinals and ordinals in Dutch *C. Meyer, S. Barbiers, F. Weerman*	Speaker-based generalization of quantity implicature in preschoolers *A. Pogue, C. Kurumada, M. Tanenhaus*
10:30	BREAK (Ziskind Lounge)		
11:00-12:45	CLOSING SYMPOSIUM (Metcalf Large) What does infant artificial grammar learning tell us about language development? *LouAnn Gerken, University of Arizona* *Rebecca Gómez, University of Arizona* *Jill Lany, University of Notre Dame*		
1:15-2:30	STUDENT WORKSHOP (Conference Auditorium) Scientific Writing *Shanley E.M. Allen, University of Kaiserslautern*		

ALTERNATES

Authors	Title
E. Che, M. Alarcon, F. Yannaco, P. Brooks	Maternal overlap predicts language outcomes for typical and late-talking children
J. Choe	Acquisition of form-meaning mapping in Korean causatives
D. Gagne, A. Senghas, M. Coppola	A language model is not sufficient to promote conventionalization of space in an emerging sign language
M. Grigoroglou, M. Johanson, A. Papafragou	The acquisition of front and back: Conceptual vs. pragmatic factors
V. Mateo, Ş. Özçalışkan, E. Hoff	Parental translations of child gesture help vocabulary development in bilingual children
G. Molina Onario, J. Morgan	Fundamental word-learning skills in preterm and full-term toddlers predict later language comprehension
L. Nishibayashi, H. Yeung	Social attention facilitates word segmentation in French-learning 8-month-olds
K. Shantz, D. Tanner	Are L2 learners pressed for time? Retrieval of grammatical gender information in L2 lexical access
F. Trecca, D. Bleses, M. Christiansen	When too many vowels impede language processing: The case of Danish
Y. Wang, A. Seidl	Toddlers learn words from adults, but not children

Friday, November 13, 2015
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. Abbot-Smith, F. Chang, H. Ferguson, J. Pine, C. Rowland	First NP-as-agent bias does not prevent active from passive discrimination in 25-month-olds
L. Almeida, S. Ferré, C. dos Santos	What do they produce when phonology is too complex? The case of bilinguals with SLI
I. Arnon, S. McCauley, M. Christiansen	Digging up the building blocks of language: Age-of-acquisition effects for multiword phrases
E. Berdasco-Munoz, T. Nazzi, H. Yeung	Infant's production abilities contribute to audiovisual speech perception in a non-native language, but not the native language
A. Bidgood, B. Ambridge, J. Pine, C. Rowland	Is the passive a semantic prototype construction? Evidence from production-priming
S. Brandt, H. Li, A. Chan	The specific and general relations between language, complement clauses, and false belief development in Mandarin- and English-speaking four-year-olds
H. Buckler, H. Goy, J. Kow, E. Johnson	Are connected speech processes 'simplified' in infant-directed speech?
J. Cabrelli Amaro	Does the source of transfer affect the rate of L3 morphosyntactic development?
J. Cho	Resolution of bridging definites in a second language
J. Choe	Acquisition of form-meaning mapping in Korean causatives
S. Choi, T. Ionin, Y. Zhu	L2-acquisition of the count/mass distinction in English by L2-learners from the Generalized Classifier languages based on atomicity
S. Durrant, C. Delle Luche, J. Chow, K. Plunkett, C. Floccia	Rhoticity – A tale of two cities
Kum-Jeong Joo, William O'Grady, Kamil Deen	Semantic binding of Korean reflexives *caki* and *caki-casin*: Evidence from the acquisition of Korean
A. Ferry, P. Brusini, M. Nespor, J. Mehler	Following the rules: Nine-month-old Italian-learning infants understand gender and singular/plural morphological distinctions.
C. Gambi, M. Pickering, H. Rabagliati	Beyond associations: Pre-schoolers' predictions are based on linguistic structure
A. Gavarró, S. Durrleman, H. Delage	Cross-linguistic variation in the acquisition of clitics: Evidence from French and Catalan
Y. Haendler, F. Adani	Referential properties of pronouns affect sentence processing similarly in children and adults: Comparing 5-year-olds' eye movements and adults' reading times in Italian
C. Hervé, L. Serratrice	Left-dislocations in French-English bilingual children: An elicitation study
A. Hohenberger, U. Kaya, A. Altan	Sensitivity of monolingual Turkish infants to vowel harmony in stem-suffix sequences in the first year of life: Preference shift from familiarity to novelty
S. Hu, M. Guasti	School-age sequential Mandarin-Italian children's comprehension of relative clauses
M. Jasbi	Children's comprehension of the English presupposition trigger "too"
K. Katsika, S. Allen	The processing of Greek relative clauses in adults and children
E. Kim	L2 learners' interpretation of reflexives and pronouns inside picture NPs

Friday, November 13, 2015 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
R. Kwok, C. Delle Luche, J. Chow, K. Horváth, A. Cattani, K. Plunkett, C. Floccia	Semantic priming effect in 24- to 27-month-old monolingual and bilingual children
M. Laguardia, E. Santos, R. Shi, C. Name	Eleven-month-old infants use prosodic boundaries to learn non-adjacent grammatical dependencies
Z. Liu, A. Chen, H. Van de Velde	Prosodic focus marking in minority L1 Bai-children learning Mandarin Chinese as L2
M. Long, M. Vega-Mendoza, A. Sorace, T. Bak	In praise of novelty and practice: Language learning improves and maintains attention
O. Lungu	On the temporal interpretations of locative PPs in child language
W. Ma, P. Zhou, S. Crain, L. Gao	Vowel and tone processing in young tonal learners – A functional reorganization of tones
M. Mansbridge, K. Tamaoka	Japanese learners of English are sensitive to that dogs but not those cat: An eye-tracking study of L2 English morpheme acquisition
M. Masapollo, L. Polka, L. Ménard	Infants' preference for infant speech over adult speech suggests an experience-based "articulatory filter"
V. Mateo, Ş. Özçalışkan, E. Hoff	Parental translations of child gesture help vocabulary development in bilingual children
R. Mayberry, M. Hall, M. Hatrak, D. Ilkbasaran	Infant language acquisition enables second language learning: Cross-sign language evidence for a critical period for L1 acquisition
E. Moeng	Distributions of individual segments and of phonological features
V. Moscati, C. Manetti, L. Rizzi, A. Belletti	Children's sensitivity to prosody and discourse-pragmatic: The case of contrastive focus in Italian.
C. Nakamura, M. Arai, Y. Hirose, S. Flynn	Prosody can mislead L2 learners down "A Garden Path": Evidence from a visual-world eye-tracking study
C. Name, R. Shi	Preverbal infants track and represent non-adjacent dependencies at an abstract level
L. Nishibayashi, H. Yeung	Social attention facilitates word segmentation in French-learning 8-month-olds
F. Panzeri, F. Foppolo	Deafness, Theory of Mind, and figurative language comprehension
L. Pintér	Children's interpretation of asserted, presupposed, and pragmatically-implied exhaustivity
H. Rabagliati, S. Conte, M. Srinivasan	Words as invitations to form categories? The case of polysemy
K. Rombough	SLI children's answers to wh-questions
A. Samara, K. Smith, H. Brown, O. Fehér, E. Wonnacott	Statistical learning over sociolinguistic cues in children and adults
E. Sanfelici, C. Trabandt, P. Schulz	Are relative clauses derived from main clauses? – Evidence from an elicited imitation experiment in German
A. Schafer, A. Takeda, H. Rohde, T. Grüter	Mapping prosody to reference in L2
K. Schuhmann	Temporary phonetic drift in bilingual first language acquisition

Friday, November 13, 2015 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
B. Skarabela, M. Ota	Reduplication facilitates early word segmentation
K. Suzuki, N. Kikuchi, M. Kawada, M. Maetsu, M. Yasuda, K. Shioda, T. Suto, Y. Takano, T. Ishii, M. Hirakawa	Cross-linguistic effects in L2 acquisition of causative constructions
S. Tasci, R. Furman, A. Ozyurek, A. Küntay	Influence of verb-prominence on Turkish-learning children's caused motion expressions in speech and gesture: Evidence from early toddler–caregiver interactions
L. Tieu, M. Križ, E. Chemla	On the acquisition of homogeneity in plural definites
S. Topaloglu, M. Nakipoglu	Preschoolers understand the focus particle 'Only' when given syntactic or pragmatic cues
F. Trecca, D. Bleses, M. Christiansen	When too many vowels impede language processing: The case of Danish
V. Tsakali	Development of conditional reasoning affected by grammatical properties: Evidence from counterfactuals
M. van Koert, O. Koeneman, A. Hulk, F. Weerman	Preferred quantifier interpretations correlate with interpretations of quantified antecedents and object reflexives and pronouns
V. Vihman, E. Lieven, A. Theakston	Practice with pronouns: Acquisition of differential object case-marking
K. Von Holzen, D. Rider, T. Nazzi	The role of consonants and vowels in 5- and 8-month-old own name recognition: Implications for lexical development

POSTER SESSION II

Saturday, November 14, 2015 Metcalf Large, Metcalf Small, and Ziskind Lounge Posters will be attended from 3:15 PM - 4:30 PM and unattended from 7:15 PM - 9:45 PM	

Authors	Title
A. Arnold, Y. Huang	Word learning in linguistic context: Processing and memory effects
A. Athanasopoulou, I. Vogel	The acquisition of compound prosody in Greek and English: The role of the prosodic hierarchy
J. Austin, L. Sanchez, K. Syrett, A. Lingwall, S. Perez-Cortes	Quantity implicatures in English monolingual and Spanish-English bilingual children
S. Babb, S. Adlof, D. Fogerty	Encoding vs. retrieval in nonword repetition tasks: Comparing children with SLI-only, children with SLI and dyslexia, typically developing children, and adults
P. Barbosa, C. Cardoso-Martins, C. Echols	Sensitivity to sentence structure in early vocabulary acquisition: Evidence from Brazilian Portuguese
M. Braginsky, D. Yurovsky, V. Marchman, M. Frank	Developmental trajectories of vocabulary composition across languages
D. Brentari, J. Falk, G. Wolford	The acquisition of prosody in American Sign Language (ASL)
J. Bruhn de Garavito, L. Montoya	Interfaces: Syntax and information structure in L2 Spanish nominal ellipsis
J. Bunce, C. Gordon, D. Abney, M. Fleming, M. Greenwood, E. Chiu, M. Spivey, R. Scott	Mouse tracking reveals knowledge of multiple competing referents during cross-situational word learning

Saturday, November 14, 2015
Metcalf Large, Metcalf Small, and Ziskind Lounge
Posters will be attended from 3:15 PM - 4:30 PM and unattended from 7:15 PM - 9:45 PM

Authors	Title
E. Che, M. Alarcon, F. Yannaco, P. Brooks	Maternal overlap predicts language outcomes for typical and late-talking children
C. Contemori, L. Pozzan, P. Galinsky, G. Dussias	The processing of garden-path sentences by L2 learners of English: A visual word study
A. Cournane, A. Perez-Leroux	Must be tricky: Testing the role of aspect and evidence in modal meaning
L. Covey, R. Fiorentino, A. Gabriele	Anticipatory processing of gender in L2 Hindi
B. Davis, S. van der Feest, H. Yi	Phonological versus lexical factors in children's productions at the onset of word use
B. Eaves, N. Feldman, T. Griffiths, P. Shafto	Infant-directed speech is consistent with teaching
Z. Fieldsteel, D. Lillo-Martin	Development of headshake in sign and speech
D. Gagne, A. Senghas, M. Coppola	A language model is not sufficient to promote conventionalization of space in an emerging sign language
A. Garcia-Sierra, N. Ramirez-Esparza, P. Kuhl	Neural patterns of native and non-native speech perception as a function of the amount of language input in monolingual and bilingual infants: An interplay between the MMR and the LDN response
H. Getz	The development of simultaneous-combinatorial structure in language creation and acquisition
K. Gokgoz, J. Palmer, D. Lillo-Martin	Contrastive focus in children learning ASL
C. Goodin-Mayeda, J. Cabrelli Amaro	Stability of the L1 perceptual system: The case of illusory vowels in Brazilian Portuguese
R. Graham, U. Lakshmanan	Tunes and tones: Music, language, and inhibitory control
M. Grigoroglou, M. Johanson, A. Papafragou	The acquisition of front and back: Conceptual vs. pragmatic factors
E. Haebig, S. Ellis Weismer, M. Kaushanskaya	Effects of bilingualism vs. language impairment on lexical-semantic processing in children
M. Hara	Second language learners' ability to use case-marking information in processing Japanese relative clause sentences
K. Harrigan, V. Hacquard, J. Lidz	Hope for syntactic bootstrapping
J. Henner, R. Novogrodsky, R. Hoffmeister, S. Fish	Factors that predict the acquisition of American Sign Language syntactic structures for native and non-native signing deaf children
Y. Huang, L. Abadie, A. Arnold, E. Hollister	Novelty of discourse referents promotes heuristics in children's syntactic processing
T. Ionin, M. Kim, K. Tyndall	Learners know more about definiteness than they think: comparing explicit and implicit knowledge of articles in L2-English
I. Kastner, F. Adriaans	Consonant representations aid in learning segmentation and phonology for Arabic but not English
S. Ke	Cross-linguistic transfer of metalinguistic awareness in biliteracy acquisition: A meta-analysis
M. Kon, T. Goksun, A. Bagci, S. Arunachalam	Verb acquisition in English and Turkish: The role of processing
Z. Liberman, A. Woodward, K. Kinzler	Infants' inferences about language as a social category
D. Lillo-Martin, K. Gokgoz, R. Quadros, D. Chen Pichler	Code-blending of IX arguments reveals structural asymmetries
C. Lin, T. Mintz	The encoding of tonal contrast in word learning by monolingual English infants

POSTER SESSION II

Saturday, November 14, 2015
Metcalf Large, Metcalf Small, and Ziskind Lounge
Posters will be attended from 3:15 PM - 4:30 PM and unattended from 7:15 PM - 9:45 PM

Authors	Title
A. Liter, A. Huelskamp, S. Weerakoon, A. Munn	What drives the Maratsos Effect, agentivity or eventivity?
E. Luchkina, D. Sobel, J. Morgan	Eighteen-month-olds use speakers' accuracy to judge novel labels
T. Luchkina, T. Ionin	Quantifier scope in the second language acquisition of Russian
V. Mateu	The delay of subject-to-subject raising with seem and subject control with promise: Is a unified account possible?
G. Molina Onario, J. Morgan	Fundamental word-learning skills in preterm and full-term toddlers predict later language comprehension
M. Nagano	Acquisition of overt and null pronoun interpretation in L2 Japanese
W. Nediger, A. Pires, P. Guijarro-Fuentes	Variable L2 acquisition of Spanish differential object marking by L1 English speakers
T. O'Donnell, K. Smith	Evidence for an irregularization bias in morphological learning
Ö. Özçelik, R. Sprouse	Acquisition of Turkish vowel harmony in low-frequency and zero-frequency contexts: Evidence for Full Access in L2 phonology
J. Parish-Morris, D. Fein, L. Naigles	Growth in naturalistic verb use differs by verb category in toddlers with ASD
D. Perszyk, S. Waxman	The breadth of sounds that young infants link to meaning in language acquisition
N. Pouscoulous, A. Perovic	Comprehension of novel metaphor in autism and Down syndrome
Z. Qi, D. Pantazis, C. de los Angeles, T. Perrachione, J. Gabrieli	Sensitivity to speech distributional information in children with autism: A MEG study
P. Requena, K. Miller	Acquisition of Spanish variable clitic placement: A case of probability matching
K. Schuler, R. Aslin, E. Newport	The time-course of statistical learning across development: Word segmentation and syntax in a serial reaction time task
A. Sevcenco, T. Roeper, B. Zurer Pearson	The acquisition of recursive locative prepositional phrases and relative clauses in child English
K. Shanks, E. Hoff	Qualities of child-directed speech in mothers' first and second language
K. Shantz, D. Tanner	Are L2 learners pressed for time? Retrieval of grammatical gender information in L2 lexical access
P. Spinner, R. Foote	Gender and number in L2 Swahili word recognition
L. Stites, Ş. Özçalışkan	The time is at hand: Literacy influences children's gestures about time
P. Su, C. Lew-Williams	Personalized storybooks enhance word learning in young children
E. Tenenbaum, D. Amso, S. Sheinkopf	Cues to facilitate word learning in typically developing children and children with ASD
J. Thorson, N. Usher, R. Patel, H. Tager-Flusberg	Acoustic analysis of prosody in spontaneous productions of minimally verbal children and adolescents with autism
K. Tillman, T. Marghetis, M. Srinivasan, D. Barner	Placeholder structures in word learning: The case of deictic time
Y. Wang, A. Seidl	Toddlers learn words from adults, but not children

Session A--Metcalf Small

Linguistic and cognitive factors in Elicited Imitation Tasks: A study with mono- and biliterate Greek-Albanian bilingual children

Ifigeneia Dosi (Aristotle University of Thessaloniki)
Despina Papadopoulou (Aristotle University of Thessaloniki)
Ianthi Maria Tsimpli (University of Cambridge)

The present study explores the impact of cognitive skills and language ability on Elicited Imitation Tasks (EITs) in monoliterate and biliterate bilingual children. EITs involve both metalinguistic awareness and language ability (Bialystok 1991). Literacy also interacts with cognitive control (Stanovich & Cunningham, 1992). We tested biliterate and monoliterate Greek-Albanian bilingual children and Greek monolingual peers on expressive vocabulary, EIT and updating skills. The biliterate bilinguals performed lower than monoliterate bilinguals and monolinguals on Greek vocabulary task, while no differences were attested between the bilingual groups on EIT. Monolinguals outperformed all bilingual groups on EIT. In the updating task, biliterate bilinguals outperformed monoliterate bilinguals and monolinguals. Additionally, EIT scores correlated with updating skills in all groups. We conclude that lexical knowledge and updating contribute to EIT performance. Moreover, better cognitive skills in biliterate bilinguals compensate for lower language proficiency resulting in non-significant differences in EIT performance between the two bilingual groups.

Session B--Conference Auditorium

Processing biases in learning shape cross-linguistically frequent structures

Maryia Fedzechkina (University of Pennsylvania)
Florian Jaeger (University of Rochester)
John Trueswell (University of Pennsylvania)

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

Session C--Terrace Lounge

Subject-object asymmetries in the acquisition of clefts

Athulya Aravind (Massachusetts Institute of Technology)
Eva Freedman (Wellesley College)
Martin Hackl (Massachusetts Institute of Technology)
Ken Wexler (Massachusetts Institute of Technology)

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

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Session A--Metcalf Small

Native and nonnative use of discourse-context information in Chinese sentence processing

Zhijun Wen (University of Hawaii - Manoa)
Bonnie D. Schwartz (University of Hawaii - Manoa)

Following the Shallow Structure Hypothesis, Pan and Felser (2011) and Pan, Schimke, and Felser (2015) argue that L2 processing relies more on contextual information than L1 processing does. In both studies, L2ers, but not natives, exhibit discourse-context effects in online ambiguity resolution. However, their argument hinges on natives' null effects, which provide no strong evidence for necessarily divergent L2 processing. Our study reexamines this issue by investigating native and nonnative processing of Chinese null objects. Our self-paced reading experiment (30 L1-English L2ers; 28 L1-Japanese L2ers; 24 Chinese natives) demonstrates discourse-context effects for natives and advanced L2ers, but not for intermediate L2ers. Additionally, we observe an L1 effect for advanced L1-Japanese L2ers whose L1 resembles Chinese as regards null objects. These results indicate that increases in L2ers' proficiency can lead to changes in their online processing routines and that L1 structural properties affect L2ers' processing of similar properties in the target language.

Session B--Conference Auditorium

Language learning and word order regularities: Children's errors reflect a typological preference for harmonic patterns

Jennifer Culbertson (University of Edinburgh)
Elissa Newport (Georgetown University)

Much recent debate in cognitive science concerns whether language universals exist and whether there is a connection between language acquisition, language change, and linguistic typology. However, recent studies have made important progress on these questions by demonstrating, in at least a few cases, that laboratory learners alter artificial languages toward patterns that are common cross-linguistically. Here we ask whether child learners do this even more strongly than adults. We focus on a bias for harmonic word order patterns and show that the strength of this bias changes dramatically over age. This suggests an important role for children in language change and underscores the importance of including child learners in investigations of the cognitive underpinnings of biases shaping language.

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Session C--Terrace Lounge

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

Claudia Manetti (University of Siena)
Vincenzo Moscati (University of Siena)
Luigi Rizzi (University of Geneva, University of Siena)
Adriana Belletti (University of Geneva, University of Siena)

In the context of the acquisition of A'-dependencies involving left peripheral positions and intervention configurations, we investigate childrens mastery of Italian Clitic Left Dislocation and their sensitivity to intervention in these structures. Experiment 1 tested adults and children's interpretation of ambiguous CLLDs (e.g. The cat the dog him.CL bites), compatible with two interpretations (SOclV and OSclV). Experiment 2 explored the role of gender vs. number mismatches in modulating comprehension of unambiguous CLLDs (SOclV and OSclV: e.g. The cats the dog him.CL bite). Results from Experiment 1 show that children and adults accessed both interpretations, with some preference for SOclV in children. In Experiment 2, adults reached ceiling, whereas children performed above chance in number mismatch only. The different role of number and gender features in children's comprehension is discussed in terms of intervention-locality, and confirms previous results on the acquisition of other A'-configurations (e.g. object relatives).

Session A--Metcalf Small

L2 online sensitivity to English prosodic marking of new and contrastive discourse status

Aya Takeda (University of Hawaii - Manoa)
Amy Schafer (University of Hawaii - Manoa)
Bonnie D. Schwartz (University of Hawaii - Manoa)

English prosody has immediate facilitative effects on native online comprehension of discourse-new vs. discourse-contrastive information marked by, respectively, H* vs. L+H* pitch accents. Can speakers of a lexical pitch accent language—where pitch accents signal lexical contrasts—employ H*-new and L+H*-contrastive mappings in L2 English online processing? In a visual-world eye-tracking experiment, 38 English-speaking natives and 18 L1-Japanese L2ers performed an animal-coloring task manipulating discourse context (new vs. contrastive) and pitch accent (H* vs. L+H*) on the Target object in the second sentence (e.g., Use the blue {crayon / paintbrush} to color the dolphin. Now, use the green {H* / L+H*} paintbrush to color the cow.). For English natives, looks to the Target were significantly facilitated by L+H* in the contrastive context but accent was not significant in the new context. Similarly, L2ers (to date; data collection is ongoing) indicated an emerging trend toward the facilitative role of L+H* in the contrastive context.

Session B--Conference Auditorium

Syntactic categories derived from frequent frames benefit early language processing in English and ASL

Galia Barsever (University of California - Irvine)
Lisa Pearl (University of California - Irvine)

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

Session A--Metcalf Small

Neonates can extract words from continuous speech: functional connectivity changes revealed by NIRS during speech segmentation.

Ana Flo (Scuola Internazionale Superiore di Studi Avanzati (SISSA))
Alissa Ferry (SISSA)
Perrine Brusini (SISSA)
Jacques Mehler (SISSA)

Using Near Infrared Spectroscopy, we investigated how neonates use transitional probabilities (TPs) to extract words. After familiarization with 220s of continuous speech built using 4 3-syllabic words, infants showed a differential activation towards words vs. part-words, suggesting they extracted the words (Experiment 1). In addition, a connectivity analysis revealed an increase in correlation coefficients during familiarization. Subjects moved from a weakly connected and little organized state to a strongly connected and well-organized state, with these changes correlated with the differential activation to words and part-words. To understand if this was related to the TPs segmentation task, additional neonates heard a TPs stream, random syllables and silence, and the same connectivity analysis was run (Experiment 2). Silence showed the weakest network. The TPs and the random stream showed strong networks, but the TPs stream was more organized, suggesting that as neonates extract the statistical cues, the network becomes more efficient.

Session B--Conference Auditorium

What's new to you? Preschoolers' online attributions of disfluency

Kyong-sun Jin (University of Illinois - Urbana-Champaign)
Si On Yoon (University of Illinois - Urbana-Champaign)
Sarah Brown-Schmidt (University of Illinois - Urbana-Champaign)
Cynthia Fisher (University of Illinois - Urbana-Champaign)

In adulthood, interpretation of disfluency is tailored to the knowledge state of the speaker. Do preschoolers interpret disfluency flexibly? We tested whether 4-year-olds' interpretation of disfluency is influenced by common ground with particular speakers. Children played a game, entraining names for animal tangrams with an experimenter (E1). At test, scenes contained 1 old (entrained) and 1 new tangram, and children finished the game with either E1 (Same-speaker), or E2 (Different-speaker). The experimenter referred to the entrained tangram using a fluent or a disfluent description. Fluent instructions were readily interpreted, regardless of speaker. However, for disfluent instructions, children looked significantly more at the old tangram in the Different-speaker than the Same-speaker condition, suggesting they attributed the disfluency to the speaker's unfamiliarity with the tangram images. Thus children consider what is in common ground with particular speakers, and use that background to interpret both what speakers say and how they say it.

Session C--Terrace Lounge

Syntactic cues in adjective learning

Michael Clauss (University of Massachusetts - Amherst)
Jeremy Hartman (University of Massachusetts - Amherst)

Investigations of the acquisition of Tough Adjectives have frequently found that children interpret them as Control Adjectives (Chomsky 1969, Anderson 2005). However, Recent work by Becker (2014) has shown that children can give adultlike Tough parses to novel adjectives given enriched semantic content in training, specifically finding that novel adjectives with animate subjects will be given Control parses, and inanimate subjects given Tough parses. This work examines whether syntactic factors can have the same effect, specifically: whether hearing novel adjectives with disambiguating frames (such as expletive subject frames "It is ADJ to VP") can prompt Tough parses. We found that while adults effectively use this information even in very short word learning tasks, and have no bias when given ambiguous training, children maintain a strong bias for Control readings in all conditions as late as age 6.

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Session C--Terrace Lounge

Comprehension of wh-questions in child Romanian: A case about case and lexical restriction

Anamaria Bentea (University of Geneva)

Children's selective difficulties with wh-questions have been linked to intervention effects determined by moving a wh-object containing a lexical NP restriction across a subject sharing the same feature (Friedmann et al. 2009). This study examined Romanlike children's comprehension of who- and which-questions and aimed to determine whether case-marking modulates intervention effects and if such effects arise even in the absence of an overtly expressed NP restriction on the wh-element. Forty-four monolingual Romanian children participated in a study with structure (subject vs object) and wh-phrase (cine "who" vs care NP "which +NP" vs care 'which –NP') as within-subject factors. The findings revealed that case-marking facilitates comprehension of object questions in Romanian, although it does not eliminate intervention effects in which-questions. Care "which –NP" questions patterned with "which +NP" questions, suggesting that the child system is sensitive to the presence of a NP restriction even when not overtly expressed on the wh-object.

Session A--Metcalf Small

Eliminating unpredictable linguistic variation through interaction

Olga Fehér (University of Edinburgh)
Nikolaus Ritt (University of Vienna)
Elizabeth Wonnacott (University College London)
Kenny Smith (University of Edinburgh)

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

Session B--Conference Auditorium

Young children's developing expectations about the language of events

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

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

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

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

Session C--Terrace Lounge

Sluicing and its identity conditions in the acquisition of Japanese

Koji Sugisaki (Mie University)

Sluicing is one of the best investigated instances of ellipsis in the theoretical literature. Despite its theoretical importance, few studies have examined children's acquisition of sluicing. In light of this background, this study investigated experimentally whether Japanese-speaking preschool children are sensitive to the identity condition on sluicing proposed by Merchant (2013), which requires that the sluiced constituent and its antecedent must match in voice (active/passive). If this ban on voice mismatches in sluicing follows from certain principles of UG as the theory claims, it is predicted that the knowledge of this constraint should be in the grammar of preschool children. In order to evaluate this prediction, we conducted an experiment with 21 Japanese-speaking children (mean age 5;07). The results of our experiment, which employed a question-after-story task, suggest that these children are in fact sensitive to the ban on voice mismatches in sluicing proposed by Merchant (2013).

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Session A--Metcalf Small

Phonological pattern learning involves both implicit and explicit processes

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

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

Session B--Conference Auditorium

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

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

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

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Session C--Terrace Lounge

Clefts and reconstruction in English-speaking children's grammars

Rosalind Thornton (Macquarie University)
Hirohisa Kiguchi (Miyagigakuin Women's University)
Elena D'Onofrio (Macquarie University)

This study tested 20 4- to 5-year old children's interpretation of cleft structures and control items such as in (1) and (2) using a dynamic Truth Value Judgment Task.
(1)   It was Spot that he brushed
        Control: He brushed Spot
(2)   It was her pig that every girl carried
        Control: Her pig carried every girl
Adults interpret (1) to require disjoint reference between the pronoun he and the name Spot. Linguistic theory proposes this is due to Principle C, which is imposed at LF, after reconstruction. In (2), the bound variable interpretation is accessible only after reconstruction. If reconstruction is not available to children, the expectation is that coreference between the name and pronoun would be permitted in (1), and only the direct reference interpretation of the pronoun would be available in (2). The findings reveal that children adhere to Principle C and access bound variable interpretations to the same degree as adults.

Session A--Metcalf Small

Phonological transfer, transfer of L1 schemas, or both? Revisiting the acquisition of tense and agreement in sequential bilingual children.

Vicky Chondrogianni (University of Edinburgh)

Studies have shown L1 transfer effects in the acquisition of tense and agreement morphemes in English-speaking sequential bilingual (L2) children (Blom & Paradis, 2013). Children whose L1 does not have tense and agreement markers perform worse than L2 children whose L1 has these markers. Whereas surface phonological problems can explain differences between the groups in terms of accuracy, it is unclear whether phonological effects can explain error types, such as overregularisation rates. Differences in error types could provide a window into the heuristics that L2 children use to break into L2 morphophonological patterns (Blom et al., 2012). This question is addressed in the present study by examining production of tense in English in two groups of Welsh–English and Polish–English L2 children. Welsh and Polish have tense and agreement markers in their paradigms, but different schematic representations and morphophonologies. Results show effects of L1 schematic representations as well as phonological transfer.

Session B--Conference Auditorium

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

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

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

Session C--Terrace Lounge

Speech perception in children with a cleft palate

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

A cleft palate (CP) impacts speech and speech development. CP children have articulatory problems; particularly with oral stop consonants, which are often produced more backwards (labial and coronal stops are often produced as dorsal or glottal stops). This study investigates whether the articulatory problems of 18-month-old CP children result in word recognition problems that differ from children in the control group.
Eighteen-month-old control children noticed the mispronounced labial, but not the mispronounced coronal, replicating earlier results. The cleft-palate children showed the opposite pattern: they did not notice the mispronunciation for labial. They did, however, notice the mispronunciation for coronal targets.
These initial results suggest that phonological mental representations of 18-month-cleft-lip-palate children differ from their age-matched peers. Several possible explanations for these results will be discussed. This research contributes to our understanding of how the link between perception and production influences the sound system in the brain.

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Session A--Metcalf Small

Tense over time in English L2 learners with SLI

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

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

Session B--Conference Auditorium

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

Duygu Özge (Harvard University)
Jaklin Kornfilt (Syracuse University)
Katja Muenster (University of Bielefeld)
Pia Knoeferle (University of Bielefeld)
Aylin Küntay (Koç University)
Jesse Snedeker (Harvard University)

German-speaking children fail interpreting case-markers and rely on verb and word-order until age six (Dittmar, et al., 2008; Knoll, et al., 2012). This fueled a claim suggesting this inability is due to the slow maturation of the dorsal-fiber-tracts between superior-temporal-gyrus and Broadmann-Area-44, which is hypothesized to be responsible for complex syntactic processing (Brauer, et al., 2013; Friederici, 2012). To test this hypothesis, we explored whether 4-year-old German-speaking children interpret case to make thematic predictions. We used visual-world-eye-tracking paradigm with scenes depicting an object labeled by NP1 (rabbit), a potential Theme (cabbage), and a potential Agent (fox). This was accompanied by a spoken sentence in a verb-final order, where the first argument was either in nominative (SOV) or accusative (OSV). Our results demonstrate German-speaking children interpret case incrementally and independent of the verb or word-order, to predict upcoming arguments, which is hard to reconcile with the neural maturation of syntax hypothesis.

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Session C--Terrace Lounge

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

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

English and Dutch are similar in many respects, but important differences were found in early patterns of CV co-occurrences in babbling, early words and adult language. We tested 32 Dutch and English toddlers in a mispronunciation detection task, where they heard dorsal- and coronal-initial words, pronounced either correctly (CP), or with a mispronunciation of word-initial place of articulation (MP). Words contained universally "preferred" (P) versus "non-preferred" (NP) CV combinations. The Dutch results show hindered word recognition in mispronounced coronal- as well as dorsal-initial words containing back vowels only (Coronal-NP and Dorsal-P), which is compatible with previous phonological underspecification accounts. The English results show only hindered word recognition in Coronal-P and Dorsal-P mispronounced words. The finding that both languages treat preferred versus non-preferred CV combinations differently despite language-specific patterns may reflect influences of the production system capacities common across languages on early word processing.

Session A--Metcalf Small

Indexicals in shifty contexts: Problems for language acquisition

Ana Werkmann Horvat (University of Oxford)
Annie Gagliardi (University of Edinburgh)
E. Matthew Husband (University of Oxford)

In successful language acquisition children learn how context determines sentence interpretations. For all indexicals, Kaplan (1989) claims that the speech context directly fixes their referent. However, while English embedded indexicals do not shift reference, in other languages, reference-shifting is possible (Anand 2006, Schlenker 2009). Therefore, during language acquisition, children must determine if their language's embedded indexicals can shift. A corpus analysis of child-directed speech revealed that unambiguously embedded indexicals are rare in the input. In the simulation experiment adults performed better than chance in recovering say-embedded indexicals from child-directed speech, but indexicals were less accurate than pronouns, suggesting that context may be rich but potentially unclear. Finally, a truth-value judgment task was used to determine whether English-acquiring children ever understand indexicals with shifted interpretations. Responses were largely adult-like, but with more flexible interpretations of embedded I vs. he, suggesting children do entertain shifted interpretations before determining their language's indexical behavior.

Session B--Conference Auditorium

The scope of conventionality: Do children expect newly-coined words to be mutually known?

Mahesh Srinivasan (University of California - Berkeley)
Ruthe Foushee (University of California - Berkeley)
David Barner (University of California - San Diego)

When children learn a word, do they expect others to know it? Diesendruck & Markson (2001) taught children a label for one of two novel objects in a puppet's absence. When the puppet later emerged and asked for an object using a second label, children gave the puppet the previously-unlabeled object, suggesting that they believed the puppet knew the first label. This study explored whether preschoolers and adults place limits on what words they expect others to know. We varied whether the first object's label was taught ("This is a dax"), or coined on-the-spot ("Should we call it a dax or a tiv?"). Even when the label was coined, participants gave the puppet the previously-unlabeled object, and did so despite stating that the puppet didn't know the first object's label (93% adults; 87% kids). These findings raise important questions about what previous findings reveal about children's understanding of conventionality.

Session A--Metcalf Small

Out of sight, not out of mind: Unexpressed features impact children's comprehension of relative clauses

Stephanie Durrleman (University of Geneva)
Anamaria Bentea (University of Geneva)

A mismatch in syntactically 'active' features (features triggering movement by being expressed on the inflectional head) can modulate intervention effects arising in O(bject) R(elatives) when both the object and the subject share an NP feature (Belletti et al. 2012). Our study assessed French children's comprehension of ORs headed by the demonstrative celui/celle with an animate lexical NP subject. Celui/celle do not contain an overt NP restriction and their antecedents can be animate or inanimate DPs. This allowed us to examine whether intervention effects arise with celui/celle ORs and whether features such as animacy impact comprehension. Celui/celle with an animate antecedent triggered intervention, thus instantiating the effects of lexical restriction in the absence of a noun from the contentive lexicon. Celui/celle with an inanimate antecedent improved OR processing, showing that an animacy mismatch can modulate comprehension even without a syntactic reflex present on the inflectional head or on the relativized element.

Session B--Conference Auditorium

Daxing with a *dax*: Evidence of productive lexical structures in children

Sara Al-Mughairy (University of California - Berkeley)
Ruthe Foushee (University of California - Berkeley)
David Barner (University of California - San Diego)
Mahesh Srinivasan (University of California - Berkeley)

One reason that word learning is challenging is because form-meaning pairings are arbitrary conventions that children must learn via observation: e.g., that "shovel" labels *shovels*. We explore one way in which children might bypass observational learning and spontaneously infer new word meanings: by exploiting the fact that many words systematically encode multiple, related meanings. For example, words like *shovel* and *hammer* label artifacts as nouns, and functional uses of artifacts, as verbs. Here, we tested whether three- to five-year-olds have formed semantic generalizations about lexical flexibility, and use these generalizations to infer new word meanings: Upon learning that *dax* labels a use of an artifact, do children spontaneously infer that *dax* also labels the artifact? We show that by at least age four, children spontaneously generalize artifact-function flexibility to new words. Children may rapidly construct semantic generalizations about flexibility because these generalizations are scaffolded by early-developing properties of conceptual structure.

Session C--Terrace Lounge

Patterns in infant babbling: A cross-linguistic analysis

Andreea Geambasu (Leiden University)
Mariska Scheel (Leiden University)
Clara C. Levelt (Leiden University)

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

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Session C--Terrace Lounge

Segmental and suprasegmental details in early lexical representations

Jie Ren (Brown University)
James Morgan (Brown University)

To further examine sub-phonetic detail in early lexical representations, 19-month-olds were tested on their sensitivities to varying degrees of mispronunciations of codas and lexical tones. English-learning infants heard tokens of familiar words with correct pronunciations (/dʌk/), or one-feature (/dʌt/), two-feature (/dʌd/), or three-feature (/dʌz/) coda mispronunciations (Experiment 1). Mandarin-learning infants heard tokens of familiar words with correct pronunciations (Tone 2), or close (Tone 3), further (Tone 1) or furthest (Tone 4) mispronunciations of lexical tones (Experiment 2). Significant linear trends were found in both experiments, indicating that infants' looking to familiar objects decreases with increasing severity of mispronunciations. To examine possible mechanisms underlying infants' early word recognition, we simulated our findings for coda mispronunciations using TRACE. Findings from simulation not only replicated the graded sensitivity in the behavioral results, but suggest the incremental nature of online word recognition: lexical inhibition plays a weaker role for coda than for onset processing.

Session A--Metcalf Small

Clitics at the interfaces in autism

Arhonto Terzi (Technological Educational Institute of Patras)
Theodoros Marinis (University of Reading)
Konstantinos Francis (University of Athens)

20 high-functioning Greek-speaking children with ASD, aged 5;5-8;8 (M=6;11), and 20 vocabulary matched TD children of similar age, completed a series of baseline tasks assessing their non-verbal and verbal abilities, and two experimental tasks investigating comprehension and production of clitics and full DPs across a range of conditions. There was no difference on Clitic Left Dislocation between the two groups, hence, increased syntactic complexity did not affect ASD children disproportionately. ASD children were less accurate on completing a Focus sentence and often used a clitic, but there was no indication that they were not sensitive to Focus intonation. We propose that they did not know that a particular intonation is associated with new information (Mavrogiorgos 2010, a.o.), forbidding a clitic. Moreover, they were less successful than TD children in producing simple clitics because they could not distinguish easily the prominent element in the discourse, perhaps failing the Prominence Condition (Heim 1982).

Session B--Conference Auditorium

Learning homophones: Syntactic and semantic contexts matter

Isabelle Dautriche (Ecole Normale Supérieure)
Laia Fibla (Ecole Normale Supérieure)
Anne Christophe (Ecole Normale Supérieure)

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

Session C--Terrace Lounge

Hunting highs and lows: Acquiring prosodic focus marking in Swedish and Dutch

Anna Sara H. Romøren (Utrecht Institute of Linguistics OTS)
Aoju Chen (Utrecht Institute of Linguistics OTS)

In many languages, prosody is used for highlighting important information, or focus, but the exact prosodic manipulations involved differ from one language to the next. The acquisition of prosodic focus marking has primarily been investigated for non-tonal languages, thus little is known about how this skill develops in languages where pitch signals both lexical and post lexical contrasts. In the current study we compare the acquisition of prosodic focus marking between a tonal language, Stockholm Swedish , and a non-tonal language, Dutch. In Dutch, focus is marked by accenting focal focal and de-accenting post-focal constituents. In Swedish, focus is marked by adding a separate prominence-lending high tone (H) to focal constituents, and by avoiding this tone post-focally. Our hypothesis was that the presence of a lexical tonal contrast in Swedish might make Swedish-speaking children more sensitive to pitch contrasts than Dutch children, and that such sensitivity would make Swedish-speaking children faster than their Dutch-speaking peers in acquiring the relevant pitch-based manipulations used for prosodic highlighting in the two languages.

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KEYNOTE ADDRESS

The Linguistic Representation of Symmetry

Lila Gleitman
University of Pennsylvania

Special problems for acquisition arise for abstract words whose use is not accompanied by perceptual hints in the real-world context. For instance, understanding how the English word tiger comes to be associated with the meaning 'tiger' seems easier, on many grounds, than how similar – or for that matter, see for a blind child – could be identified from contextual evidence. A long line of experimentation points to (surface) syntax as the repository of amplifying and constraining input evidence in such cases. This talk takes up this general issue by focusing on the concept 'symmetry.'
The first half of the talk discusses apparent asymmetries in the understanding of terms like similar and near (Tversky, 1977; Talmy, 1983), asymmetries that potentially exclude them from the symmetrical category. How, for instance, could North Korea seem more similar to China than China to North Korea and, all the same, 'similarity' be symmetrical? I will demonstrate how language solves this problem by representing syntactic dominance and lexical symmetry quasi-independently. In the second half of the talk I will introduce evidence from sequential cohorts of inventor-users of the recently evolving Nicaraguan Sign Language (NSL). Their usage is especially relevant to the present topic because it indicates some of the unlearned character of the semantic-syntactic interface, but also because of the informativity of some particularities in NSL's syntactic representations of event structure. Under specifiable animacy conditions, NSL dissects 2- and 3-argument structures into sequential one-argument expressions. For conceptual reasons, this dissection cannot happen for symmetrical expressions. Loose (but not too loose) analogues are the necessarily figurative interpretation of English "the sound of one hand clapping" and the literal truth of "It takes two to tango."

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POSTER SESSION I

Statistical learning over sociolinguistic cues in children and adults

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

Languages exhibit sociolinguistically conditioned variation. We investigated the sensitivity of 6-year-olds and adults to speaker identity. Participants were exposed to a semi-artificial language, produced by two speakers, in which nouns were obligatorily followed by meaningless variable particles (e.g., *bup* or *kem*). In the fully predictive condition, speaker 1 always used *kem*, speaker 2 always used *bup*; in the partially predictive condition, speaker 1 used 75% *bup*, speaker 2 75% *kem*. Four exposure sessions were followed by a judgment test and exit interview. Both age groups showed sensitivity to the strength of association between speaker and particle-usage (i.e. they learned the association in both conditions, more strongly in the fully predictive condition). Only adults reported awareness of the speaker identity manipulation in the partially predictive condition. These results demonstrate that both children and adults are sensitive to statistical cues involving speaker identity, an ability which is fundamental to tracking sociolinguistic variation.

POSTER SESSION I

Left-dislocations in French-English bilingual children: An elicitation study

Coralie Hervé (Université Paris Diderot)
Ludovica Serratrice (University of Manchester)

This paper presents the results of two sentence production studies addressing the role of language exposure, prior linguistic modelling and discourse-pragmatic appropriateness on the phenomenon of cross-linguistic influence (CLI) in bilingual 5-year-olds. We investigated whether French's English bilingual children would be as likely as monolingual children to use a left-dislocation structure in the description of a target scene. We also examined whether input quantity played a role in the degree of accessibility of these syntactic constructions across languages. While the results indicate a significant effect of elicitation condition only in French, the relative amount of language exposure in each language predicted the likelihood of producing a left-dislocation in both French and English. These findings make a new contribution to the role of language exposure as a predictor of CLI. The data also support the recent proposal that CLI arises out of processing mechanisms.

POSTER SESSION I

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

Chiara Gambi (University of Edinburgh)
Martin Pickering (University of Edinburgh)
Hugh Rabagliati (University of Edinburgh)

Are children's predictive eye movements based on grammatical knowledge or semantic associations? Three-to-five year olds and adults heard sentences containing verbs that were strongly associated with particular agents and patients (Predictive verbs, e.g., Pingu will arrest…, associated with policeman and robber) or verbs with no strong association (Non-Predictive verbs, Pingu will touch…). We measured how hearing the verb affected participants' anticipatory eye-movements to an agent (policeman), which was semantically associated but not structurally predictable, and to a patient (robber), which was both associated and structurally predictable. We also manipulated whether sentences continued with a simple noun phrase ("…the robber", Short), or a longer one ("…the noisy and fun robber", Long). Children, like adults, were more likely to look at patients (but not agents) after a Predictive verb, even in Short contexts. This indicates that pre-schoolers can rapidly generate predictions using their growing lexico-syntactic knowledge, beyond their knowledge of semantic associations. .

POSTER SESSION I

Rhoticity – A tale of two cities

Samantha Durrant (University of Liverpool)
Claire Delle Luche (University of Essex)
Janette Chow (University of Oxford)
Kim Plunkett (University of Oxford)
Caroline Floccia (Plymouth University)

Two studies tested sensitivity to rhoticity in two groups of toddlers, rhotically and non-rhotically exposed. (Floccia et al., 2012) presented evidence of a socially driven accent preference in 20-month-old toddlers, reporting that toddlers raised in a rhotic community identified a target only after a rhotic pronunciation, even those raised in a mixed accent environment, thus it is counter-intuitive to suggest that these toddlers did not recognise both forms. Study 1 tested this suggestion by presenting rhotically exposed toddlers with only non-rhotic variants of target words, finding that all toddlers successfully identified the target. If the preference observed in Floccia et al. is socially driven then it may be that toddlers not exposed to rhoticity show the opposite pattern, identifying a target only after non-rhotic pronunciations. Surprisingly, Study 2 found equal recognition of both forms in a non-rhotic population. Explanations linked to the nature of toddlers representation are explored.

POSTER SESSION I

Semantic binding of Korean reflexives *caki* and *caki-casin*: Evidence from the acquisition of Korean

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

This paper explores whether semantic properties of the clause-mate verb influence children's interpretation of the Korean reflexives *caki* (local antecedent or long-distance antecedent, including a discourse topic) and *caki-casin* (local antecedent only). Two truth value judgment experiments were conducted, one for local, intra-sentential binding (28 children aged 4;9 to 5;1; 40 adult controls) and the other for LD, extra-sentential binding (35 children aged 4;7 to 6;1; 40 adult controls). The results show that Korean-speaking children are not yet adult-like in deploying semantic properties of the clause-mate verb for the interpretation of *caki*. We propose that this difficulty is best attributed to a reflection of a more general difficulty with reanalysis in the course of processing: Children are unable to abandon their initial parsing commitment upon encountering the clause-final verb.

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POSTER SESSION I

Acquisition of form-meaning mapping in Korean causatives

Jinsun Choe (Hankuk University of Foreign Studies)

POSTER SESSION I

Preverbal infants track and represent non-adjacent dependencies at an abstract level

Cristina Name (Universidade Federal de Juiz de Fora)
Rushen Shi (University of Quebec - Montreal)

We examined whether infants can learn non-adjacent dependencies at an abstract grammatical level. We constructed artificial grammars containing non-adjacent co-dependencies, using Brazilian Portuguese stimuli. In a preferential looking procedure, French-learning 11-month-olds were trained with determiner + pseudo-noun structures. Group-1 infants heard nosso/seu + /u/-ending pseudo-nouns and seu + /I/-ending pseudo-nouns, and meu/esse + /ɛ/-ending pseudo-nouns and meu + /a/-ending pseudo-nouns; Group 2 heard the reverse determiner + pseudo-noun-ending patterns. Infants were tested with new NPs containing a) nosso -/I/ and esse -/a/ versus b) nosso -/a/ and esse -/I/ non-adjacent dependencies, which were grammatical versus ungrammatical for Group 1, and vice versa for Group 2. Pseudo-nouns differed from training. Infants listened significantly longer to grammatical test trials, even though the non-adjacent patterns were not explicitly present in the training. These results demonstrate that preverbal infants can categorize novel words productively and represent the non-adjacent dependencies at an abstract grammatical level.

POSTER SESSION I

Prosody can mislead L2 learners down "A Garden Path": Evidence from a visual-world eye-tracking study

Chie Nakamura (Massachusetts Institute of Technology)
Manabu Arai (University of Tokyo)
Yuki Hirose (University of Tokyo)
Suzanne Flynn (Massachusetts Institute of Technology)

This study investigated how intermediate adult L2 ESL learners use contrastive L+H* pitch accent in processing locally ambiguous sentences such as "Put the cake on the plate in the basket". In a visual world eye-tracking experiment, sentences either with or without contrastive intonation on a noun within a PP modifying NP1 (plate) were presented with visual context that was either referential (i.e., "another cake on a napkin" in the scene as opposed to "the cake on a plate") or non-referential (only one cake in the scene). The results indicated that referential visual context alone helped both L1ers and L2ers assign the correct NP-attached PP analysis. However, when provided with a referential context, contrastive intonation facilitated the correct interpretation with L1ers but misled L2ers in incorrectly adopting the incorrect VP-attached PP analysis.

POSTER SESSION I

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

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

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

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POSTER SESSION I

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

Emanuela Sanfelici (University of Frankfurt)
Corinna Trabandt (University of Frankfurt)
Petra Schulz (University of Frankfurt)

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

POSTER SESSION I

The processing of Greek relative clauses in adults and children

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

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

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POSTER SESSION I

Preschoolers understand the focus particle 'Only' when given syntactic or pragmatic cues

Simge Topaloğlu (Boğaziçi University)
Mine Nakipoğlu (Boğaziçi University)

Previous research shows that preschoolers often misassign the scope of pre-subject 'only' to the object-NP (Crain et al. 1994, Paterson et al., 2003; Kim, 2011; Müller et al., 2011). This study uses a Truth-Value-Judgment-Task to examine Turkish-speaking preschoolers' comprehension of the focus particle *sadece* ('only') in the pre-subject and pre-object positions. The results indicate a strong bias to object-focus readings. A follow-up experiment introduces two manipulations to the test to investigate the effects of information structure and pragmatics. To create an environment where objects are topic and subjects are focus,

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

(ii) the experimenter asks 'who-questions' to pragmatically focalize subject-NPs.

The results of Experiment 2 show that children's comprehension of pre-subject 'only' becomes remarkably adult-like in the presence of syntactic or pragmatic cues.

Sensitivity of monolingual Turkish infants to vowel harmony in stem-suffix sequences in the first year of life: Preference shift from familiarity to novelty

Annette Hohenberger (Middle East Technical University)
Utku Kaya (Middle East Technical University)
Asli Altan (Okan International University)

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

Resolution of bridging definites in a second language

Jacee Cho (University of Wisconsin - Madison)

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

Infant language acquisition enables second language learning: Cross-sign language evidence for a critical period for L1 acquisition

Rachel Mayberry (University of California - San Diego)
Matthew Hall (University of Connecticut - Storrs)
Marla Hatrak (University of California - San Diego)
Deniz Ilkbasaran (University of California - San Diego)

Here we replicate and extend previous findings showing that the critical period is robust for the outcome of L1 but not L2 acquisition (Mayberry et al.) by studying bilingual sign language acquisition. We investigated comprehension of simple vs. complex ASL structures in four deaf L2 learners, who natively acquired either Russian or Cuban Sign Language, in comparison to four deaf late-L1 learners, who acquired little childhood language. The signers were adults and initially immersed in ASL between the ages of 12 and 21. Twenty deaf native-ASL signers were controls. On a timed and computerized ASL sentence-to-picture matching task (84 stimuli with 3 alternative pictures each), the deaf L2 learners performed at native levels on the simple structures and at near-native levels on the complex ones. By contrast, the late L1 learners showed near-chance level comprehension independent of syntactic complexity. These results demonstrate the supramodal nature of the critical period phenomenon for L1 acquisition.

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Children's interpretation of asserted, presupposed, and pragmatically-implied exhaustivity

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

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

Three-year-olds make rapid use of morphosyntactic cues in sentence comprehension

Peng Zhou (Macquarie University)
Weiyi Ma (Macquarie University)
Stephen Crain (Macquarie University)
Likan Zhan (Beijing Language and Culture University)

Investigations of children's use of different linguistic cues during sentence comprehension are crucial for understanding the nature of the human parser. Previous research suggests that children use abstract grammatical cues (e.g., case and gender) to facilitate sentence comprehension. The present study adds further evidence for the parsing ability of children by showing that Mandarin-speaking three-year-olds make rapid use of morphosyntactic cues during online sentence comprehension. Mandarin often uses two morphosyntactic markers BA and BEI to indicate the thematic roles of NPs: the use of BA indicates that the NP preceding it is the agent and the one following it is the patient, whereas the use of BEI reverses the thematic roles of the NPs. We tested 33 three-year-olds on their interpretations of BA- and BEI-constructions, using the visual world paradigm. We found that the three-year-olds exhibited eye-gaze patterns that reflect a rapid use of morphosyntactic cues during online sentence comprehension.

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The specific and general relations between language, complement clauses, and false belief development in Mandarin- and English-speaking four-year-olds

Silke Brandt (Lancaster University)
Honglan Li (Hong Kong Polytechnic University)
Angel Chan (Hong Kong Polytechnic University)

Previous research suggests that English-speaking, but not Chinese-speaking children's comprehension of sentential complements supports their false-belief understanding (de Villiers, 2007; Cheung et al., 2004). One reason for this might be the relatively infrequent use of complements and mental verbs in Chinese CDS (Tardif & Wellman, 2000). We tested 64 Mandarin- and English-speaking children aged 4;5 on their understanding of first- and third-person complements (e.g., He thinks/I think the sticker is in the red box. He knows/I know the sticker is in the blue box), false belief, and their general language abilities. Unlike the Mandarin children, the English children performed better in the third-person than in the first-person condition and showed a positive correlation between their understanding of third-person complements and false-belief. Both language groups showed correlations between general language abilities and false-belief understanding. This suggests that cross-linguistic differences in caregivers' use of specific linguistic structures, verb- and subject types affect how strongly they are related to Theory-of-Mind development.

Cross-linguistic effects in L2 acquisition of causative constructions

Kazunori Suzuki, Nozomi Kikuchi, Maya Kawada, Maki Maetsu, Masami Yasuda, Koki Shioda, Tsuyoshi Suto, Yuki Takano, Tatsuya Ishii, and Makiko Hirakawa (Bunkyo University)

We investigate L2 acquisition of causative constructions in English by Japanese-speaking learners, focusing on L1 transfer errors from the perspective of the Voice-bundling parameter (Pylkkänen 2008). According to Pylkkänen, languages are divided into two types: i) non-Voice-bundling languages like Japanese where the heads Voice, introducing an external argument, and Cause, introducing a causing event ,are separated, and ii) Voice-bundling languages like English where Voice and Cause are bundled together. We administered an acceptability judgement task including unaccusatives with by-phrases naming a causing event, unaccusatives with instrumental modifiers, lexical causatives based on unergatives and transitives to intermediate and advanced learners of English. Results revealed that Japanese learners of English had difficulty rejecting incorrect unaccusatives with causing events and with instrumental modifiers (*The door opened by the wind, *The window broke with a stone). We discuss L1 influence of the parameter and developmental stages observed for acquiring causative constructions in the L2.

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

Milene Laguardia (Universidade Federal de Juiz de Fora)
Elsa Santos (University of Quebec - Montreal)
Rushen Shi (University of Quebec - Montreal)
Cristina Name (Universidade Federal de Juiz de Fora)

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

On the temporal interpretations of locative PPs in child language

Oana Lungu (Universidade Nova de Lisboa)

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

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

We examined the interplay between temporal and attachment ambiguities in L1 Portuguese. We found that 5-year-old children, like adults, do not have any attachment preference. However, unlike adults, children showed a preference for the SIM reading. We argue that this is because children prefer to interpret the temporal argument of the PP as anaphorically related to the matrix past tense. We attribute this preference to processing limitations.

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Digging up the building blocks of language: Age-of-acquisition effects for multiword phrases

Inbal Arnon (Hebrew University of Jerusalem)
Stewart M. McCauley (Cornell University)
Morten H. Christiansen (Cornell University)

Words that are acquired earlier show processing advantages in a variety of tasks. These Age-of-Acquisition effects, which are not just frequency effects in disguise, illustrate the way early knowledge influences subsequent learning. Here, we extend these findings to show that multiword phrases also show Age-of-Acquisition effects: adults respond faster to early-acquired trigrams (three-word sequences) compared to later-acquired ones. We estimated the AoA of trigrams using a combination of corpus-based measures and subjective rating to create pairs of trigrams that are matched on all adult frequencies; plausibility; and lexical AoA (e.g., early: a good girl vs. late: a good dad). In two reaction-times studies, we show that early-acquired trigrams are responded to faster that later-acquired ones (after controlling for all frequency measures). This is the first study, to our knowledge, to uncover AoA effects for units larger than single words, providing novel evidence for the role of larger units in learning.

Are connected speech processes 'simplified' in infant-directed speech?

Helen Buckler (University of Toronto - Mississauga)
Huiwen Goy (University of Toronto - Mississauga)
Julie Kow (University of Toronto - Mississauga)
Elizabeth Johnson (University of Toronto, University of Toronto - Mississauga)

In English place assimilation word-final coronal segments may adopt the place of articulation of the following segment; 'cat box' sounds like 'cap box.' This can neutralize lexical contrasts, posing a challenge for lexical development. We asked whether parents strive to maintain lexical contrasts in infant-directed speech (IDS) by using less assimilation than in adult-directed speech (ADS). In particular, we focus on situations where assimilation gives rise to lexical ambiguity.
Twelve parents of 18-month-olds were recorded reading a story containing phrases that either did or did not license place assimilation (cat box/cap box) to their infant (IDS) and the experimenter (ADS). Using both acoustic classification data and a perceptual judgment task, we find that assimilation is not less frequent in IDS than ADS. The parents in our study did not use more canonical forms in IDS, suggesting that parents do not increase clarity in IDS to facilitate their child's language development.

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Reduplication facilitates early word segmentation

Barbora Skarabela (University of Edinburgh)
Mitsuhiko Ota (University of Edinburgh)

This study tested the role of adjacent repetition in early lexical acquisition by comparing infants' word segmentation ability for reduplicated versus non-reduplicated words. Twenty-four 9-month-olds were familiarized with two passages, one containing a novel reduplicated C1V1C1V1 word (e.g., 'neenee') and the other a novel 'non-reduplicated C1V1C2V2 word (e.g., 'bolay'). A central fixation paradigm was used to measure the infants' looking times in response to four word types: 1) the familiarized reduplicated word, 2) the familiarized non-reduplicated word, 3) a newly introduced reduplicated word (e.g., 'foofoo'), and 4) a newly introduced non-reduplicated word (e.g., 'yahdaw'). Looking times were significantly longer for the familiarized reduplicated word compared to all other types of words. These results suggest that words consisting of repeated syllables are preferentially segmented in running speech. We discuss the implications of this finding for the role of perceptual biases in early lexical development and its relation to infant-directed vocabulary.

Does the source of transfer affect the rate of L3 morphosyntactic development?

Jennifer Cabrelli Amaro (University of Illinois at Chicago)

This study of L3 morphosyntactic acquisition explores differences in rate of development between learners that transfer L1 versus L2. We investigate reconfiguration of the [finite] feature of embedded T in English/Spanish bilingual learners of L3 Brazilian Portuguese (BP). Embedded T is [-finite] in English and BP and [+finite] in Spanish. (Cabrelli Amaro et al., 2015) show initial stages transfer of the non-facilitative Spanish configuration, whether Spanish is the L1 or L2. The learning task is thus to reconfigure [finite] in embedded T. We compare these initial stages data with advanced L3 BP data to determine whether reconfiguration is slower for L1 Spanish speakers. L1 English/L2 Spanish/L3 BP (n=15), L1 Spanish/L2 English/L3 BP (n=17) speakers, and BP controls (n=14) completed a grammaticality acceptability task in BP. Results indicate that the L2 Spanish group has converged on the target configuration in embedded T, while the L1 Spanish group maintains the Spanish configuration.

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Temporary phonetic drift in bilingual first language acquisition

Katharina Schuhmann (University of Bonn)

This study hypothesized that an English-German early bilingual child living in the US would show phonetic-phonological interference effects from the non-dominant language (German) onto the dominant language (English) after spending a month in a German-speaking environment. The six-year old was recorded once before and once after traveling to Germany. Auditory and acoustic analyses of word-final voiced stops in English suggest that the same words (e.g. 'globe', 'crab') were voiced before the child spent time in Germany, but were often devoiced after the child returned. These results indicate that the phonological rule of final devoicing in German interferes with the child's dominant language (English) after the child has had extensive contact with German. This supports a model of dynamic linguistic representations for bilingual first language acquisition in which phonological rules in one language can permeate into the linguistic system of the other language dependent on recent language input and use.

Vowel and tone processing in young tonal learners – A functional reorganization of tones

Weiyi Ma (Macquarie University)
Peng Zhou (Macquarie University)
Stephen Crain (Macquarie University)
Liqun Gao (Beijing Language and Culture University)

Mandarin relies on both segments and tones to define word identity, offering a venue to test the relative function of vowels vs. tones in word recognition. We examined the processing of tones and vowels in Mandarin-learning 2- and 3-year-olds. Experiment 1 examined the recognition of novel words. Tone change hindered word recognition in 2-year-olds but not in 3-year-olds, suggesting a tolerance to tone change in 3-year-olds. Experiment 2 replicated this finding using familiar words. Experiment 3 found that 3-year-olds' tonal representation was not specific to Mandarin. Experiment 4 showed that 3-year-olds could use tones to learn novel words only when they were offered minimal pairs differing only in tones. This study is the first to show that despite the importance of tones in tonal languages, vowels still have a primacy over tones in tonal learners' word recognition, and that this primacy emerges around 2 to 3 years of age.

Practice with pronouns: acquisition of differential object case-marking

Virve Vihman (University of Manchester)
Elena Lieven (University of Manchester)
Anna Theakston (University of Manchester)

We examine differential object marking in child-directed and child speech in naturalistic dense data from one Estonian-speaking mother-child dyad at 2;0 and 3;0. Transitive verbs vary in Estonian between (a) those which only take partitive objects, and (b) those with alternating case, realised as PARtitive, GENitive or NOMinative; object case assignment involves lexical, semantic and syntactic considerations. Our data consist of matched samples of the most frequent transitive verbs in the 2-year-old's speech. At 2;0, the child uses twice as many pronominal O as his mother. Of the child's pronouns, 94% are forms of 3sg inanimate 'it', compared to 60% of pronominal O in CDS. The child uses alternating object case, even with partitive verbs which only appear with PAR-O in the CDS, and alternates significantly more with pronominal than lexical noun objects. We discuss how practice with highly frequent pronouns can play an important role in acquiring the system.

L2-acquisition of the count/mass distinction in English by L2-learners from the Generalized Classifier languages based on atomicity

Sea Hee Choi (University of Illinois - Urbana-Champaign)
Tania Ionin (University of Illinois - Urbana-Champaign)
Yeqiu Zhu (Nanjing University, China)

This study investigates how L2-learners from Generalized Classifier languages acquire the count/mass morphosyntax of English. We hypothesize that both L1-Korean and L1-Chinese L2-English learners directly map atomicity onto English count/mass syntax, showing correct use of the plural marker -s with atomic-count nouns, and also overuse of -s with atomic-mass nouns (furniture), but not with non-atomic-mass nouns (water). We used a written elicitation task in which participants provided the correct form of the target NP. The results support the hypothesis, with greater overuse of the plural marker for atomic-mass than for non-atomic-mass nouns; at lower proficiency levels, learners make no distinction between count and mass-atomic nouns. The findings are very similar for the two learner groups, even though plural marking is more productive in Korean than in Chinese. We provide evidence that atomicity is encoded in both languages, and argue for L1-transfer at the level of semantics/morphology mappings.

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Prosodic focus marking in minority L1 Bai-children learning Mandarin Chinese as L2

Zenghui Liu (Utrecht Institute of Linguistics OTS)
Aoju Chen (Utrecht Institute of Linguistics OTS)
Hans Van de Velde (Fryske Akademy)

Sequential bilingualism in childhood has received much attention. However, little is known about how children acquire the use of prosody in their L2. In this study we investigated how sequential-bilingual children acquire prosodic focus-marking in their L2 by examining the production of Bai-speaking 6- to 12-year-olds in L2 Mandarin Chinese. SVO sentences were elicited in different focus conditions as responses to wh-questions or comments via a picture-matching game. We found that the children could use duration earlier than pitch to distinguish focus from non-focus in L2. As monolingual Mandarin-learning children can use pitch earlier than duration and speakers of Bai use only duration in focus marking, we suggest that the earlier mastery of duration may be due to L1 transfer. However, even the youngest children used both pitch and duration to distinguish contrastive from non-contrastive focus, suggesting learning the use of pitch is easier in contrastive focus.

POSTER SESSION I

Infants' preference for infant speech over adult speech suggests an experience-based "articulatory filter"

Matthew Masapollo (McGill University)
Linda Polka (McGill University)
Lucie Ménard (University of Quebec - Montreal)

Pre-babbling infants listen preferentially to infant vowels over adult vowels (Masapollo, Polka & Menard, 2015). Current research is focused on exploring the underpinnings of this perceptual bias and the role it plays in early language development. Infant preference for infant vowels may be due to the higher voice pitch, which is known to attract infant attention in infant-directed speech (IDS). Infants begin producing vowel-like sounds by 3-4 months. Thus, infants' nascent articulatory abilities may shape a perceptual bias favoring all aspects of infant speech - both voice pitch and vocal resonance. To explore this further, we tested whether infants (at 4-6 months) prefer listening to infant vowels over adult vowels with pitch characteristics of IDS. Current findings show that infants listen preferentially to infant vowels, which more closely resemble the sounds they are producing, over adult IDS vowels. This finding is consistent with the idea of an experience-based "articulatory filter."

POSTER SESSION I

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

Vincenzo Moscati (University of Siena)
Claudia Manetti (University of Siena)
Luigi Rizzi (University of Geneva, University of Siena)
Adriana Belletti (University of Geneva, University of Siena)

Italian, an SVO language (1), permits alternative orders with special intonational and pragmatic conditions. A DP DP V sequence is ungrammatical with flat topic-like intonation (2)a, and possible if one of the two DP's bears contrastive focus prosody. In that case, the contrastively focussed DP is interpreted as the object (2)b-c.
(1) La tigre   ha battuto la zebra
SVO
   "the tiger defeated the zebra"
(2)   a. * la tigre la zebra ha battuto
b. [TopP la tigre'   [FocP LA ZEBRA' [IP t'' ha battuto t']]]
SOV
c. [FocP LA TIGRE' [TopP la zebra''   [IP t'' ha battuto t']]]
OSV
A debated issue in acquisition is whether young children are sensitive to focal stress. If children are sensitive to focal stress, they should systematically use this information to disambiguate the sentences. We designed a new experiment to assess i. whether children at age 5 are sensitive to the critical role of stress information in (2) and ii. whether there are any parsing preferences between the SOV and the OSV parse of DP DP V structures in adults and children. Results: children at age 5 are already sensitive to prosodic violations. Moreover, both adults and children show a strong preference for the SOV word order.

POSTER SESSION I

Distributions of individual segments and of phonological features

Emily Moeng (University of North Carolina at Chapel Hill)

This study compares the distributions of different types of phonemes -– stops /k,g/, fricatives /s,ʃ/, glides /j,ɥ,w/, and vowels /i,y,u/ –- in natural, French, child-directed speech. In addition, this study seeks to determine whether the grouping of phonemes by phonological features (that is, grouping /i/ and /j/ into [front unrounded], etc...) aids the distributional learnability of phoneme categories. Distributional learnability is evaluated by using parameters obtained from Gaussian distributions as estimated with an Expectation-Maximization algorithm (R's MCLUST package), after converting phonetic units (milliseconds for VOT and Hertz for Center of Gravity and formant values) into JNDs (Just Noticeable Differences), which are a measure of psychophysical or perceived distance. It is found that (1) stops exhibit distributions which favor purely distributional learners more than the distributions exhibited by fricatives, glides, and vowels, and (2) the grouping of phonemes by phonological features does not aid a distributional learner in learning categories.

POSTER SESSION 1

L2 learners' interpretation of reflexives and pronouns inside picture NPs

Eun Hee Kim (University of Illinois - Urbana-Champaign)

This study examines how L1 Korean–L2 English learners resolve the antecedents of proforms (reflexives and pronouns) inside picture NPs with and without possessors and whether/how they differ from native speakers of English. In total, 18 L1 Korean–L2 English learners with advanced English proficiency and 20 native controls are tested on a picture verification task. Results show that advanced L2 learners are native-like such that they are more likely to accept reflexives bound by local antecedents than those bound by non-local antecedents while the opposite pattern is observed with pronouns. However, the learners often incorrectly accept the pronouns bound by local antecedents, which resembles a Delay of Principle B Effect reported in child language acquisition literature (e.g., Chien & Wexler, 1990). The finding that even advanced L2 learners show less native-like patterns in their interpretation of pronouns compared to reflexives seems to suggest that pronouns are acquired with more difficulties than reflexives.

POSTER SESSION I

School-age sequential Mandarin-Italian children's comprehension of relative clauses

Shenai Hu (University of Verona)
Maria Teresa Guasti (University of Milan - Bicocca)

The study investigated the comprehension of Mandarin and Italian relative clauses in sequential Mandarin–Italian bilingual children aged 6–9 and their age-matched monolingual counterparts. We tested 153 children through character-sentence matching tasks. The results showed that bilingual children comprehended subject relatives much better than object relatives in both languages, similar to their monolingual peers, but their accuracy rates in both relative clauses were much lower than their monolingual peers'. In addition, they had difficulty in comprehending Mandarin subject relatives, but not Italian subject relatives. Moreover, Italian object relative clauses with a postverbal subject were particularly challenging for bilingual children and there was no improvement across age groups. We discuss how their acquisition patterns are influenced by language-specific properties, and propose that learning two languages may slow down the acquisition of each language for structures that are different in the two languages, but it does not affect the qualitative aspects of development.

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Cross-linguistic variation in the acquisition of clitics: Evidence from French and Catalan

Anna Gavarró (Universitat Autònoma de Barcelona)
Stephanie Durrleman (University of Geneva)
Hélène Delage (University of Geneva)

Properties of pronominal clitics in Romance have been shown to relate to person, yet most approaches to acquisition disregard this person split. Here we report results for first and second person clitic production in early French and Catalan, and evaluate two hypotheses for clitic acquisition: one that considers 1st/2nd person clitics easier than 3rd person clitics (Delage and Durrleman, 2013), another, the Unique Checking Constraint (Gavarró, Torrens, and Wexler, 2010). 47 French-speaking children (aged 3–5) participated in an elicitation task, to be compared to 44 Catalan-speaking children (aged 2–4) (Gavarró and Fortón, 2014). The results for French attest 1st/2nd person clitic omission, not the Catalan. We ascribe the contrast to differences in participle agreement between the two languages, in line with the UCC. Still, the effects of that maturational constraint are argued to last until age 3, but here clitic omission in French is attested until age 5.

POSTER SESSION I

Referential properties of pronouns affect sentence processing similarly in children and adults: Comparing 5-year-olds' eye movements and adults' reading times in Italian

Yair Haendler (University of Potsdam)
Flavia Adani (University of Potsdam)

We report a self-paced reading study with adults and a visual-world eye-tracking study with 5-year-olds and adult controls, aiming to test the effect of first- and third-person pronouns (1pro/3pro) on on-line processing of relative clauses. Previous studies found that 1pro facilitates adults' processing of highly complex structures (doubly-nested object relatives) more than 3pro. This asymmetry was attributed to the pronouns' different referential properties - specifically, to the fact that discourse referents of 1pro are accessed directly and those of 3pro only indirectly. In the present studies, the same design and similar linguistic material were used to test the processing of right-branching subject and object relatives with an embedded 1pro or 3pro. Adults and children processed relatives with 1pro faster than with 3pro, similarly in both relative clause types. We conclude that referential properties of pronouns affect sentence processing similarly in adults and children, and that they emerge independently of structural complexity.

POSTER SESSION I

Preferred quantifier interpretations correlate with interpretations of quantified antecedents and object reflexives and pronouns

Margreet van Koert (University of Amsterdam)
Olaf Koeneman (Radboud University Nijmegen)
Aafke Hulk (University of Amsterdam)
Fred Weerman (University of Amsterdam)

Monolingual Dutch and English children differ from each other on sentences with local QP antecedents and reflexives or object pronouns. Van Koert et al. (to appear) found that these dissimilarities stem from different quantifier interpretation preferences. Since the languages differ, the question is: how do English-Dutch bilingual children perform? The present experiment tested 29 English-Dutch bilingual children with a mean age of 8;0 (range: 6;0 – 10;10; SD = 16 months). A picture verification task measured their performance on sentences containing QP antecedents. A picture selection task determined their quantifier interpretation preferences. The results showed that the bilingual children's quantifier interpretation preferences corresponded to their behaviour on reflexives and pronouns in the QP conditions, just as in monolinguals. However, the bilingual children in the present experiments showed convergence between their Dutch and English: their binding results and their interpretation preferences in Dutch were the same as in English.

POSTER SESSION I

Children's comprehension of the English presupposition trigger "too"

Masoud Jasbi (Stanford University)

This study investigated children's comprehension of the English additive particle "too" with respect to its presuppositional content and its property of projection. Previous studies suggested that children do not take the meaning of the additive particle into account for "auch" in German (Hüttner et al., 2004), "ook" in Dutch (Bergsma, 2006), and "mo" in Japanese (Matsuoka et al., 2006). However, other studies suggest that children as young as three can successfully interpret "auch" in German (Berger & Höhle, 2012). In this study, the younger children (3;4–4;9) did not take the meaning contribution of "too" into account on average while the older group (4;9–5;7) did. Furthermore, in order to test projection, the comprehension of "too" was compared to that of a "conjunction with the salient alternative", embedded under a question and negated. Children showed a correct non-projective comprehension of the conjunction and the older group distinguished it from "too" which was treated as projective.

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POSTER SESSION I

Is the passive a semantic prototype construction? Evidence from production-priming

Amy Bidgood (University of Liverpool)
Ben Ambridge (University of Liverpool)
Julian Pine (University of Liverpool)
Caroline Rowland (University of Liverpool)

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

POSTER SESSION I

Mapping prosody to reference in L2

Amy Schafer (University of Hawaii - Manoa)
Aya Takeda (University of Hawaii - Manoa)
Hannah Rohde (University of Edinburgh)
Theres Grüter (University of Hawaii - Manoa)

Reference resolution remains challenging for even highly proficient L2 learners, perhaps due to the need to integrate constraints from multiple linguistic domains. We investigated how referential processing is shaped by prosody, a domain known to be challenging in L2 but little explored in the context of L2 reference processing. We present evidence from two aurally presented story-continuation tasks designed to assess if and how Japanese- and Korean-speaking learners of English use contrastive intonation on potential antecedents (Exp1) and the referring pronoun (Exp2) to guide their referential choices. In Exp1, both L1 and L2 speakers exhibited significantly increased reference to antecedents carrying contrastive (vs. non-contrastive) intonation. In Exp2, which required a more complex series of processing steps relating the contrastive intonation on the pronoun to the referential choice, L1 results showed the predicted association between pronoun accentuation and decreased reference to the preceding topic. Analysis of L2 results is in progress.

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POSTER SESSION I

In praise of novelty and practice: Language learning improves and maintains attention

Madeleine Long (University of Edinburgh)
Mariana Vega-Mendoza (University of Edinburgh)
Antonella Sorace (University of Edinburgh)
Thomas Bak (University of Edinburgh)

We examined 33 Gaelic learners before and after a one-week intensive course and compared them to 34 controls: active controls (n=16) enrolled in courses of comparable duration/intensity but not involving language learning, and passive controls (n=18) who followed their usual routines. Participants were administered auditory tests of inhibition and switching. There were no initial differences between the groups. After the course, significant improvement in switching was observed in the language group (p<.001) but not the controls, (p=.127), independent of age (18-78 years). We retested half of the language participants (n=17) nine months later. All those who practiced Gaelic 5 hours or more per week improved from their baseline performance. In contrast, those who practiced 4 hours or fewer showed an inconsistent pattern: some improved, while others maintained or deteriorated. Our results suggest that brief intensive language learning can modulate attentional functions. Moreover, these effects can be maintained through continuous practice.

First NP-as-agent bias does not prevent active from passive discrimination in 25-month-olds

Kirsten Abbot-Smith (University of Kent)
Franklin Chang (University of Liverpool)
Heather Ferguson (University of Kent)
Julian Pine (University of Liverpool)
Caroline Rowland (University of Liverpool)

We used pointing and eye-tracking to measure how two- and three-year-olds interpret the 'late-acquired' English passive (the boy is being refted by the girl). We tested a) whether 25- and 42-month-olds can interpret the passive, and b) whether any poor performance could be attributed to an incremental processing heuristic known as the 'first-NP-as-agent' bias; a bias which causes children to map the NP preceding the verb onto the agent of a causative (Bever, 1970). Using a permutation analysis that dealt with variation in biases across development, the results showed that (a) both child age groups significantly distinguished the passive from the active. In addition, (b) both 25- and 42-month-olds showed a bias to map the first NP ('the boy/girl is....') onto an agent before they had fully processed the second NP. Thus, 25- and 42-month-olds' interpretation of the passive is influenced by an early, incremental 'first-NP-as-agent' bias.

On the acquisition of homogeneity in plural definites

Lyn Tieu (Laboratoire de Sciences Cognitives et Psycholinguistique (EHESS-DEC(ENS)-CNRS), Ecole Normale Supérieure)
Manuel Križ (University of Vienna)
Emmanuel Chemla (Ecole Normale Supérieure)

Plural definite descriptions give rise to homogeneity: in a 'gap' situation where there are two blue trucks and two yellow trucks, i.e. where the value of the predicate varies from one individual (truck) to the next, the positive (1) 'The trucks are blue' and the negative (2) 'The trucks aren't blue' are neither true nor false (Löbner 1987, Schwarzschild 1994). If young children do not initially display the hallmark of homogeneity, i.e. same responses to (1) and (2) in gap contexts, they may instead interpret the definites either existentially or universally. While over half of our children were adult-like, rejecting (1) and (2) in gap contexts, some children interpreted the definites existentially. These 'non-homogeneous' children also failed to compute scalar implicatures, providing support for implicature accounts of homogeneity, according to which plural definites have a literal existential meaning that is strengthened to the universal meaning through an implicature (Magri 2014).

The role of consonants and vowels in 5- and 8-month-old own name recognition: Implications for lexical development

Katie Von Holzen (Laboratoire de Psychologie de la Perception CNRS)
Delphine Rider (Laboratoire de Psychologie de la Perception CNRS)
Thierry Nazzi (CNRS - Université Paris Descartes, Laboratoire de Psychologie de la Perception CNRS)

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

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SLI children's answers to wh-questions

Kelly Rombough (Macquarie University)
Rosalind Thornton (Macquarie University)

Children with specific language impairment (SLI) have difficulties with various aspects of language. SLI affects both comprehension and production, and can affect various components of language such as vocabulary knowledge, morphology, syntax and pragmatics.
The present study investigated which components of grammar are challenged in English-speaking children with SLI by examining aspects of their answers to WH-questions. A total of 54 children participated. Eighteen children with SLI (mean age = 5;3); 18 typically-developing children matched on MLU (mean age = 3;4); and 18 age-matched children (mean age = 5;3) participated in the study.
The findings revealed that children with SLI answered questions using an appropriate syntactic structure and pragmatics across two question types. However, children with SLI omitted the BE morpheme at higher rates compared to the control groups. These findings are consistent with previous research that proposes that the most affected component of the grammar is the morphology.

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Japanese learners of English are sensitive to that dogs but not those cat: An eye-tracking study of L2 English morpheme acquisition

Michael Mansbridge (Nagoya University, Japan)
Katsuo Tamaoka (Nagoya University, Japan)

This study addresses the question whether intermediate Japanese learners of English (JEFL) are sensitive to number agreement violations in English. The Morphological Congruency Hypothesis claims that even advanced JEFLs should have difficulty exhibiting implicit sensitivity to violations since the Japanese category is incongruent to English; however, previous research has shown that advanced learners, but not intermediate, can show native-like sensitivity. Using eye-tracking, intermediate JEFLs read English sentences using a two (grammatical/ungrammatical) x two (null/plural–s) design with the quantifier adjacent to the noun. While ungrammatical plural–s nouns (*that dogs) induced reading times during both early and late stages of processing, ungrammatical plural nouns (*those dog) did not differ from grammatical singular nouns. In conclusion, intermediate JEFLs are only sensitive to salient number morphemes in English; however, further research is needed to determine how they are treating the null morpheme, unmarked due to L1 strategy or null not yet acquired.

Following the rules: Nine-month-old Italian-learning infants understand gender and singular/plural morphological distinctions.

Alissa Ferry (Scuola Internazionale Superiore di Studi Avanzati (SISSA))
Perrine Brusini (SISSA)
Marina Nespor (SISSA)
Jacques Mehler (SISSA)

Word learning begins during the first year of life. Yet, learning a language requires more than building a vocabulary; infants must also learn the morphological regularities of their language. Here, we found that 9-month-old Italian-learning infants appear to understand how the singular/plural and masculine/feminine noun morphology map on to their conceptual distinctions. Using a EEG picture-word priming paradigm, we showed infants images of faces that varied in gender and number of faces (i.e., one male face, two male faces, one female face, two female faces). Each image was presented with a label that was congruent or incongruent – a mismatch in either the gender or the number morphological distinction. Infants demonstrated a robust N400 when the morphological markings of a label were incongruent, suggesting that the infants were sensitive to the morphological distinctions present in their language and could detect when the morphological distinction and the conceptual distinction were incongruent.

POSTER SESSION I

Infant's production abilities contribute to audiovisual speech perception in a non-native language, but not the native language

Elena Berdasco-Munoz (University of Paris V)
Thierry Nazzi (CNRS - Université Paris Descartes, Laboratoire de Psychologie de la Perception CNRS)
Henny Yeung (CNRS - Université Paris Descartes, CNRS)

Previous work on audiovisual speech perception in infancy has shown that the ability to match auditory and visual speech is often dependent on the nature of the stimuli and the paradigm used. Specifically, infants may rely on distinct processing mechanisms when perceiving audiovisual speech forms that are unfamiliar, or more difficult to integrate. Here we investigated the hypothesis that production skills are related to successful audiovisual matching of unfamiliar (versus familiar) speech sounds. In an audiovisual matching procedure, 8-month-old French-learning infants saw two side-by-side videos of faces articulating either native or non-native vowels. Production measures were collected by parent report, and results showed that infants with higher production scores were better able to match non-native audiovisual speech. However, this was not the case for native stimuli. Findings suggest that, in the presence of unfamiliar speech, infants may depend more on articulatory processes to integrate audiovisual speech information.

POSTER SESSION I

What do they produce when phonology is too complex? The case of bilinguals with SLI

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

Complex syllable structure is acquired late in typical acquisition, and constitutes a challenge to children with Specific Language Impairment (SLI), whether bilingual or not. The question is whether monolingual and bilingual children, with and without SLI, used qualitatively different strategies when phonology is too complex, such as in medial codas and branching onsets. We analyzed the erroneous productions of complex structures of 106 children speaking French, with or without SLI, aged 5;02 to 9;00: monolinguals and bilinguals with different first languages (either English, Arabic, Portuguese or Turkish). Metathesis was the most common repair pattern in all children: medial codas are transformed into branching onsets (pilfu→plifu) in all groups, and branching onsets were moved to another place within the item (fluka→fukla). However, children with SLI produced more errors for these structures and per item: the difference is thus quantitative rather than qualitative between children with and without SLI.

POSTER SESSION I

Words as invitations to form categories? The case of polysemy

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

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

POSTER SESSION I

Parental translations of child gesture help vocabulary development in bilingual children

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

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

POSTER SESSION I

Influence of verb-prominence on Turkish-learning children's caused motion expressions in speech and gesture: Evidence from early toddler-caregiver interactions

Suleyman Sabri Tasci (Koç University)
Reyhan Furman (University of Alberta)
Asli Ozyurek (Radboud University Nijmegen, Max Planck Institute for Psycholinguistics)
Aylin Küntay (Koç University)

In caused motion events, an agent causes an entity to change location. We ask whether the verb-based, simplified argument structure of early speech and the high frequency of iconic gesture patterns of Turkish-speaking toddlers are reflected in the input of their caregivers. Our data are based on 52 hours of video-recordings (1075 utterances and 272 gestures from children; 1180 and 251 from caregivers) that include naturalistic interactions of seven Turkish children with their caregivers, collected longitudinally (12- to 36-months). We argue that the language-specific patterns in Turkish-learning children's gestures arise partially as learning strategies to tune into the verb prominent patterns of Turkish; where children use verbs with omitted arguments, and couple them with iconic gestures. These findings also indicate that not only are the emergence of verbs and iconic gestures closely related as in English, but also that this pattern is facilitated by the properties of the target language.

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POSTER SESSION I

When too many vowels impede language processing: The case of Danish

Fabio Trecca (University of Southern Denmark)
Dorthe Bleses (University of Southern Denmark)
Morten H. Christiansen (Cornell University)

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

Deafness, Theory of Mind, and figurative language comprehension

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

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

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

Vina Tsakali (University of Crete)

Previous work has suggested that acquisition of conditionals emerges late (after the age of 7;0 and up to the age of 11;0), due to either unspecified cognitive factors or to low usage of these type of tokens in adult language (Reilly 1986, Bowerman 1986, Crutchley 2004, 2013). The current study examines the developmental properties of counterfactual and non-counterfactual conditionals in Greek building on the analysis that only the former's interpretation forms a conversational implicature (Anderson 1951, Palmer 1986, Iatridou 2000). Thus, while non-counterfactuals deliver the meaning of a typical conditional 'if p, then q', counterfactuals express the meaning of a negated conditional. Aiming to evaluate potential differences in the order of acquisition between the two types of conditionals, experimental data on monolingual Greek children (aged from 4;00–9;00 years old) show that certain aspects of conditional reasoning emerge early and that the development of non-counterfactuals precedes significantly the development of counterfactuals.

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

Rosa Kit Wan Kwok (Plymouth University)
Claire Delle Luche (University of Essex)
Janette Chow (University of Oxford)
Klára Horváth (University of Oxford)
Allegra Cattani (Plymouth University)
Kim Plunkett (University of Oxford)
Caroline Floccia (Plymouth University)

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

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Session A--Metcalf Small

Input subject diversity as a catalyst for grammatical growth

Matthew Rispoli (University of Illinois - Urbana-Champaign)
Pamela Hadley (University of Illinois - Urbana-Champaign)

Using parent-implemented intervention, we tested the hypothesis that a greater diversity of lexical NP subjects in input promotes children's analysis of the subject constituent and facilitates tense/agreement acquisition by decreasing subject-to-VP transitional probabilities and reducing copula contraction.

Nineteen toddlers in the treatment condition were matched on expressive vocabulary at 1;9 to 19 controls. Between 1;9 and 2;0, parents were instructed in techniques to increase the frequency and diversity of lexical NP subjects. Children's growth in 3rd person sentence diversity and tense/agreement morpheme productivity was assessed at 1;9, 2;0, 2;3, and 2;6 in language samples.

Treatment effects were apparent for parents' NP subjects and copula contraction. Treatment condition significantly accelerated growth in children's 3rd person sentence diversity and tense/agreement morpheme productivity. Growth coefficients were two to three times larger for the treatment group.

These findings demonstrate the effects of diverse, low-frequency subjects on children's early grammatical growth.

Session B--Conference Auditorium

18-month-olds use the relationship between prosodic and syntactic structures to constrain the meaning of novel words

Alex de Carvalho (Ecole Normale Supérieure)
Angela Xiaoxue He (University of Maryland - College Park)
Jeffrey Lidz (University of Maryland - College Park)
Anne Christophe (Ecole Normale Supérieure)

We investigated whether 18-month-olds exploit the relationship between prosodic and syntactic structures to interpret a novel word as either a noun or a verb, depending on its position within the prosodic structure. Using French sentences like 'Regarde la petite bamoule', which can be produced either as [Regarde la petite bamoule!] - Look at the little bamoule!, where 'bamoule' is a noun, or as [Regarde], [la petite] [bamoule!] - Look, the little (one) is bamouling, where bamoule is a verb, we observed that 18-month-olds correctly inferred that bamoule refers to an object when it appears in a noun position, and to an action when it appears in a verb position (in a Habituation-Switch-paradigm). Exploiting the relationship between prosodic structure and syntactic constituents might be extremely useful for infants, not only to categorize novel words and constrain their meanings, but also to bootstrap their way into a more complex syntactic acquisition.

Session C--Terrace Lounge

Lexical contributions to inflectional variability in L2 predictive processing

Holger Hopp (University of Mannheim)

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

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Session A--Metcalf Small

The role of caregivers' tense and aspectual distinctions on children's later acquisition

Iris Chin (University of Connecticut - Storrs)
Letitia R. Naigles (University of Connecticut - Storrs)

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

Session B--Conference Auditorium

Japanese infants are aware of phonemic vowel length in novel words at 18 months

Hui Chen (Macquarie University)
Naoto Yamane (RIKEN Brain Science Institute)
Nan Xu Rattanasone (Macquarie University)
Katherine Demuth (Macquarie University)
Reiko Mazuka (RIKEN Brain Science Institute)

This study evaluates whether 18-month-old Japanese-learning infants are sensitive to phonemic vowel length contrasts in a novel word learning task. Infants were taught two disyllabic novel words via training videos, and then tested in an Intermodal Preferential Looking task where pictures of the two newly taught novel objects were presented side-by-side. The novel objects were either correctly named or mispronounced in vowel length. Proportion of looks to the target object before and after the onset of the test word were calculated. The results from the 20 infants who learned the novel words showed that looking shifts in response to vowel length mispronunciations differed significantly compared to correct pronunciations. The findings indicate that Japanese infants have acquired a long-short phonemic vowel length distinction by 18 months, despite the low number of long vowels in the input they hear.

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Session C--Terrace Lounge

Using event-related potentials (ERP) to examine the nature of morphological variability in adult L2 learners

José Alemán Bañón (University of Reading)
Jason Rothman (University of Reading)
David Miller (University of Reading)

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

Session A--Metcalf Small

An RCT to test the causal role of caregiver contingent talk in infant language learning

Michelle McGillion (University of Sheffield)
Julian Pine (University of Liverpool)
Jane Herbert (University of Sheffield)
Danielle Matthews (University of Sheffield)

Correlational studies show that infants whose parents frequently engage in contingent talk (where they talk about what is in the infant's focus of attention) go on to have a substantially larger vocabulary as toddlers. Recent studies suggest that rates of use of contingent talk vary as a function of socio-economic status and may explain why children from disadvantaged areas tend to start school with weak language skills. Such research suggests that increasing parental contingent talk would promote language development and would do so specifically for those at risk due to social disadvantage. The current study compared the effects of an intervention to promote contingent talk against a control, and measured parent contingent talk and child communication both before and after the intervention. Preliminary analyses suggest this intervention was successful in both increasing the quantity of parental contingent talk and in promoting early language development.

Session B--Conference Auditorium

Sensory format of lexical representations in 30-month-old infants

Melanie Hávy (University of Geneva)
Pascal Zesiger (University of Geneva)

Recent evidence indicates that unlike adults, infants have difficulties using visible speech information at the lexical level. The current study explores how consistent and appropriate visual input becomes part of, or is accessible from, lexical representations in 30-month-old children. To address this question, children were presented with two word-object pairings. They either heard the acoustic form of the words with no accompanying face or saw the talking face with no sound. Lexical recognition was tested in the same modality as the one used during the learning phase or in the other modality. Results indicate that children successfully learn the lexical mappings in either auditory or visual modality. Moreover, lexical representations established after auditory learning are multimodal and enable recognition in either modality, while representations established after visual learning are sensory-specified. Implications of these results are discussed in line with broader literature on audio-visual speech perception.

Session C--Terrace Lounge

Verb bias and plausibility in L2 sentence processing

Zhiying Qian (University of Illinois - Urbana-Champaign)
Eun-kyung Lee (Yonsei University)
Hsin-yi Lu (National Taipei University of Education)
Susan Garnsey (University of Illinois - Urbana-Champaign)

The present study investigated the relative contributions of verb bias and plausibility in sentence processing in native English speakers and L2 learners. Ten direct-object-biased and ten sentential-complement-biased verbs were used in Experiment 1 to construct 80 items containing embedded clauses in ambiguous and unambiguous versions. Verb bias and complementizer cues were each sufficient for native speakers for disambiguation, but both had to be present for L1-Mandarin learners. Both higher and lower proficiency L1-Mandarin learners could use verb bias cues but only higher proficiency L1-Korean learners could do so (Lee, Lu, & Garnsey, 2013), suggesting that L1 word order (Mandarin SVO; Korean SOV) influences how quickly L2 learners learn word-order-dependent cues about L2 structures. Experiment 2 showed that neither native speakers nor L2 learners (L1-Mandarin & L1-Korean) used plausibility cues, replicating previous findings in English and challenging the claim that L2 learners rely primarily on lexical-semantic cues during on-line sentence processing.
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Session A--Metcalf Small

The development of narrative structure in an emerging sign language: An episode analysis

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

We compared signers with varying linguistic experiences to disentangle the roles of linguistic input and linguistic community in the development of narrative abilities. All participants were deaf and included 1) Homesigners (no linguistic input/community); 2) Three cohorts of Nicaraguan Sign Language signers (emerging language); and 3) American Sign Language signers (mature language). Participants watched a cartoon and retold the story to a listener. Narrative quality was measured by "Story Goodness," which characterizes what information is expressed and its organization into episodes. Membership in a linguistic community with a longer history, and the age of a participant's language system at the time they were tested, were positively related to the number of complete episodes produced. These results suggest that linguistic input and membership in a linguistic community organize human experience: together they form a critical foundation for narrative development which is reflected in the ability to tell meaningful stories.

Session B--Conference Auditorium

Exploring effects of expressive vocabulary size and maternal education on lexical processing by preschoolers using the visual world paradigm

Franzo Law II (University of Wisconsin - Madison)
Tristan Mahr (University of Wisconsin - Madison)
Jan Edwards (University of Wisconsin - Madison)

Recognizing familiar words quickly and accurately facilitates learning new words and the world encoded in those words. This study investigated the speed and accuracy of word recognition in 3- to 5-year-old children, using a four-image eye-tracking paradigm that included both a semantic and phonological foil. Experiment 1 revealed a positive association between vocabulary size and lexical processing efficiency. Experiment 2 included a more diverse sample, in terms of maternal education level and native dialect (i.e., African American English or Mainstream American English). Stimuli were presented in children's native dialect. Results showed no effect of stimulus dialect, suggesting this ecologically valid practice is methodologically feasible. In addition, vocabulary size was a better predictor of looking patterns than maternal education level. However, children from high maternal-education-level families performed better than would be predicted by vocabulary size alone, suggesting high maternal education has an "insulating" effect on lexical processing efficiency.

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Session C--Terrace Lounge

Comprehension of quantifiers and numerals in Williams syndrome

Alexandra Perovic (University College London)
Emily Carter (Hounslow and Richmond Community Healthcare)
Chris Donlan (University College London)

Our use of quantifiers and numerals relies on both syntactic and pragmatic knowledge, along with the ability to assess small quantities. Investigating quantifiers and numerals is particularly relevant in Williams syndrome (WS), known for stronger verbal, but poorer number and counting skills. Using an act-out task, we tested their comprehension in 18 participants with WS (CA:8-19; M=13;09), matched in gender and verbal MA to 18 typical controls (CA:3;07-8, M=5;08).
While participants with WS scored below controls on all measures, both groups often failed to compute the scalar implicature for some, treating it as compatible with all. Control children made few errors on numerals, but participants with WS showed difficulties comprehending two/three, which require simple addition and subtraction of objects in front them. Participants with WS also revealed a pattern of 'spreading' the numeral so that it modified an incorrect noun phrase, suggesting an atypical trajectory in the acquisition of numerals.

Session A--Metcalf Small

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

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

Session B--East Balcony

Individual differences in the precision of the link between language and categories at 12 months predict present and future vocabulary growth

Brock Ferguson (Northwestern University)
Melanie Hávy (University of Geneva)
Sandra Waxman (Northwestern University)

Infants' initially broad links between language and object categories become more precise by the end of their first year. In a longitudinal study, we asked whether individual differences in the precision of infants' links at 12 months of age are related to vocabulary growth. We found that, at 12 months, infants who had already established a precise link between labels and categories understood more words than those whose link was still broad. Six months later, this advantage held: At 18 months, infants who had demonstrated a precise link at 12 months knew more words and produced more words than did infants who had demonstrated a broad link at 12 months. We conclude that individual differences in the precision of 12-month-old infants' links between language and categories provide a reliable window into vocabulary development, and consider several causal explanations for this relation.

Session C--Conference Auditorium

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

Karoliina Lohiniva (Universite de Geneve)
Daniele Panizza (Georg-August Universität Göttingen)

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

(1)   Alle Piraten sind nicht auf das Schiff zurückgekehrt.
        All of the pirates did not go back to the ship.

We report the following results: Children access both readings of (1), but the surface scope reading of (1), according to which no pirates went back, is accessed faster, whereas children are more accurate in their off-line choices with the inverse scope reading of (1), according to which not all did.
        Crucially, the adopted prosody for the test sentences was unbiased. These findings speak against a processing-limitation hypothesis, and suggest that pragmatic inferences may facilitate children's access to inverse scope even in the absence of a prosodic bias.

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LUNCH SYMPOSIUM

"In(put)s and Out(put)s of the Syntactic Bootstrapper"

Bootstrapping the syntactic bootstrapper
Anne Christophe[1], Isabelle Dautriche[1], Alex de Carvalho[1] & Perrine Brusini[2].
[1]*CNRS, Ecole Normale Supérieure,* [2]*Scuola Internazionale Superiore di Studi Avanzati (SISSA)*

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

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

In 1985, Landau & Gleitman first outlined the syntactic bootstrapping hypothesis, in their book *Language and Experience – Evidence from a blind child*, followed in 1990 by Lila Gleitman's article "The structural source of verb meanings" (Language Acquisition). They proposed that young children might learn the meaning of words (and in particular, verbs), by paying attention to the syntactic structures in which they occurred. This highly counter-intuitive hypothesis earned Lila a lot of flak from the community, and paved the way for the broader research framework that is now known as 'synergies in language acquisition': the general idea that even impoverished knowledge in one area of language might help children refine their representations in another (e.g., even a very crude proto-lexicon will help you learn your phonological system). Thirty years later, syntactic bootstrapping is widely accepted and has been supported by many experimental results – even though a lot remains to be discovered. In this symposium, we will examine the ways in which very young children may start gathering the relevant syntactic facts on which to base their acquisition of word meanings – or, in other words, how to bootstrap the syntactic bootstrapper – as well as how to go further than the first steps of syntactic bootstrapping, especially for those cases where support from the non-linguistic context is particularly scarce.

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Session A--Metcalf Small

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

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

Adult language processing is characterized by a sensitivity to fine-grained subphonemic detail, however, little is known about children's attention to subphonemic detail during online word recognition. To address this issue, Experiment 1 compared 29-month-olds' (N = 24) recognition of familiar words presented with appropriate coarticulation (Matched Condition) versus inappropriate coarticulation (Subphonemic Mismatch). Children recognized the target words in both conditions, but their average proportion of looks to the target was greater in the Matched than the Mismatch Condition. Experiment 2 compared 29-month-olds' (N = 24) sensitivity to subphonemic mismatch to their sensitivity to phonemic mismatch. Here, children looked more to the target object when the target label contained a subphonemic than a phonemic mismatch. Thus, although inappropriate coarticulation impacts toddlers' word recognition, it does not disrupt recognition nearly as much as phonemic mismatch. These findings suggest that children, like adults, are attentive to subphonemic information, even though it is non-contrastive.

Session B--Conference Auditorium

Early gesture provides a helping hand to later vocabulary development for children with autism, Down syndrome and typical development

Şeyda Özçalışkan (Georgia State University)
Lauren B. Adamson (Georgia State University)
Nevena Dimitrova (Georgia State University)
Lauren Scmuck (Georgia State University)

Children indicate objects uniquely in gesture before producing words for them; and the onset of such gestures predicts the onset of related words for typically-developing (TD) children. We ask whether gesture plays the same door-opening role in word-learning for children with autism spectrum disorder (ASD) and Down syndrome (DS), who show delayed vocabulary development. We tested this question, observing 23 18-month-old TD children, 23 30-month-old children with ASD and 23 30-month-old children with DS over a year during parent-child interactions. Children in each group initially expressed greater proportions of referents uniquely in gesture than in speech (TD:63% vs.14%; ASD:57% vs. 28%; DS:71% vs. 17%). The majority of these unique gestures subsequently entered children's spoken vocabularies—except for children with DS, whose word production remained markedly delayed. These results indicate that gesture is a fundamental aspect of the word-learning process in children with developmental disorders as it is in TD children.

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Session C--Terrace Lounge

Preschool children's sensitivity to non-local structural dependencies between logical words

Alex Vogt-Woodin (University of Kansas)
Adrienne Johnson (University of Kansas)
Utako Minai (University of Kansas)

We discuss preschool children's comprehension of sentences containing two downward-entailing (DE) logical words, 'no' and 'every', in which the c-commanding relationship between them determines the entailment pattern. We examined whether children's truth value judgments of those sentences were adult-like, when the sentences' truth values were determined as a consequence of the entailment pattern involving c-commanding and non-commanding 'no' and 'every'. Children heard sentences in which 'no' preceded but did not c-command 'every' (creating a DE environment), as well as sentences in which 'no' both preceded and c-commanded 'every' (creating a non-DE environment, due to the c-command-driven semantic interaction between them, which cancels DE-hood), and showed an awareness of the presence or absence of the c-command relationship between 'no' and 'every', even when presented with both c-commanding and non-c-commanding 'no'. These findings provide further support for models hypothesizing that children possess structural syntactic representations and semantic knowledge of DE logical words.

Session A--Metcalf Small

Learning words amidst phonemic variability

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

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

Session B--Conference Auditorium

MetaLab: A tool for power analysis and experimental planning in developmental research

Molly Lewis (Stanford University)
Mika Braginsky (Stanford University)
Christina Bergmann (Laboratoire de Sciences Cognitives et Psycholinguistique (EHESS-DEC(ENS)-CNRS))
Sho Tsuji (Laboratoire de Sciences Cognitives et Psycholinguistique (EHESS-DEC(ENS)-CNRS))
Alejandrina Cristia (Laboratoire de Sciences Cognitives et Psycholinguistique (EHESS-DEC(ENS)-CNRS))
Michael Frank (Stanford University)

We introduce MetaLab (metalab.stanford.edu), a web-based tool that aggregates meta-analyses across different domains of language acquisition. MetaLab can be used for power analysis, experimental planning, and theory development. Findings from published research are not always reproducible (Ioannidis, 2005; Open Science Collaboration, 2015), and one possible cause is that sample sizes are often too small to detect effects. Language development research is particularly sensitive to this issue: often both sample sizes and effect sizes are relatively small (for example, a typical study in word segmentation has n=24 and Cohen's d=.2). MetaLab begins to address this problem by allowing researchers to estimate effect sizes across studies in language development. MetaLab also provides a meta-meta-analysis (a synthesis across different meta-analyses): A visualization of the relationship between the developmental trajectories of different phenomena in language development. The promise of this work is an empirically driven synthesis of our knowledge about early language development.

Session C--Terrace Lounge

Effects of topic on children's interpretations of control

Vikki Janke (University of Kent)

Using three two-choice picture-selection tasks, this study measured the effect of topic (no topic; weakly established topic; strongly established topic) on older children's (aged 6;9 to 11;8) interpretations of complement control, temporal adjunct control, controlled verbal-gerund subjects and long-distance control. Interpretations remained object-oriented in complement control across all three tasks, whilst those of verbal-gerund subjects and long-distance control proved susceptible to both strengths of cue. The surprising finding was that adjunct control interpretations shifted significantly towards the object under the pressure of a strongly established topic (p=0.000), despite it long being analysed as strictly subject-oriented. 15 adults exhibited the same pattern. A discourse-based scale of influence is proposed for verbal-gerund subjects and long-distance control but the account offered for adjunct control is structural. This can represent the evident sentence-internal ambiguity seen in both children and adults yet will exclude options not available in adjunct control, namely arbitrary or sentence-external interpretations.

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Session A--Metcalf Small

Viewpoint preferences in signing children's spatial descriptions

Beyza Sumer (Max Planck Institute for Psycholinguistics)
Pamela Perniss (University of Brighton)
Asli Ozyurek (Radboud University Nijmegen, Max Planck Institute for Psycholinguistics)

Previous studies have shown that signing children lag behind their speaking peers in comprehending spatial relations that require imposing a viewpoint (left-right, front-behind) [1, 2]. However, there are no production studies with signing children on the viewpoint preferences in encoding viewpoint-dependent spatial relations. We elicited spatial descriptions from preschool-age (mean age: 5;2, N= 10) and school-age (mean age: 8;3) deaf children acquiring Turkish Sign Language (TİD) natively (N= 10) and from deaf TİD-signing adults (N=10). TİD-signing adults preferred signer-viewpoint over addressee-viewpoint (p<.001) for lateral-axis spatial relationships, but for the ones on the sagittal axis, they used addressee-viewpoint more frequently than signer-viewpoint (p<.001). TİD-acquiring children in both age groups, on the other hand, described spatial configurations (both lateral and sagittal axis) from signer-viewpoint. Therefore, signing children, similar to speaking children [3,4], learn to express spatial relations from their own viewpoint earlier than the viewpoint of their addressee.

Session B--Conference Auditorium

Tracking the development of structural priming in children

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

Structural priming has proved a useful technique to investigate children's knowledge of verbs and argument structures. Several studies report developmental differences across large ranges (e.g., children versus adults), but none have explicitly tracked how structural priming effects change as children age, and as their language and cognitive ability develops. A large sample of 136 English-speaking children aged 3 – 8-years (M = 6;0, SD = 1;2) were primed to use double object (DO) and prepositional object (PO) datives in a 2 (prime structure: DO versus PO) by 2 (Verb match: Overlap between verb in prime and target/no overlap) within-participants design. Additionally, the children's receptive vocabulary was measured using the Peabody Picture Vocabulary Test, and their non-verbal ability was measured using the Raven's Colored Progressive Matrices. The results revealed priming at all ages and, for the first time, a lexical boost effect. The theoretical implications of the findings are discussed.

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Session C--Terrace Lounge

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

Eleni Baldimtsi (Aristotle University of Thessaloniki)
Eleni Peristeri (Aristotle University of Thessaloniki)
Ianthi Maria Tsimpli (Aristotle University of Thessaloniki, University of Reading)
Ageliki Nicolopoulou (Lehigh University)

This study investigated possible compensatory effects of bilingualism on ASD in language and non-verbal cognition. Six bilingual children with ASD were compared with 9 bilingual and 9 monolingual controls (mean age: 9;8) with or without ASD. Children narrated a story to a multi-episode picture sequence that was analyzed using story structure and appropriate referential forms. An online global-local attention task assessed children's non-verbal inhibition and attention. The results partly supported our hypothesis. In the verbal task, TD bilinguals used the least number of ambiguous forms during narration, and bilinguals with ASD outperformed their monolingual controls. Furthermore, bilinguals with or without ASD and their controls used more story grammar elements than TD monolinguals. In the non-verbal task, children with ASD performed better in the local condition while children without ASD in the global condition. Thus, bilingualism seems to improve the verbal abilities of children with ASD more than their non-verbal abilities.

Session A--Metcalf Small

The predictive nature of American Sign Language verbs during real-time sentence processing in deaf adults and children

Amy Lieberman (Boston University)
Arielle Borovsky (Florida State University)
Rachel Mayberry (University of California - San Diego)

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

Session B--Conference Auditorium

Mechanisms of syntactic priming and individual differences

Ludovica Serratrice (University of Manchester)

This study focused on the role of analogical reasoning and cognitive flexibility on the likelihood of passive priming.
The study included 46 English-speaking 6-year-olds. The children were administered tests of working memory, sentence comprehension, cognitive flexibility, and an analogical reasoning task of the A:B = C:D type. The priming task was a 2x2 within-subject design crossing priming condition (active, passive) and verb semantics (agent-patient, theme experiencer). We used mixed effects logistic regression with priming condition, WM, sentence comprehension, analogical reasoning and cognitive flexibility as fixed factors, participants and items as random factors. The best fit model showed a significant effect for priming, a significant effect of analogical reasoning, a trend towards significance for cognitive flexibility, but no significant effect of verb semantics.
These results shed new light on the mechanisms underlying the syntactic priming phenomenon, and on the role of individual differences in the likelihood of priming in young children.

Session C--Terrace Lounge

Development of goal-plan in narratives of Mandarin-speaking children with high-functioning autism spectrum disorders

Kanyu Yeh (National Chengchi University)

This study examined the development of goal-plan knowledge in narratives of Mandarin-speaking children with autism spectrum disorder (ASD). Nine high-functioning children with ASD and nine typically-developing controls matched by group on gender, IQ, and language scores were recruited. The narrative data of the frog story was collected when the children with ASD were 8 and 11 years old. The hierarchy of goal plans of actions, based on Trabasso and Nickels' (1992) framework, was coded for local and global goal plans, i.e. episodes with goal-attempt-outcome units and the mention of the protagonist's inner goals respectively.
The findings suggested a developmental progression of goal-plan knowledge of the Mandarin-speaking children with ASD. They gradually developed their planning and narrative abilities to structure their story in accordance with a hierarchy of goal plans of actions both locally and globally. Similarities and differences between groups will be discussed in relation to the children's cognitive and linguistic abilities.

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PLENARY SESSION

BUCLD 40 Roundtable
"40 Years of BUCLD: Looking Back and Looking Forward"

Jean Berko Gleason (Boston University)
Eve Clark (Stanford University)
Elissa Newport (Georgetown University)
Ken Wexler (Massachusetts Institute of Technology)

Moderators:
Roberta Golinkoff (University of Delaware)
Kathy Hirsh-Pasek (Temple University)

To commemorate the 40th anniversary of BUCLD, four distinguished scholars from different theoretical and empirical backgrounds have agreed to share with us their perspectives on the field. This special discussion, moderated by Kathy Hirsh-Pasek and Roberta Golinkoff, will reflect on the history of the field of language development and will look forward to the future.

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Are L2 learners pressed for time? Retrieval of grammatical gender information in L2 lexical access

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

Adult second language (L2) learners experience persistent difficulty with grammatical gender, yet the source of this difficulty remains unclear. Recent research further suggests that these difficulties stem from processing problems rather than learnability problems (Grüter et al., 2012). We use event-related potentials to investigate whether L2 processing difficulties may stem partly from delayed access to gender, relative to a word's phonology. In contrast to previous findings with native speakers (NSs) of Dutch, our results find no evidence for earlier access to gender compared to phonology in German NSs (cf. Van Turennout et al., 1998). Additionally, German L2ers show no delay in access to gender relative to NSs, suggesting that the difficulty experienced by L2ers with grammatical gender cannot be directly tied to delays in the timing of gender access during online processing. Our results thus provide important constraints for theories of grammatical gender use and lexical access in L2 production.

Verb acquisition in English and Turkish: The role of processing

Maxwell Kon (Boston University)
Tilbe Goksun (Koç University)
Aslihan Bagci (Koç University)
Sudha Arunachalam (Boston University)

The linguistic contexts in which unfamiliar verbs appear can provide useful information for children to acquire their meanings. But this requires children to process the linguistic context effectively. We examine the tradeoff between how informative the linguistic context is and how easy it is to process, in English and Turkish, by examining the effects of modified subject NPs on 2.5- to 4-year-old children's acquisition of novel verbs. Children from both language groups acquired novel verbs appearing with unmodified subjects (e.g., "The girl is fezzing"; Turkish: Kız feziyor), but not modified subjects (e.g., "The nice tall girl is fezzing"; Turkish: Uzun güzel kız feziyor), regardless of whether the modifiers were informative (i.e., whether only one girl was present or whether two were—one tall and one short). The increased processing load apparently left children insufficient resources to acquire the novel verb.

The acquisition of prosody in American Sign Language (ASL)

Diane Brentari (University of Chicago)
Joshua Falk (University of Chicago)
George Wolford (Purdue University)

This is the first comparative analysis of American Sign Language (ASL) prosody in Deaf, native-signing children (ages 5:0-8;5) and adults. The distribution of prosodic cues in narratives is described to determine i) which cues across age groups are most predictive in determining clausal and prosodic boundaries and ii) the amount of isomorphy between syntactic and prosodic units. The key findings are that prosodic cues are acquired compositionally and that the prosodic patterns in child and adult ASL signers exhibit important differences. Crucially, in all groups the manual cues are more predictive of prosodic boundaries than non-manual markers. This is evidence for a division of labor between the cues marking constituents and those contributing to phrasal meaning. There is also more isomorphy in adults than in children, suggesting that while there is clear autonomy between prosody and syntax, non-isomorphy is relatively rare overall.

Toddlers learn words from adults, but not children

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

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

Cross-linguistic transfer of metalinguistic awareness in biliteracy acquisition: A meta-analysis

Sihui Ke (Carnegie Mellon University)

This meta-analytic study examined the cross-linguistic relationship between L2 reading sub-skills and two basic facets of L1 metalinguistic awareness, namely phonological awareness (PA) and morphological awareness (MA). The findings suggest that there were moderate to high meta-correlations between L1 PA and L2 PA and decoding. In comparison, there were small to moderate meta-correlations between L1 MA and L2 MA and reading comprehension. Variability was detected across the primary studies. It was found that there was no significant moderating effect of age on the correlations between L1 PA and L2 reading sub-skills. There was no significant moderating effect of age on those between L1 MA and L2 reading sub-skills either. Different interpretations were provided given the distinct roles of PA and MA as resources in bilingual reading development: PA is a shared resource and less language-specific; MA is a sharable resource and more language-specific (see also Koda, 2007).

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Development of headshake in sign and speech

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

Headshake is used as a non-manual grammatical marker of negation in American Sign Language (ASL) and other sign languages (Quer 2012). ASL headshakes are different from co-speech headshakes in sharp onset and offset, syntactic distribution. Bimodal bilingual (bibi) children acquiring ASL/English must distinguish these very similar forms. We analyze negative utterances produced by one bibi child, BEN (1;11-3;06), and adult interlocutors in 14 spontaneous production sessions. Hearing adults produced headshakes in no more than 1/3 of their spoken negative utterances. BEN's spoken utterances replicate hearing adults' distribution of headshake fairly well. Deaf signing adults produced no headshake in 21% of their utterances (cf. Veinberg & Wilbur 1990). However, while BEN's pattern is close to adults for anaphoric negation, he uses the dominant adult pattern for sentential negation only 13% of the time. It is clear that bilingualism has a greater effect while he is signing than while he is speaking.

POSTER SESSION II

Phonological versus lexical factors in children's productions at the onset of word use

Barbara Davis (University of Texas - Austin)
Suzanne van der Feest (University of Texas - Austin)
Hoyoung Yi (University of Texas - Austin)

The growing lexicon is often assumed to be the principle factor that determines sound characteristics of words produced by children over four years of age. In contrast, theories of 'selection and avoidance' suggest that at the earliest stages of word use, phonological factors may dominate: Young children may attempt to produce mainly words containing sounds they have mastered. We studied speech output patterns and corresponding vocabulary checklists of six English-learning children (8-36 m.o.) over a period of two years. We compared patterns of phonemes in children's early types of Spontaneous Word Targets versus the patterns in the same children's Spontaneous Word Types as they were actually produced. We examined 10 dimensions of place and manner of articulation in word-initial and word-final position. Our results illustrate that there is evidence for a dominance of phonological factors at the earliest stage of word use, depending on vocabulary size and specific phonological contrasts.

POSTER SESSION II

Must be tricky: Testing the role of aspect and evidence in modal meaning

Ailis Cournane (University of Toronto)
Ana-Teresa Perez-Leroux (University of Toronto)

Must expresses both deontic and epistemic meanings in relation to the aspectual properties of its prejacent (e.g., Hacquard, 2006). Further, when epistemic, must carries a presupposition of indirect evidence (VonFintels & Gillies, 2010). We used forced-choice experiments to investigate whether 3-5yo children understand how aspect cues epistemic must, and the evidential restriction on epistemic must. Previous L1A studies address the relative strength of modals (might vs. must), and the naturalistic emergence of root>epistemic uses; modal development studies rarely address aspect nor evidentiality, despite their central roles in modal semantic theory. Results show (a) aspect marking cues epistemic interpretations from 3 years (Heizmann, 2006), but at first only reliably for perfect (not progressive), (b) children may not compute the indirect evidential component of must until after age 5, and, (c) 5yos strongly over-apply epistemic interpretations relative to younger children and adults (which we discuss in terms of predictions from language change).

POSTER SESSION II

Tunes and tones: Music, language, and inhibitory control

Robert Graham (Southern Illinois University - Carbondale)
Usha Lakshmanan (Southern Illinois University - Carbondale)

Groups of monolinguals (N = 22), monolingual musicians (N = 19), non-tone-language bilinguals (N = 20) and tone-language bilinguals (N = 18) were compared on auditory Stroop tasks to assess domain-transferable processing benefits (e.g. auditory inhibitory control) resulting from potentially shared underlying cognitive mechanisms (Patel, 2008; Bialystok & DePape, 2009). In one task, participants heard the words HIGH and LOW presented in either high or low pitches, and responded regarding the pitch of the stimuli as quickly as possible. In another task, participants heard the words RISE or FALL presented in rising or falling pitch contours, and responded regarding the contour of the stimuli as quickly as possible. Results indicate potential transferable auditory inhibitory control for musicians regarding pitch and contour, but any possible benefits for speakers of tone languages may be task-dependent, as vocal contour may conflict with the use of tones in language.

POSTER SESSION II

Consonant representations aid in learning segmentation and phonology for Arabic but not English

Itamar Kastner (New York University)
Frans Adriaans (New York University)

The problem of segmenting speech into words has received much attention in the computational modeling literature. Yet it is not clear to what extent the segmentation mechanism differs across languages, nor is it well understood to what extent the segmented proto-lexicon aids in learning phonological patterns. We hypothesized that acquiring Arabic – where morphology is built around consonantal roots – is facilitated by dividing the input into consonants and vowels. Simulations comparing consonant-only representations and "full" (consonant + vowel) representations in English and Arabic quantified how useful consonant representations are for segmentation and phonological learning. In Experiment 1, we found that a consonant-only representation aided segmentation in Arabic but hampered segmentation of English. Experiment 2 tested the emergence of a phonological restriction against homorganic consonant pairs in Arabic ("OCP-Place"). Our results suggest that for a child learning a Semitic language, separating consonants from vowels is beneficial for segmentation and phonological learning.

POSTER SESSION II

Infants' inferences about language as a social category

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

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

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POSTER SESSION II

The development of simultaneous-combinatorial structure in language creation and acquisition

Heidi Getz (Georgetown University)

How does combinatorial structure emerge in a new language? One suggestion comes from the developmental trajectory of Nicaraguan Sign Language (NSL). The transition from simultaneity to sequencing in motion-event representation has been interpreted as evidence for combinatorial patterning (Senghas, Kita, & Özyürek, 2004). However, these important results would seem to require further interpretation in light of this fact: in many mature sign languages, combinatorial representation of motion is simultaneous, not sequential. Why is NSL an apparent exception to this typological universal? I argue that it is not. Sequencing is an intermediate step in NSL's development from simultaneous-holistic to simultaneous-combinatorial representation. This circuitous trajectory has a striking parallel in children's acquisition of American Sign Language: before mastering simultaneous-combinatorial structure, children first sign morphemes in sequence, even when the adult grammar requires simultaneity (Supalla, 1982; Newport, 1988). This evidence motivates a novel analysis of NSL that dissociates the holistic/combinatorial and sequential/simultaneous dimensions.

Neural patterns of native and non-native speech perception as a function of the amount of language input in monolingual and bilingual infants: An interplay between the MMR and the LDN response

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

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

Growth in naturalistic verb use differs by verb category in toddlers with ASD

Julia Parish-Morris (University of Pennsylvania)
Deborah Fein (University of Connecticut - Storrs)
Letitia R. Naigles (University of Connecticut - Storrs)

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

Hope for syntactic bootstrapping

Kaitlyn Harrigan (University of Maryland - College Park)
Valentine Hacquard (University of Maryland - College Park)
Jeffrey Lidz (University of Maryland - College Park)

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

Mouse tracking reveals knowledge of multiple competing referents during cross-situational word learning

John Bunce (University of California - Merced)
Chelsea Gordon (University of California - Merced)
Drew Abney (University of California - Merced)
Morgan Fleming (University of California - Merced)
Michelle Greenwood (University of California - Merced)
Eric Chiu (University of California - Merced)
Michael Spivey (University of California - Merced)
Rose Scott (University of California - Merced)

Adults can use cross-situational information to identify words' referents. However, it is unclear what learners retain about the potential referents that occur with a word: do they encode multiple referents or a single guess? To address this question, we devised a novel cross-situational word-learning paradigm that used mouse tracking. In each training trial, adults saw four novel objects and heard four novel labels. In test, four objects occurred with one label and participants dragged a dot to the object they thought matched the label. Half the test trials included a distracter object that occurred with the word 50% of the time during training. Participants were less accurate on these trials and, even when they guessed correctly, they took longer to reach the target and reached maximum velocity later than when the distracter was absent. This online competition suggests that learners sometimes retain knowledge of multiple potential referents for a word.

Quantifier scope in the second language acquisition of Russian

Tatiana Luchkina (University of Illinois - Urbana-Champaign)
Tania Ionin (University of Illinois - Urbana-Champaign)

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

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The processing of garden-path sentences by L2 learners of English: A visual word study

Carla Contemori (Pennsylvania State University)
Lucia Pozzan (University of Pennsylvania)
Phillip Galinsky (Pennsylvania State University)
Giuli Dussias (Pennsylvania State University)

We conducted an eye-tracking study during listening to investigate how L2 speakers of English process garden path sentences and integrate relevant contextual information during revision. A group of highly proficient L2 speakers of English (L1 Spanish) and a group of monolingual native English speakers acted out temporarily ambiguous and unambiguous structures (e.g., put the frog on the napkin into the box). The actions and the eye-movement measures showed that L2 speakers were able to integrate referential information present in the context to recover from initial misinterpretations. Conversely, when referential information was not available, L2 speakers pursued a pragmatically infelicitous interpretation of the temporally ambiguous syntactic structure more often than the monolinguals.

Our results suggest that L1 and L2 processing are similar with regard to sensitivity to referential information, but different with regard to reanalysis in the absence of salient contextual information.

The time is at hand: Literacy influences children's gestures about time

Lauren Stites (Georgia State University)
Şeyda Özçalışkan (Georgia State University)

Adult English speakers use metaphors to express time in speech by placing it on a sagittal axis in relation to the speaker – with the future ahead ('Winter is ahead of us') and the past behind the speaker ('Summer is behind us') or on a lateral axis ('Summer follows winter'), which is not oriented in relation to the speaker. However, they frequently express time in gesture along a lateral axis with past to the left and future to the right—congruent with the left-to-right writing system of English. Here we ask whether changes in children's metaphor comprehension and literacy skills influence their gestures about time and found evidence for both. Metaphor comprehension was positively associated with use of the lateral axis while literacy was positively correlated with use of left-to-right directionality in gesture—controlling for child age. Our results suggest that metaphor comprehension and literacy jointly shape children's gestures about time.

The acquisition of compound prosody in Greek and English: The role of the prosodic hierarchy

Angeliki Athanasopoulou (University of Delaware)
Irene Vogel (University of Delaware)

Little is known about acquisition of prosody of larger structures – e.g., beyond the phonological word (PW) in the prosodic hierarchy. Research based on perception data has proposed that the higher the level, the longer it will take to fully acquire the pattern. We test this proposal with cross-linguistic production data of compound prosody in English and Greek. In English compounds, two PWs are combined into the larger unit of Composite Group (CG) but in Greek the whole compound is a single PW. We found that while Greek 6-year-olds formed and produced compounds like adults, with a single stress, their English peers use non-adult-like strategies even at 11 years. Our findings, support the view that the acquisition of prosodic patterns follows the prosodic hierarchy: The patterns at lower levels of the hierarchy are acquired earlier than those at higher levels.

Novelty of discourse referents promotes heuristics in children's syntactic processing

Yi Ting Huang (University of Maryland - College Park)
Lauren Abadie (University of Maryland - College Park)
Alison Arnold (University of Maryland - College Park)
Erin Hollister (University of Maryland - College Park)

Unlike adults, children often ignore discourse cues to syntactic structure during comprehension. For example, 5-year-olds adopt the instrument interpretation of "Tap the frog with the feather," irrespective of the number of frogs in the scene. The current study examines whether children's failure to use discourse cues extends to cases where cues are salient (new vs. given referents), and syntactic biases are robust (agent-first bias). In the case of passives, children frequently misanalyze NP1s as agents, and fail to revise after the past participle. We hypothesized that agent-first biases are greater when assigning roles for new, less familiar referents. This would increase the accuracy of actives, but decrease the accuracy of passives. Accordingly, we found more passive errors when NP1s (1) were full nouns vs. pronouns, (2) co-referenced unknown vs. known antecedents, and (3) were novel vs. known words. This suggests that NP1 novelty increases reliance on structural biases for interpretation.

Learners know more about definiteness than they think: comparing explicit and implicit knowledge of articles in L2-English

Tania Ionin (University of Illinois - Urbana-Champaign)
Myeong Hyeon Kim (University of Illinois - Urbana-Champaign)
Katharine Tyndall (University of Illinois - Urbana-Champaign)

The goal of this study is to examine the effect of task type on L1-Korean L2-English learners' use of the English definite article. Based on prior literature, we hypothesize that learners would be more accurate in anaphoric contexts, where Korean uses demonstratives, than in bridging contexts, where Korean uses bare NPs. We use tasks targeting explicit knowledge (forced-choice) and implicit knowledge (elicited imitation) to determine whether transfer from demonstratives to definites is evident at both levels. Preliminary findings: In the forced-choice task, learners were more target-like in anaphoric than bridging contexts, consistent with L1-transfer; in the elicited imitation task, in contrast, learners exhibited patterns similar to native speakers. We propose that transfer from demonstratives to definites occurs only at an explicit level, and may be due to metalinguistic strategies and/or translation. At an implicit level, learners are aware that "the" marks uniqueness independently of how uniqueness is established.

Gender and number in L2 Swahili word recognition

Patti Spinner (Michigan State University)
Rebecca Foote (University of Illinois - Urbana-Champaign)

There is conflicting evidence regarding whether second language learners make use of morphological cues to facilitate recognition of subsequent nouns. We investigate this issue in Swahili, which is particularly interesting because number markers on noun prefixes agree in gender with the noun root. Our research question is: Do native speakers and L2 learners make use of gender and number information on verbs when recognizing nouns? Native speakers and English-speaking L2 learners of Swahili completed two word repetition tasks, one examining gender and one number. Both groups appeared sensitive to number marking. However, only native speakers demonstrated an effect of gender congruency, in that they repeated nouns significantly faster when they were preceded by verbs that were congruent in gender. Our findings suggest that the lack of a feature in the L1 (in this case, gender) may impede online processing in the L2.

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Code-blending of IX arguments reveals structural asymmetries

Diane Lillo-Martin (University of Connecticut - Storrs)
Kadir Gokgoz (University of Connecticut - Storrs)
Ronice Quadros (Universidade Federal de Santa Catarina)
Deborah Chen Pichler (Gallaudet University)

Bimodal-Bilingual (Bibi) children combine their languages in intricate ways, including code-blending, simultaneous production of elements in both speech and sign. We examined the use of sign and code-blending in spontaneous productions of one Bibi child learning ASL and English, Ben (2;00-3;00), focusing on use of the pointing sign IX (index) as subject or object. We were interested in whether Ben produced IX subjects and objects in pre-predicate vs. post-predicate position vs. overlapping with the predicate, a modality-specific option. The findings are: (i) overlapping objects occur more than overlapping subjects; (ii) both pre-predicate objects and post-predicate subjects occur, orders that are only licensed in sign; (iii) there are also post-predicate objects and pre-predicate subjects as expected since these orders are valid for both languages. We explain these finding through a synthesis model implemented with a phase-based approach, wherein the numeration deriving the Bibi productions includes features from both ASL and English.

POSTER SESSION II

Quantity implicatures in English monolingual and Spanish-English bilingual children

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

We present three experiments investigating how monolingual English children and adults, and Spanish-English bilingual children calculate scalar implicatures. We show that where bilinguals diverge from monolinguals is not in their general pragmatic ability, but in lexically-specific performance with 'some'. While adults consistently calculated implicatures, monolingual children demonstrated variable task-specific ability; the richer the discourse context, the more likely implicature calculation. By contrast, Spanish-English bilingual children not only did not treat 'some' as 'some but not all', but also appeared to access a specific interpretation of 'some' based on set size. Where bilinguals patterned with the monolinguals was in a sensitivity to an upper-bounded interpretation based on the preceding modal frame ('You may take'…/'Please put'…), and calculation of particularized implicatures. We argue that the bilingual child must overcome the pressure of reconciling overlapping and diverging entries for 'some' within and across languages, and differences in plural morphology between the two languages.

POSTER SESSION II

Comprehension of novel metaphor in autism and Down syndrome

Nausicaa Pouscoulous (University College London)
Alexandra Perovic (University College London)

POSTER SESSION II

Infant-directed speech is consistent with teaching

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

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

POSTER SESSION II

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

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

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

POSTER SESSION II

Evidence for an irregularization bias in morphological learning

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

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

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POSTER SESSION II

The breadth of sounds that young infants link to meaning in language acquisition

Danielle Perszyk (Northwestern University)
Sandra Waxman (Northwestern University)

To acquire language, infants must first distinguish the sounds of their native language from other sounds in their environment and then ascertain how language is linked to the objects and events they encounter. By three months, infants are beginning to establish a link between their native language language and object categorization (Ferry, Hespos & Waxman, 2010). Yet recent evidence reveals that human language is not uniquely privileged in its ability to tap into core cognitive processes: Non-human primate vocalizations also facilitate object categorization in three- and four-month-old infants. Moreover, backward human speech—a sound equally complex to human speech—does not have this effect (Ferry, Hespos & Waxman, 2013). Here we extend these results to establish boundary conditions on the range of sounds that support object categorization in three- and four-month-old infants. Infants failed to form categories while hearing bird vocalizations, but they succeeded while hearing non-native languages.

Variable L2 acquisition of Spanish differential object marking by L1 English speakers

Will Nediger (University of Michigan)
Acrisio Pires (University of Michigan)
Pedro Guijarro-Fuentes (University of the Balearic Islands)

We present a study of the L2 acquisition of Spanish Differential Object Marking (DOM) by L1 English speakers. We tested adult native English speakers living in Spain (n=30), in contrast to an adult control group of monolingual Spanish speakers (n=79). Subjects completed a grammaticality judgement task, an elicited production task, and a discourse context-matching task, each of them manipulating several syntax-semantics features influencing the realization of DOM. Our results are argued to be consistent with the Feature Reassembly Hypothesis (Lardiere 2009), according to which the difficulty of L2 acquisition is linked to the amount of reassembly of features required. In particular, we argue that L2 subjects have difficulty acquiring the feature bundle [+animate, +specific], but perform better when only one of the two features is sufficient to determine the presence or absence of DOM.

Acquisition of overt and null pronoun interpretation in L2 Japanese

Marisa Nagano (New York University)

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

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

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

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

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

Victoria Mateu (University of California - Los Angeles).

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

Masahiro Hara (Truman State University)

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

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Contrastive focus in children learning ASL

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

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

POSTER SESSION II

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

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

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

POSTER SESSION II

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

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

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

POSTER SESSION II

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

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

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

POSTER SESSION II

Interfaces: Syntax and information structure in L2 Spanish nominal ellipsis

Joyce Bruhn de Garavito (The University of Western Ontario)
Lilliana Montoya (The University of Western Ontario)

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

POSTER SESSION II

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

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

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POSTER SESSION II

Placeholder structures in word learning: The case of deictic time

Katharine Tillman (University of California - San Diego)
Tyler Marghetis (University of California - San Diego)
Mahesh Srinivasan (University of California - Berkeley)
David Barner (University of California - San Diego)

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

The time-course of statistical learning across development: Word segmentation and syntax in a serial reaction time task

Kathryn Schuler (Georgetown University)
Richard Aslin (University of Rochester)
Elissa Newport (Georgetown University)

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

Sensitivity to speech distributional information in children with autism: A MEG study

Zhenghan Qi (Massachusetts Institute of Technology)
Dimitrios Pantazis (Massachusetts Institute of Technology)
Carlo de los Angeles (Massachusetts Institute of Technology)
Tyler Perrachione (Boston University)
John Gabrieli (Massachusetts Institute of Technology)

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

Encoding vs. retrieval in nonword repetition tasks: Comparing children with SLI-only, children with SLI and dyslexia, typically developing children, and adults

Spencer Babb (University of South Carolina)
Suzanne Adlof (University of South Carolina)
Daniel Fogerty (University of South Carolina)

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

Personalized storybooks enhance word learning in young children

Pumpki Su (Northwestern University)
Casey Lew-Williams (Princeton University)

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

What drives the Maratsos Effect, agentivity or eventivity?

Adam Liter (Michigan State University)
Antoinette Huelskamp (Michigan State University)
Susima Weerakoon (Michigan State University)
Alan Munn (Michigan State University)

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

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Acquisition of Turkish vowel harmony in low-frequency and zero-frequency contexts: Evidence for Full Access in L2 phonology

Öner Özçelik (Indiana University)
Rex Sprouse (Indiana University)

We present evidence that (at least) one UG phonological principle, the No-Crossing Constraint (NCC), guides English-Turkish acquisition of vowel harmony (VH) in low-frequency and zero-frequency contexts. We focus on cases with (actual) noncanonical VH (ANVH) and hypothetical noncanonical VH (HNVH). Unlike canonical VH, where specifications for [±back] in suffix vowels spread from the immediately preceding vowel (/an-da/ vs. /en-de/), in ANVH, due to an intervening /l/ that is pre-specified as [Coronal], the following vowel surfaces as [-back] (e.g. /petrol-de/). In actual Turkish, there are no cases of the mirror image, where a [-back] vowel is immediately followed by a velarized [ł] (e.g. /reł/); however, were this to occur, the suffix vowel would be [+back] (/reł-da/). For both ANVH and HNVH, our L2ers behaved like native speakers. Given the paucity (ANVH) or total absence (HNVH) of relevant exemplars in the input, these findings provide evidence that the NCC guides L2 phonological acquisition.

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

Anca Sevcenco (University of Bucharest)
Tom Roeper (University of Massachusetts - Amherst)
Barbara Zurer Pearson (University of Massachusetts - Amherst)

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

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

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

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

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

Myrto Grigoroglou (University of Delaware)
Megan Johanson (Ohio State University)
Anna Papafragou (University of Delaware)

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

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

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

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

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

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

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

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

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

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

POSTER SESSION II

Word learning in linguistic context: Processing and memory effects

Alison Arnold (University of Maryland - College Park)
Yi Ting Huang (University of Maryland - College Park)

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

POSTER SESSION II

Developmental trajectories of vocabulary composition across languages

Mika Braginsky (Stanford University)
Daniel Yurovsky (Stanford University)
Virginia Marchman (Stanford University)
Michael Frank (Stanford University)

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

POSTER SESSION II

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

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

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

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POSTER SESSION II

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

Jill Thorson (Northeastern University)
Nicole Usher (Northeastern University)
Rupal Patel (Northeastern University)
Helen Tager-Flusberg (Boston University)

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

POSTER SESSION II

Anticipatory processing of gender in L2 Hindi

Lauren Covey (University of Kansas)
Robert Fiorentino (University of Kansas)
Alison Gabriele (University of Kansas)

This study examines whether learners of Hindi can use morphosyntactic gender as a cue to facilitate the processing of adjective-noun agreement dependencies. Using a speeded picture-selection task, nine low-proficiency English-speaking learners of Hindi and nine multilingual speakers who identified Hindi as one of their languages were tested. The study provided evidence that L2 learners and multilingual speakers can use morphosyntactic gender cues in Hindi to facilitate processing but that facilitation may be modulated by linguistic factors (markedness for multilinguals) as well as individual differences in lexical processing abilities.

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Session A--Metcalf Small

Can more be better or is less more? Talker variability and native vowel discrimination in the first year of life

Christina Bergmann (Laboratoire de Sciences Cognitives et Psycholinguistique (EHESS-DEC(ENS)-CNRS))
Alejandrina Cristia (Laboratoire de Sciences Cognitives et Psycholinguistique (EHESS-DEC(ENS)-CNRS))

Some infants spend most of their time with one person, others hear many different speakers. These two groups receive very different input. Even if the same words are spoken equally often, pronunciations are more variable in the multi-talker situation. Do children who hear many talkers daily learn language differently from children who do not?
We investigated the possible link between input talker variability and native vowel discrimination and tested monolingual French 4-, 6-, and 12-month-olds (46 participants per age group) in a habituation paradigm, which yielded individual discrimination scores of the native /i-e/ contrast. Parents also filled in a schedule of their child's typical week to obtain an individual estimate of total number of different talkers. Our results suggest that greater speaker variability is linked positively to vowel discrimination performance (Main Effect: $F(1, 132)=4.2$; $p=.04$), with the strongest correlation in the 12-month-olds ($r=.34$; $p=.02$).

Session B--Conference Auditorium

Predicting past and non-past errors in the acquisition of Japanese verb inflection

Tomoko Tatsumi (University of Liverpool)
Julian Pine (University of Liverpool)
Ben Ambridge (University of Liverpool)

The effect of relative input frequency on children's incorrect use of one verb form instead of another was studied experimentally by focusing on the two tensed forms (past/non-past) in Japanese, a language with a considerable by-verb variation in the frequency distribution of inflectional forms. An elicitation experiment using a sentence completion paradigm was conducted in order to investigate whether children make errors of using past instead of non-past forms and vice versa, and whether the rate of these errors is explained in terms of the relative input frequency of these forms. The study found that children make errors in both directions, and a mixed-effects model revealed the expected effect of the relative frequency of past versus non-past forms in child-directed speech. These findings highlight the importance of incorporating children's sensitivity to the probabilistic properties of the input into accounts of language acquisition.

Session C--Terrace Lounge

Functions of evidentials in Turkish child and child-directed speech in early child-caregiver interactions

Berna Uzundag (Koç University)
Suleyman Sabri Tasci (Koç University)
Aylin Küntay (Koç University)
Ayhan Aksu-Koc (Bogazici University)

In evidential languages, utterances consist of an informational content and a specification of the mode of access to that information. We examined the emergence of different functions of the Turkish evidential marker -mIş in a relatively large videotaped corpus of child-caregiver interactions (six children followed from 8 to 36 months) exceeding 160,000 utterances. We coded each utterance containing -mIş in child and child-directed-speech according to its information source (perceptual, inferential, reportative, nonfactual) and pragmatic function, if any. Children could productively use evidentials before the age of three. In general, the distributions of evidential functions were similar in input and child's speech. The order of emergence of different evidential functions varied among children. Nonfactual uses, some purposes of which we documented for the first time, were very common. However, purposes of their use differed between caregivers of lower and higher socioeconomic status.

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Session A--Metcalf Small

Flexible but precise signal-to-word mapping strategies in infancy: Evidence from foreign-accented word recognition

Marieke van Heugten (University at Buffalo, The State University of New York)
Dena Krieger (University of Toronto)
Melissa Paquette-Smith (University of Toronto)
Elizabeth Johnson (University of Toronto, University of Toronto - Mississauga)

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

Session B--Conference Auditorium

Revisiting 2;0-year-olds' understanding of plural morphology

Benjamin Davies (Macquarie University)
Nan Xu Rattanasone (Macquarie University)
Katherine Demuth (Macquarie University)

Children acquiring English use plurals from the age of 2, although previous intermodal preferential looking (IPL) research suggests that children are not sensitive to plural morphology at 24 months. However, that study did not control for word length, consonant clusters or allomorph. Using more phonologically controlled stimuli in an IPL task, this study reexamined toddlers' understanding of the plural allomorphs /s/ and /z/. Results showed 24-month-olds do have an understanding of plural morphology—but only for voiceless plural /s/. Follow-up corpus analysis of child-directed speech showed that input frequency cannot explain this result: voiced plural /z/ was three times more frequent than voiceless plural /s/. However, acoustic analysis of the audio stimuli showed that plural /s/ was durationally longer than /z/, suggesting that earlier sensitivity to the voiceless allomorph may be due to its greater perceptual salience. Implications for learning grammatical morphology more generally are discussed.

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Session C--Terrace Lounge

Cross-linguistic variation and the learnability of semantic systems

Stefan Bartell (University of Delaware)
Anna Papafragou (University of Delaware)

It has often been claimed that there is a relationship between the typological frequency of semantic distinctions and their learnability. We tested this hypothesis in the semantic domain of evidentiality (encoding of information source). We focused on four possible evidential morphemes that occur in systems of decreasing typological frequency: (1) Reportative-Only > (2) Inferential+Reportative >> (3) Direct+Inferential, (4) Direct-Only. In an artificial language learning experiment, English-speaking adults were exposed to an "alien" language containing a novel word, "ga". In each of four between-subjects conditions, "ga" encoded one of the meanings (1-4). In a comprehension phase, participants judged whether "ga" was used or omitted correctly. Current data offer support for the hypothesized connection between typology and learnability, since the typologically prevalent Reportative-Only system was learned best. However, the semantically equivalent encoding mirror of this system, Direct+Inferential, was also acquired successfully, whereas the remaining two systems were not.

Session A--Metcalf Small

The role of linguistic experience in perceptual narrowing:
The case of bilingual infants

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

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

Session B--Conference Auditorium

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

Caitlin Meyer (University of Amsterdam)
Sjef Barbiers (Meertens Institute)
Fred Weerman (University of Amsterdam)

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

Session C--Terrace Lounge

Speaker-based generalization of quantity implicature in preschoolers

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

Pass the cup is sufficient for unique reference when there is only one cup but with two or more cups, some modification is necessary (e.g., the tall cup). We investigate whether preschoolers can attribute under-informative utterances to an individual talker and generalize to new utterances. Studies demonstrating that preschoolers can discriminate speakers' pragmatic abilities, used utterances with clear errors (e.g., using "key" to refer to a ball; cf. Koenig & Harris, 2005). We hypothesized that while preschoolers have difficulty detecting a violation of the Maxim of Quantity (Grice, 1975; Eskritt, Whalen, & Lee, 2008), they might discriminate between speakers when the ambiguity arising from the violation is clearly signalled. We discuss several multi-talker adaptation studies investigating preschoolers abilities to discriminate different talkers, what evidence influences their attribution of informativity to individual talkers, and why they might be less likely to consider informativity to be a characteristic of individual speakers.

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CLOSING SYMPOSIUM

"What Does Infant Artificial Grammar Learning Tell Us About Language Development?"

The specifics of the input really matter
LouAnn Gerken, University of Arizona

Learning language over time
Rebecca Gómez, University of Arizona

Relations between language learning in the lab and native language competence
Jill Lany, University of Notre Dame

The first studies showing that infants are able to learn aspects of artificial language systems in brief laboratory exposures were reported at the BUCLD nearly 20 years ago. One question raised by the many published studies using this approach is: How does learning during brief laboratory exposures translate to learning in the real world? In this symposium, Gerken first presents a brief history of artificial grammar learning to study language development followed by new results that hint about the mechanism allowing very rapid learning in the lab. Gómez then explores what happens over a time delay that either includes or does not include sleep to a generalization that an infant makes in the lab. Finally, Lany shares new data showing a relation between artificial language learning in the lab and language abilities in children's native language.

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

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

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

Alternates
Acquisition of form-meaning mapping in Korean causatives

Jinsun Choe (Hankuk University of Foreign Studies)

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

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

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

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

Myrto Grigoroglou (University of Delaware)
Megan Johanson (Ohio State University)
Anna Papafragou (University of Delaware)

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

Parental translations of child gesture help vocabulary development in bilingual children

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

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

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

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

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

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

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

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

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Are L2 learners pressed for time? Retrieval of grammatical gender information in L2 lexical access

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

Adult second language (L2) learners experience persistent difficulty with grammatical gender, yet the source of this difficulty remains unclear. Recent research further suggests that these difficulties stem from processing problems rather than learnability problems (Grüter et al., 2012). We use event-related potentials to investigate whether L2 processing difficulties may stem partly from delayed access to gender, relative to a word's phonology. In contrast to previous findings with native speakers (NSs) of Dutch, our results find no evidence for earlier access to gender compared to phonology in German NSs (cf. Van Turennout et al., 1998). Additionally, German L2ers show no delay in access to gender relative to NSs, suggesting that the difficulty experienced by L2ers with grammatical gender cannot be directly tied to delays in the timing of gender access during online processing. Our results thus provide important constraints for theories of grammatical gender use and lexical access in L2 production.

When too many vowels impede language processing:
The case of Danish

Fabio Trecca (University of Southern Denmark)
Dorthe Bleses (University of Southern Denmark)
Morten H. Christiansen (Cornell University)

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

Toddlers learn words from adults, but not children

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

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

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