

Conference Schedule

Day 1: Thursday, February 2	
4:30-	Registration
5:00-5:55	<u>Plenary Session: Language Sciences Round Table Discussion</u>
5:00-5:06	Opening Address + Introduction of Round Table
5:06-5:45	Digital Storytelling and Social Change in Classrooms and Communities Dr. Bonny Norton
	Language Acquisition: First Steps in Infancy Dr. Janet Werker
	Simulating Talking Bodies Dr. Bryan Gick
5:45-5:55	Round table discussion + question period
5:55-6:00	<i>5 min break</i>
6:00-7:30	<u>Oral Presentation Session 1: Describing Language Use and Change</u>
6:00-6:15	Eka TTratha: An Ismā' TI Muslim Hymn in Punjabi <i>Kalim Kassam</i>
6:15-6:30	Intersections: Indigenous Language, Health and Wellness <i>Shoukia van Beek</i>
6:30-6:45	The Use of Deontic Modals in Abnormal Psychology <i>Joshua Hill</i>
6:45-7:00	Saliency of Morphemes in Morphological Development of Congenital Severe-Profound Hearing-Impaired Children: Corpus Analysis <i>Lydia (Min Hyung) Rhi</i>
7:00-7:15	Response Particles in English: A Corpus-based Study <i>Yifang Yuan</i>
7:15-7:30	Does bilingual influence from English motivate Cantonese sound mergers? A perception study <i>Lauretta Cheng</i>
7:30-8:00	Social (Half-)Hour

Day 2: Friday, February 3	
4:30-	Registration
5:00-6:30	<u>Oral Presentation Session 2: Learning, Development and Processing</u>
5:00-5:15	Does the tandem language learning model work? An analysis of French and Japanese language production <i>Marie Shuman, Eugene Vakhnenko</i>
5:15-5:30	Voicing Patterns Influence Perceptual Learning <i>Carolyn Norton</i>
5:30-5:45	Perceptual Learning in Cantonese-English Bilinguals <i>Leighanne Chan</i>
5:45-6:00	Age-Related Differences in the Criteria for Judging the Persistence of Characters in Fairy Tales <i>Kyle Dadgar</i>
6:00-6:15	Language Exposure Effects in Infant Audiovisual Speech Perception <i>Kunashni Parikh, Tanya Sharma</i>
6:15-6:30	Whose accent do we listen to in a competing talker situation? <i>Brianne Senior</i>
6:30-6:35	5 min break
6:35-7:30	<u>Poster Session: Language, Speech and Communication</u>
7:30-8:00	Conference Reception Awards Presentation + Closing Address

Poster Session:

Syntax & Semantics

1. **Complex Syntax in ASD**
Presenter(s): Ruzzelle Gasmien, Kristie Goh, Derek Lew
2. **The roles of the Korean particles "eun" and "neun" in Information Structure**
Presenter(s): Alfred Ko
3. **Focus-sensitive operators in Mandarin: A comparison between zhi and eryi**
Presenter(s): Yifang Yuan
4. **Exhaustiveness in Mandarin Focus Construction**
Presenter(s): Kaining Xu
5. **The Strength of Should**
Presenter(s): Melissa Henderson, Paris Begrand-Fast, Mackenzie Lee

Development & Acquisition

- 6. Ultrasound overlay videos: Testing its effectiveness for teaching L2 Cantonese sound contrasts**
Presenter(s): Laretta Cheng
- 7. Effects of English exposure and language mixing on bilingual toddlers' lexical-semantic networks**
Presenter(s): Ariel Ko, Kristina Chang
- 8. Can Newborn Babies Track Frequency-Based Information? A Study with the High Amplitude Sucking Procedure**
Presenter(s): Lal Koyuncu
- 9. Auditory-Motor Interactions in Infant Speech Perception**
Presenter(s): Mikayla Blumenthal

Processing & Perception

- 10. Visual-tactile Integration in d/Deaf and Hard of Hearing**
Presenter(s): Charlene Chang
- 11. Influences of articulatory-motor information on auditory speech perception**
Presenter(s): Cassie Tam
- 12. The effect social evaluations and processing (difficulties) on perceived truthfulness**
Presenter(s): Karina Wong
- 13. Cross-Cultural Differences in Adolescents' Choices and Judgements of Truth Telling and Verbal Deception Scenarios**
Presenter(s): Kathy Nguyen, Saman Fouladirad, Arantxa Mascarenas, Alessandra Ribeiro

Discourse & Society

- 14. A comparative study of the interpersonal dimensions of scientific discourses: Frequency and function of reporting verbs and hedges in scholarly and popular psychology genres**
Presenter(s): Cristina Trejo, Sarina Gill
- 15. Unwrapping Misogyny in Rap Music Videos**
Presenter(s): Sonja Jacobsen

Abstracts

Thursday, Feb. 2 - 5:06-5:55pm

Plenary Session: Language Sciences Round Table Discussion

Digital Storytelling and Social Change in Classrooms and Communities

Dr. Bonny Norton

Department of Language and Literacy Education, UBC

In his address to the United Nations in September, 2016, Prime Minister Justin Trudeau presented a vision of Canada as a country committed to diversity rather than division, collaboration rather than conflict. He focused in particular on the role of education, which he said should “give the next generation the tools they need to contribute to the world economy and succeed.” This presentation will focus on digital storytelling as an example of one powerful tool that can be used to acknowledge, enhance, and promote the multilingual richness of our society. We speak different languages, and one of the most powerful ways through which we can share our personal histories and hopes for the future, is through telling our stories. Through the digital, these stories can take shape in innovative ways, through diverse formats, drawing on words, images, sounds, and gestures. Digital stories can be created and shared by children, youth, and adults, in classrooms, libraries, homes, and community settings. The presentation will address educational research on a number of digital storytelling projects in the Canadian context, focusing on those inspired by the innovative African Storybook digital project:

<https://www.youtube.com/watch?v=0peUI5jATJA>

Bio: Dr. Bonny Norton, FRSC, is a Professor and Distinguished University Scholar in the Department of Language and Literacy Education, UBC. Her current research addresses identity, literacy, and language learning in both Canadian and African communities. Her website is: <http://www.educ.ubc.ca/faculty/norton/>

Language Acquisition: First Steps in Infancy

Dr. Janet Werker

Department of Psychology, UBC

The acquisition of language is one of our quintessential human traits, yet a full understanding of how language is acquired and why acquisition can go awry is still lacking.

My lab is known for having broadened this research agenda by adding to it, the contribution of perceptual processing in infancy. Specifically, we study how infants listen to and watch others speaking, while simultaneously receiving proprioceptive feedback from their own oral-motor articulations. We situate this work within a neurobiological model of how and when neural circuits are organized for, and open to, experience. We probe development from 36 weeks gestation in utero through language processing in the adult, but focus on the first 20 months of life. Studies of infants growing up in different environments, including bilingual homes, provide the core of this work. In this presentation, I will provide a brief overview of my lab's approach, along with some illustrative recent findings.

Bio: Dr. Janet Werker, Professor and Canada Research Chair, Psychology, is internationally known for her research investigating the perceptual foundations of language acquisition. Her research interests include investigating infant language processing biases, infant speech perception and integration, the facilitation of changing sensitivities on grammar and lexical learning, and the effects of bilingual vs. monolingual acquisition on conceptual biases.

Simulating Talking Bodies

Dr. Bryan Gick

Department of Linguistics, UBC

For years, articulatory synthesis research has been largely overshadowed by frequency domain and concatenate sample-based speech synthesis techniques. While successful in some domains (e.g., voice-based databases), these techniques still cannot produce natural looking and sounding speech from text from an arbitrary speaker. Natural looking and sounding speech technology is one of the next major milestones in voice-based interaction for natural user interfaces. Through a team of interdisciplinary researchers, we have been steadily working towards creating the necessary platform to overcome basic problems in speech production and, we believe, represents the next major advance in speech synthesis technology. We will discuss our progress on articulatory speech synthesis using 3D biomechanical models of the vocal tract and the advances in understanding of speech production and synthesis produced from it.

Bio: Dr. Bryan Gick is Professor and Head of UBC Linguistics, Co-Chair of the UBC Language Sciences Initiative and Senior Researcher at Yale's Haskins Laboratories. With ongoing collaborations spanning a half-dozen UBC faculties, Dr. Gick is widely known for his research on speech production, perception, and motor control of speech, including work on multimodal speech perception, biomechanics and neuromuscular control of speech, as well as developing ultrasound imaging as a tool for biofeedback in pronunciation learning and teaching.

Oral Presentation Session 1: Describing Language Use and Change

Eka TTratha: An Ismā‘TII Muslim Hymn in Punjabi

Kalim Kassam

Dept. of Linguistics

The gināns are a corpus of religious hymns revered by the Nizari Ismā‘TII Muslims of South Asia. They are traditionally thought to have been composed by missionary-saints between the 12th and late 19th centuries (Asani, 2002, p. 84). Their language has been characterized as “polyglottic,” (Ivanow, 1948, p. 40) drawing on languages such as Multani, Punjabi, Sindhi, Kutchi, Hindi and Gujarati. Perhaps due to this complexity, their language has not yet been adequately analyzed and disagreements persist about their origin and means of transmission (see, for example, Kassam, 1995, p. 88 and Asani, 2002, p. 86).

To shed light on these issues, I examine the language of a short ginān, known by its first words, *eka t ratha*, and attributed to the 12th century figure Pir Shams, in order to determine its dialectical character in terms of period and locale, and to better understand the linguistic changes that occurred in the course of its transmission. I analyze two versions of this ginān digitized by Harvard’s Houghton Library: one from a manuscript folio dated to 1778 and a printed version from 1903 (MS Indic 2534, (Devraj, 1903). In the catalogue, both versions are classified as “Hindi or Hindustani,” (Asani, 1992, pp. 31, 141, 252). I begin by transliterating the ginān from the Khojkī script and providing a morpheme-by-morpheme gloss and a line-by-line translation. Then, by comparing the verbal morphology, postpositions, and pronouns within these versions of the ginān to grammars of Old Punjabi, Modern Standard Punjabi, Siraiki Punjabi, Hindi, Sindhi and Gujarati I argue that this ginān text would better be classified as some form of Punjabi with archaic characteristics.

Intersections: Indigenous Language, Health and Wellness

Shoukia van Beek

Dept. of First Nations and Indigenous Studies

Within the field of Indigenous and critical race studies, the cultural connection to wellbeing and health has recently become more widely studied. In this context most research has been done from the discourse of assimilation practices and colonialism, and

the impacts they have had on culture and wellbeing or health where poor health is a symptom of oppression.

This report on research findings focuses on the cultural aspect of language and how it could be an indicator of health. Is there a point of connection between heritage language and health/wellbeing? How are common indicators of health and wellness determined? Do these differ from an Indigenous perspectives or definition of wellness? How does language play a role in the intersection of mental and physical health?

The common themes of intersections between Indigenous languages and health identified are: indicators of well-being, indexes of social determinants, mental health, Indigenous concepts of wellness, academic achievement, identity and resilience. Within these topics it is then found that language has influence on health areas such as diabetes, suicide, and HIV.

Materials found are fairly new, meaning that this is an emerging subject in research and is increasingly seen as important. Gaps include, but are not limited to, the fluidity of meanings in languages, hybrid languages and the bearings of biocultural rights.

The Use of Deontic Modals in Abnormal Psychology

Joshua Hill

Dept. of Psychology

The use of deontic modals in research writing can help convey obligation while enabling the author to maintain neutrality (Giltrow, 2005). Research also notes that the use of modals has declined over time across several disciplines (Leech, 2009). However, these numbers don't tell us about the disciplinary needs—and their changes—that underlie use of modals. Abnormal psychology is a discipline that strives to motivate its audience to action because the social nature of the issues it addresses. By studying deontic modals and their associated words over a period of time, one can gain a sense of how the ideology of obligation in abnormal psychology has changed.

Using the first article in each volume per year, I will examine a corpus of 20 articles from the *Journal of Abnormal Psychology* dating between 1906-1916 and 2006-2016. I will look at the change in the ideology of obligation and how deontic modals have transitioned to better suit the needs of the current discipline. The preliminary findings show that the obligation portrayed in abnormal psychology shifts over time from being more overtly demanding to more subtly suggestive. The change in modal use is a reflection of the shift away from the earlier medical model; in the early stages the discipline had to be more demanding to claim its area of focus. This research will provide students of abnormal psychology a greater understanding of what diction is appropriate and how they can maintain neutrality while giving a sense of obligation.

Saliency of Morphemes in Morphological Development of Congenital Severe-Profound Hearing-Impaired Children: Corpus Analysis

Lydia (Min Hyung) Rhi

Dept. of Linguistics

Moeller et al. (2010) found greater delays in morphological development of children with mild-moderate hearing loss than typically-developing children and suggested inconsistent audibility as one of the causes. Audibility seems to play a significant role in producing morphemes as Fry (1977) stated perception of speech precedes production. Following this research (Moeller et al. (2010) and Fry (1977)), the present study examined whether the saliency of morphemes aids children's morphological development by comparing the sequence in which normally-hearing (NH) and congenital severe-profound hearing-impaired (CSHI) children produce the four morphemes: present progressive *-ing*, plural *-s*, third-person singular present tense *-s*, and regular past tense *-ed*. This topic is interesting because it has the potential to discover the mechanism that aids CSHI children's morphology, which can contribute to the improvement of interventions for children with hearing loss.

The comparison was made from the Nicholas et al. (1997) corpus of naturally occurring speech of NH and CSHI children from 12 to 54 months. The saliency of a morpheme was defined by three main factors such as perceptual salience, syllabicity and lack of exception (Brown, 1973). The order obtained from the data for CSHI children was plural *-s*, present progressive *-ing*, and regular past tense *-ed* while for NH children was plural *-s*, third-person singular *-s*, present progressive *-ing*, and regular past tense *-ed*. These orders of the produced morphemes differed between the groups, which confirmed the hypothesis that the more salient a morpheme is, the faster CSHI children produce it. To conclude, the finding revealed the impact of saliency in morphemes on CSHI children's morphological development. However, further research is required to support this effect since there may be other alternative explanations that are likely to influence a child's morphological development other than saliency of a morpheme alone.

Response Particles in English: A Corpus-based Study

Yifang Yuan

Dept. of Linguistics

This paper aims at providing a systematic study of English response particles (RPs) and their distributions in responses to different speech acts. Adopting a corpus-based

approach, we first provide a list of the top 10 RP types based on data from the Corpus of American Soap Operas (SOAP): *YEAH, NO, OKAY, YES, UH-HUH, YEP, NOPE, NAH, UH-OH, YUP*. For every RP type, both the bare form and collocate form were investigated. Based on this list, the present study examined the occurrences of each RP type in responses to 8 different kinds of speech acts, i.e., yes/no question, confirmational, rising declarative, assertion, command, exclamation, address and wh-question, and then compared and analyzed the distributional patterns among all the positive RPs and negative RPs respectively. Whereas most previous studies claimed that polarity particles can only respond to assertions and yes/no questions, our results showed that RPs can be used as responses to all the speech acts listed above, with significant differences among distributional patterns of each RP type: (a) except for *bare yep*, all bare positive RPs can be used as responses to the above 8 categories of speech acts; and (b) the rest RP types confine their usage to particular speech act categories.

Does bilingual influence from English motivate Cantonese sound mergers? A perception study

Lauretta Cheng, Molly Babel, Chang Liu & Yao Yao

Dept. of Linguistics

Mergers are a type of sound change where two distinct sounds in a language lose their contrastive status. A set of consonant mergers-in-progress have been documented in Hong Kong Cantonese for decades, some of which have recently been found to be near completion (To, Mcleod and Cheung, 2015). Speakers are aware of at least some of the resulting phonetic variation, labelling incoming variants as “lazy pronunciation” (懶音 *laan5 jam1*). Various language-internal and -external influences may motivate this sound change, with one possibility being experience with the sound system of English. Previous research has shown that a bilingual’s two languages phonetically influence each other, though effects vary across age of language exposure and degree of proficiency (Flege, 1987; Chang, Yao, Haynes & Rhodes, 2011). This current study investigates the state of three Cantonese mergers pairs ([n-] → [l-], [ŋ-] ↔ [Ø-], [ŋ] → [m]) in both Vancouver- and Hong Kong-based speakers, focusing on English bilingual influence as a potential driving factor in the progress of the mergers.

Participants include four groups of Cantonese-English bilinguals categorized by age (younger vs. older) and location (Vancouver vs. Hong Kong). The study involves production and perception, and here I focus on perception. Three sets of sound continua, one for each target contrast, were created from minimal word pairs (eg. 老-腦 *lou4-nou4*). These were played for each participant, who selected which word they heard from the two options. Individual bilingual dominance scores were calculated using the Bilingual Language Profile

questionnaire (Birdsong, Gertken & Amengual, 2012). The hypothesis is that speakers with higher English dominance scores will be more advanced in the merger, and should exhibit higher response rates for the incoming variants. The results contribute to our understanding on the course of sound change in immigrant populations, as well as how bilingual language transfer may motivate phonetic change.

Friday, Feb. 3 - 5:00-6:25pm

Oral Presentation Session 2: Learning & Processing Language

Does the tandem language learning model work? An analysis of French and Japanese language production

Marie Shuman & Eugene Vakhnenko

Dept. of Linguistics; Dept. of Asian Studies

Tandem language learning is an informal approach to foreign language learning, which relies on exchanging conversation with a fluent partner. To date, research on tandem learning has been sparse — predominantly based on online exchanges and self evaluation. To better quantify the effectiveness of adult tandem language learning, this experiment is designed to empirically measure the progression of language production over the course of the 10-week program. This study focuses on French and Japanese learners, as these are the two most popular languages in the program that are not commonly spoken in Vancouver. Language levels were first assessed by the participant, the participant's partner, and an impartial native speaker, according to the Language Proficiency Index (LPI), and then production proficiency was measured in a two-part, audio-recorded, language elicitation task. Participants were tested at two separate times, once during the first week of the program, and again in the final week. Each session consisted of two parts: first, participants were asked to record the casual conversation that they engaged in during the first and last tandem sessions. Then they participated in a controlled, lab experiment, in which they viewed thirty 15-second, soundless video clips, and verbally gave the most detailed description possible of what took place in French/Japanese. Data from these videotaped interactions were then analyzed by fluent speakers, who analyzed reaction times, as well as tallied the types and tokens of words used (diversity of syntactic categories). Data are still being analyzed, but it is expected that quantitative results will suggest that participants improve in language production (e.g. through use of more diverse types of words, and faster reaction times), although not to a great enough degree to change their LPI score.

Prevalent Voicing Patterns Influence Perceptual Learning

Carolyn Norton, Zoe Lawler & Molly Babel

Dept. of Linguistics

No two speech sounds are the same. Despite huge variability in the incoming acoustic information, listeners are able to efficiently recognize and understand speech, facilitating successful communication. Perceptual learning has been proposed as a cognitive mechanism that can account for this variation by updating a listener's existing phonetic categories using clues from the lexical context (Norris, McQueen & Cutler, 2003). Listeners are exposed to accented speech and novel pronunciations countless in their day-to-day lives and must accommodate these productions in order to be effective communicators, especially in multicultural environments like UBC's campus and urban centers across Canada.

While perceptual learning may assist in the processing of dialect and accent differences (Kraljic, Brennan & Samuel, 2008; Crista et al., 2012) and atypical speech (Kraljic, Brennan & Samuel, 2008b) across the lifespan (White & Aslin, 2011; Trude et al., 2013; Witteman et al., 2013), little is known about whether some speech sounds are easier to perceptually learn than others. The present study seeks to replicate research findings that suggest a bias for perceptually learning typologically more prevalent speech sounds exists (Babel, Lawler & Norton, 2016). Specifically, the study exposes listeners to sentence stimuli with sentence-final voiced or unvoiced fricatives; speech sounds with turbulent airstreams like /z/ or /s/ (e.g. 'He couldn't handle any more dinner, but there might be room for *dessert*'). In the experimental conditions' exposure phase, the fricative [z] is replaced with [s], and vice-versa. In this research, a lexical decision task follows an exposure phase, measuring participants' recalibration of the speech sounds [z] and [s] which is influenced by their exposure condition. We predict listeners will learn the more common devoicing pattern (/z/ → /s/) better than the voicing pattern. This project contributes to our understanding of speech attributes that facilitate perceptual learning.

Perceptual Learning in Cantonese-English Bilinguals

Leighanne Chan

Dept. of Linguistics

Even among speakers of the same dialect, speech patterns are acoustically unique. An impressive aspect of spoken language interaction is our ability to understand one another despite this acoustic variability. It has been suggested that perceptual learning is a

mechanism that facilitates comprehension in the face of variability. Perceptual learning is the process by which listeners update their phonetic categories given input that deviates from expected pronunciation patterns (Samuel & Kraljic, 2009). Lexically guided perceptual learning presents an ambiguous sound category in the context of a known word, providing listeners with the context by which to interpret the sound's ambiguity. While previous literature has established that German-Dutch bilinguals demonstrate perceptual learning (Reinisch, Weber, & Mitterer, 2013), Bruggeman (2016) showed that a bilingual's perceptual flexibility in a particular language depends on how much input a person receives in that language. This project studies perceptual learning for /f/ in Cantonese-English bilinguals, aiming to explore (1) whether perceptual learning occurs in bilinguals and (2) how language dominance affects perceptual flexibility. Language dominance depends partially on language usage, so I hypothesize that bilinguals who hear more Cantonese, and are therefore more dominant in Cantonese, will demonstrate more perceptual flexibility. We use a lexical decision task with ambiguous /f/ sounds in real words in the exposure phase to guide perceptual learning, which is tested using a categorization task where participants label sounds as /f/ or /s/. Thus far, there are 50 subjects in the experimental condition, and 10 in the control. If perceptual learning occurs in Cantonese-English bilinguals, the experimental group would categorize more sounds as /f/ than the control group, who are not exposed to ambiguous /f/ sounds. If those who are more dominant in Cantonese categorize more sounds as /f/, it would suggest that higher language dominance supports perceptual learning.

Age-Related Differences in the Criteria for Judging the Persistence of Characters in Fairy Tales

Kyle Dadgar

Dept. of Psychology

Consider the fairy tale, *The Frog Prince*. In this story, a frog is transformed into a prince after a kiss from a princess. It is commonly assumed that children and adults reason about this story as involving an individual that persists through dramatic changes in appearance (Gutheil & Rosengren, 1996; Xu, 1997). Yet there has been no experimental examination of this question.

We hypothesized that one factor that would influence attributions of persistence was the language used to describe the transformation. In a corpus analysis, we found that half the versions of *The Frog Prince* used continuous language that implied that the character persisted (e.g., "the frog turned into a prince"). In contrast, half used discontinuous language that implied that the character ceased to persist (e.g., "the frog vanished and a prince appeared"). We expected that children would be more likely to judge

the character to persist as the same individual when the transformation was described using continuous language.

We presented adults, 3- and 5-year-olds with a children's adaptation of *The Frog Prince*. We labeled the frog with a proper name (i.e., Charlie) and queried participants about the character's individual persistence following the transformation (i.e., "Is this Charlie?"). Across conditions, we manipulated whether the transformation was described using continuous or discontinuous language.

Preliminary results show that adults *always* judged the post-transformation character to be the same individual. In contrast, 5-year-olds were equally likely to judge the character to persist regardless of the language used, whereas 3-year-olds tended to judge the character to persist *only* when the transformation was described using continuous language. The results suggest that young children and adults do not reason about fairy tales in the same way; however, language that implies continuity through change can lead 3-year-olds to understand these stories in a similar way to adults.

Language Exposure Effects in Infant Audiovisual Speech Perception

Kunashni Parikh, Tanya Sharma, Kyle Danielson & Padmapriya Kandhadai

Dept. of Psychology

Infants, like adults, are able to use audiovisual cues in speech perception (Patterson and Werker, 1999), and are sensitive to audio-visual correspondence in speech (Tomalski et al., 2013). For example, it has been shown that infants as young as six months look more at the speaker's mouth than at the speaker's eyes when the auditory and visual speech is incongruent than when the audio-visual speech is congruent, suggesting that infants are sensitive to mismatched audiovisual cues. However, there exists limited evidence as to how this sensitivity varies with specific linguistic exposure. In this study, we explore how English-exposed infants and Hindi-exposed infants differ in their sensitivity to mismatched Hindi audiovisual speech sounds. In this study, six-month-old infants ($n = 32$) will be shown mismatched audiovisual sequences of two consonants, dental ([d]) and retroflex ([ɖ]), that are distinct in Hindi but not in English. The dental auditory sound was paired with the visual retroflex consonant and vice-versa. An eye-tracker measures the amount of time infants look at the speaker's mouth versus at the eyes. A greater looking time deployed to the mouth of the speaker has been correlated with infants' detection of incongruent audiovisual speech (Tomalski et al., 2013). Results thus far show that the English-exposed infants ($n = 16$) deployed more of their looking time to the mouth than to the eyes ($M_{\text{mouth}} - M_{\text{eyes}} = 2.89$ seconds, $SD = .72$). Data collection for the Hindi-exposed infants is currently in progress; we predict that Hindi-exposed infants will spend relatively more time looking at the mouth of the speaker compared to the English-exposed infants, thus indicating a higher sensitivity to audiovisual incongruence. Our findings will shed light

on how early language exposure affects infants' ability to detect incongruent audiovisual speech, thereby advancing theories on the development of audiovisual speech perception.

Whose accent do we listen to in a competing talker situation?

Brianne Senior

Dept. of Linguistics

Conversations do not always occur under ideal listening conditions. Often, the target speech signal is uttered amongst a background of other sounds, including other speech. In such situations, the listener must focus their attention on the target signal and ignore the masking speech. How successful the listener is at this depends on acoustic factors inherent to the different speech signals and the listener's language experience. For example, differences in talker gender can help a listener attend to the target signal (Bronkhorst, 2000; Cooke, Garcia Lecumberri, & Barker, 2008), as can familiarity with the target voice (Johnsrude et al., 2013).

What if the target speech is spoken with an unfamiliar accent? Foreign-accented speech involves pronunciation deviations from familiar speech; it has been shown to be more difficult to understand and to require greater processing time (Munro & Derwing, 1995). This might make unfamiliar accents more difficult to attend to against a background of other speech. Yet, the variation offered by foreign-accented speech might make it more salient, providing additional segregation cues, as suggested by Joshi, Iyer, and Gupta (2013).

I test these hypotheses using a speech segregation task with two competing talkers speaking either Canadian-accented English (familiar accent) or British-accented English (unfamiliar accent). Listeners heard two different talkers simultaneously read sentences in the form of "Command - colour - preposition - coordinate - adverb" (e.g., "Lay blue at C4 now") and had to report the coordinate from the speaker who said blue. Preliminary results from 18 listeners who do not speak British English indicate listeners are best at attending to a British-accented target when the masking speech is Canadian-accented, but do poorly in the reverse situation. This suggests listeners can easily "tune out" familiar-accented speech but are unable to do the same with unfamiliar-accented speech.

Poster Session: Language, Speech & Communication

Syntax & Semantics:

Complex Syntax in ASD

Ruzzle Gasmien, Kristie Goh & Derek Lew

Dept. of Linguistics

Research looking at complex syntax in individuals with Autism Spectrum Disorder (ASD) has shown that comprehension and production of object relative (OR) clauses is significantly impaired compared to subject relative (SR) clauses (Durrleman et al. 2015; Riches et al. 2010). In terms of production, passivization has been used as a strategy to avoid usage of an OR clause. Cognitive accounts for these results have been proposed alongside alternative syntactic explanations regarding movement, but these syntactic accounts have not been fully explored in the current literature (Durrleman et al. 2015). This present study compares the syntactic representations of SR, OR, and passivization and proposes a syntactic analysis for producing passivization over OR clauses. Preliminary results suggest individuals with ASD prefer shorter syntactic movement within the tree structure and passivization allows simulation of shorter SR clause movement in OR clauses.

The roles of the Korean particles "eun" and "neun" in Information Structure

Alfred Ko

Dept. of Linguistics

Although past research commonly associates the Korean particles *eun* and *neun* with topicality only, *(n)eun* appears to have a more flexible role in Information Structure than just as topic markers alone. In this paper, I argue that *(n)eun* can be used not just for topics, but for other Information Structure functions as well. They include givenness, focus, and contrast (Jun 2015, Kim 2016), and I have discovered that it is also possible for *(n)eun* to mark new information too. Firstly, *(n)eun* can mark a topic, such as in the sentence [Na-*neun*][sagwa-reul meoggeosda] (I ate an apple), in which the subject *na* (I), is marked by *neun*, therefore it can be regarded as a topic. However, it is possible for *(n)eun* to mark topical, given, focused, new and contrastive information at the same time. An example of a sentence that does this is [Sopung-ggaji eumshik gajeowassjiman][jyuseu-*neun* ddaddeuthaesseoseo an massheosseoyo] (I brought food to the picnic, but I did not drink the juice because it was warm). In the above sentence, *jyuseu* (juice) is topical, given, focused, contrasted and new information. "Juice" is given information, as there is a given

proposition that the speaker of the above sentence brought picnic supplies, topical, contrastive and focused information, as “juice” contrasts with other possible alternatives, such as “milk”, “water”, “soda” ...etc., that could mark answers to a question, and finally new information, due to “juice” being unpredictable from not having been previously mentioned in a past discourse. I address the flexibility of *(n)eun* in Information Structure, as the particles have a variety of functions, which are marking topical, given, contrastive, focused and new information.

Focus-sensitive operators in Mandarin: A comparison between *zhi* and *eryi*

Yifang Yuan

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In Mandarin Chinese, exclusivity can be realized by numerous focus-sensitive operators like *zhi*, *zhiyou*, *cai*, *jiu*, *jinjin*, *eryi*, etc, and most of them are sentence-initial or -medial operators. This paper investigates the use of two Mandarin focus-sensitive operators, i.e., *zhi* and *eryi*. Both of them can be used to express exclusivity in Mandarin Chinese. *Zhi* is preverbal and considered as a prototypical focus-sensitive operator to realize exclusivity in Mandarin, whereas *eryi* normally occurs in the final position of an utterance. By comparing their semantic and syntactic properties, this paper shows that both *zhi* and *eryi* are sensitive to contrastive focus, and express exhaustivity and exclusivity in Mandarin Chinese. *Zhi* can only be pre-positional and associated with the focus in its c-command domain, while *eryi* can only be post-positional and acts as a complementizer which normally takes scope above the entire TP.

Exhaustiveness in Mandarin Focus Construction

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One of the tools that English use to mark a focus of a sentence is cleft construction: It is *John who ate the cookie*. Same with English, Mandarin Chinese also use syntax to mark focus: “shi...de...” cleft construction and bare “shi” focus construction. These two constructions bear different interpretations. Hole(2012) proposed that “shi...de...” has an exhaustive meaning and the bare “shi” has a non-exhaustive meaning. He showed two examples: (1) shi..de: #*Ta shi [zai Beijing]f xue yuyanxue de, dan ye shi [zai Shanghai]f xue de*. (#It is in Beijing that s/he studied Chinese, but also in Shanghai). (2) Bare “shi”: *Ta shi [zai Beijing]f xue-guo yuyanxue, dan ye shi [zai Shanghai]f xue-guo*. (S/he studies Chinese in Beijing, but also in Shanghai). Example (1) is ungrammatical in Mandarin, which means a

DP cannot be added to the focus phrase. Therefore, shi...de construction must be exhaustive. Example (2) is grammatical, so bare “shi” must be non-exhaustive. However, one thing needs to be pointed out in his examples is that (2) has an additional aspect marker GUO attached to the verb. If GUO is added to the verb in (1), then (1) becomes grammatical. Does this mean the presence of GUO can change the exhaustiveness reading of a sentence? What is the exhaustiveness reading of these two focus constructions in Mandarin? In this paper, I adopted three exhaustiveness tests from É. Kiss(1989): coordination test, negation test and distribution test. I tested the two focus constructions with and without GUO respectively. The results confirmed Hole’s proposal and showed that GUO could change the exhaustiveness reading of a sentence.

The Strength of Should

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Human languages allow for a speaker’s attitude towards the world to be expressed in their propositions. A particular set of words, called modals, carry different levels of obligation for the action that the speaker discusses. We can discuss events that will possibly occur (“she might be late”) and events that will necessarily occur (“she must go to work”). Modals talk about what is necessary or possible based on rules set in the world (such as laws) or what the speaker observes in the world (what is likely, based on known facts). Here, we contribute new insights about the English modal *should*. The traditional view of *should* states that it expresses a level of necessity, similarly to *must* in the previous example (Kratzer, 1991). We propose, instead that *should* has varying strengths depending on context. Rather than exclusively possibility or necessity, there exists a continuum between them. We hypothesized that observational contexts would give rise more to possibility readings, and suggestional contexts more to necessity readings. Observational contexts are situations where the speaker makes a proposition based on something observed. With suggestional contexts, the speaker proposes instructions. We conducted a pilot study via survey to gather data on people’s intuitions about the strength of *should* in the two contexts. Does *should* closely relate to a necessity modal, or can the weakness of *should* be exploited in predictable contexts? We found, on average, observational contexts were interpreted as possibility 86.5% of the time, and suggestional contexts interpreted as necessity 48% of the time. These results confirm *should* is not strictly cohesive with necessity modals, and instead exists on a continuum between the two. The strengths of modals in different contexts reflect our differing views of possible situations, which has implications for the way people use and interpret modals in different contexts.

Development & Acquisition:

Ultrasound overlay videos: Testing its effectiveness for teaching L2 Cantonese sound contrasts

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Ultrasound technology, which creates images from reflected high frequency sound, is used in speech research to image the tongue and other articulators. It has been found to be an effective biovisual feedback tool when applied to second language (L2) pronunciation teaching because it allows learners to visualize the hidden articulatory movements of the tongue (Gick et al., 2008). However, there are also certain limitations, including the issues that (i) ultrasound is best-suited for individual rather than group use, and (ii) interpreting “raw” ultrasound images without proper training is difficult. As such, ultrasound overlay videos, created by overlaying a mid-sagittal ultrasound video of the tongue on top of an external side-profile of the speaker’s face, could be a potential solution to both problems. Once created, these video can easily be distributed online (see <http://enunciate.arts.ubc.ca>).

While students appear to find these videos useful when learning novel phonetic contrasts (Yamane et al., 2015), the current study seeks to empirically test the effectiveness of ultrasound overlay videos in teaching pronunciation to L2 learners. The participants include 30 students enrolled in introductory Cantonese courses at UBC, and they were tested on two Cantonese sound contrasts: the low-mid and low central vowels (eg. 新 *san1* vs. 山 *saan1*) and the word-final unreleased stop consonants (eg. 濕 *sap1* vs. 室 *sat1* vs. 塞 *sak1*). All students took a pre- and post-test for perception and production, and in between testing, each underwent one of three self-directed training conditions: (a) ultrasound overlay videos, (b) audio-only, or (c) no training. Productions of each contrast will be analyzed both acoustically and through nativeness ratings. We hypothesize that students trained with ultrasound overlay videos will improve the most in their production, and if so, this technology could become a valuable pronunciation-teaching resource for language learners across the world.

Effects of English exposure and language mixing on bilingual toddlers' lexical-semantic networks

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Adults and two-year-olds connect related words such as “sock” and “shoe”, which facilitates language processing (McNamara, 2005; Willits et al., 2013). However, little is known about lexical-semantic networks in bilingual toddlers, a population of interest given the number of individuals raised in bilingual environments. We conducted two experiments investigating the effects of language input on the development of semantic relationships in bilingual toddlers.

Method. 22- to 26-month-old bilinguals participated in a modified Headdturn Preference Procedure. Each trial comprised a neutral visual stimulus (on the left or right side of a screen) and alternating pairs of related or unrelated words. The DV was toddlers' average looking time to unrelated versus related pairs. Parents completed a productive vocabulary checklist (Fenson et al., 2000) and language exposure questionnaires (Bosch & Sebastian-Galles, 1997; Byers-Heinlein, 2012).

Exp. 1. Toddlers (n=24) heard pairs of related (e.g. dog-kitty) or unrelated (e.g. dog-juice) English words. Bilinguals with more English exposure looked longer to unrelated pairs of words $t(12) = 2.83$, $p = 0.015$, mean difference = 2.13s, and bilinguals with less English exposure looked longer to related pairs $t(10) = 2.39$, $p = 0.038$, mean difference = -1.25s. Previous studies demonstrate longer looking to unrelated pairs indicates semantic network maturity, thus our results suggest bilinguals' non-dominant semantic networks are less robust.

Exp. 2. English-Chinese bilingual toddlers (n=11) heard pairs of translation equivalents (e.g. *dog* in English and Cantonese/Mandarin) or unrelated English-Chinese words, with separate stimuli for English-Cantonese and English-Mandarin bilinguals. English exposure did not significantly correlate with looking time difference, but lower language mixing toddlers looked longer at unrelated trials $t(5) = 0.029$, $p = 0.029$, mean difference = -1.118s), suggesting that not the amount, but the quality of language input influences bilingual toddlers' semantic organization across languages.

Can Newborn Babies Track Frequency-Based Information? A Study with the High Amplitude Sucking Procedure

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When we hear someone speaking in a foreign language, can we understand when a word starts and ends? Speech segmentation is achieved effortlessly by infants. Dividing speech into words is essential for building the lexicon, whereas segmenting speech into phrases enables infants to detect the regularities within the language. Research has shown that, among the cues that help the process of speech segmentation, statistical learning is especially important at the early stages of language learning. Not only does statistical information assist in breaking apart speech into words and phrases, but might also help infants learn basic grammatical properties. A specific type of statistical information is proposed to be used by prelexical infants to discover the word order of the language(s) to which they are exposed: the high frequency of functors (prepositions, determiners, etc. like *the, in*) and their order of appearance with respect to content words (nouns, verbs, etc. like *baby, sit*). The order of functors and content words correlates with the order of verbs and objects: in V(erb)-O(bject) languages (e.g., English) functors occur in the beginning of phrases, whereas in O(bject)-V(erb) languages (e.g., Hindi) they usually occur at the end of phrases. Gervain et al (2008) showed that 8-month-old infants segment an unknown artificial language, which consisted of frequent and infrequent elements, according to the word order of their native language. These results suggest that infants can build a simple word order representation based on the frequency and order of functors and content words present in the input. In this study, we aim to discover whether newborn babies are able to track the distribution of frequent and infrequent elements and discriminate between sequences with different orders in an artificial language, or whether they need more linguistic experience for this ability to develop. We used the High Amplitude Sucking (HAS) procedure with a habituation paradigm to tackle this question.

Auditory-Motor Interactions in Infant Speech Perception

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Speech perception is a multisensory system in both early language development and adult speech. While there is substantial research on audiovisual speech perception in preverbal infants, little is known about auditory-motor interactions at this age. Werker et al. (1981) showed that until approximately 10 months of age, English-learning infants could discriminate between nonnative dental /d̪a/ and retroflex /ɖa/ sounds.

Auditory-motor interactions involved in discriminating non-native speech sounds were examined by Bruderer et al. (2015), which showed that this ability declined when the infants were given a teething toy that restricted tongue movement. The current study aims to examine whether a teething toy that restricts lip movement, but not the tongue movement, will influence pre-verbal infants' perception of native /ba/-/da/ speech contrasts. We will use the alternating/non-alternating procedure and present two groups of 6-month old English-learning infants with /ba/ and /da/ speech sounds that are synthesized to be precisely matched in pitch and duration. We aim to measure the total duration of looking time to the alternating and non-alternating trials of the control group (n=16) and the experimental (n=16) group. If we observe a decline in discrimination of /ba/-/da/ contrasts in infants who were given lip-restricting teethers, the articulator specific effect may be generalizable to the lips in addition to the tongue. Alternatively, successful discrimination in the teether condition would suggest that the specificity of the teethers and/or the articulators of the speech sounds might shape the oral-motor influence on auditory speech perception.

Processing & Perception:

Visual-tactile Integration in d/Deaf and Hard of Hearing

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Visual and tactile speech information has shown to influence the perception of auditory speech signals, demonstrating that speech perception is a multimodal task. Bimodal speech integration is evident along the audiovisual, audio-tactile, and even visual-tactile dimensions (McGurk and MacDonald, 1976; Gick and Derrick, 2009; Bicevskis, 2015). This study examines the visual-aero-tactile integration of individuals who are d/Deaf or hard of hearing. A deficit in the processing of auditory stimuli may change how this population recruit non-auditory information to aid their speech comprehension. We hypothesize that participants are more likely to categorize a silent, visual stimulus as a production of "pa" in the presence of aero-tactile stimulus, as opposed to a visual-only condition. This is because pronunciations of "pa" are often accompanied with a puff of air (aspiration). Results would suggest whether or not, and to what extent, do individuals with hearing loss integrate visual-tactile information for speech perception.

Influences of articulatory-motor information on auditory speech perception

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Previous research has demonstrated that motor information affects how auditory speech is perceived (Lametti, Rochet-Capellan, Neufeld, Shiller, & Ostry, 2014; Scott, Yeung, Gick & Werker, 2013). For example, spoken, mouthed or imagined speech influences how ambiguous speech sounds are categorized, such that participants report hearing speech tokens that are similar to the articulated or imagined speech sounds. This study examines whether articulatory-motor information, such as silently articulated words, affects the recognition of sounds along the head-had continuum. Twenty adult participants with normal hearing will be asked to categorize speech tokens as “head” or “had.” Four speech tokens will be selected from the middle of an 11-step continuum whose end points are “head” and “had.” We manipulated the first and second formants of these end points, which increased incrementally, to create the other nine synthesized tokens of the continuum. The middle tokens of the continuum are perceived as ambiguous. During each block of the silent articulation trials, participants will be asked to silently articulate either “head” or “had” while they listen to one of the four ambiguous stimuli, which they will categorize as “head” or “had.” A baseline condition (no silent articulation) will be included and will be presented first. The remaining blocks (articulate “head”, articulate “had”) will be counterbalanced. Each block will be completed twice. In total, participants will categorize 200 words. It is hypothesized that articulatory-motor information will have an effect on speech perception such that participants silently articulating “head” should categorize more words as “head” than “had,” and vice versa. The results will be discussed under the Integrated State Feedback Control Model of Speech Production, which argues that the integration of sensory and motor information occurs to facilitate speech production and modulates auditory speech perception (Hickok, Houde, and Rong, 2011).

The effect social evaluations and processing (difficulties) on perceived truthfulness

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Variation in speech is omnipresent. Certain types of pronunciation variations may reveal social information about the speaker that can have a significant effect on the listener’s attitudes towards that speaker (Sumner et al., 2014). If English is not the speaker’s first language, pronunciation differences may occur due to the articulatory and/or phonotactic characteristics of their native language (Munro et al., 2006). This linguistic phenomenon is simply called a non-native or foreign accent. In studies of

language attitudes, native-sounding speakers of English were judged to be more friendly, competent, intelligent, and honest compared to accented speakers (Lambert, 1967, from Moyer 2013; Ryan & Giles, 1982; Tsalikis et al., 1992). A study by Lev-Ari and Keysar (2010) investigated the perceived credibility of native and non-native accents, and found that listeners were more likely to rate statements spoken by native accented speakers as more truthful-sounding, while statements spoken by mild or heavy foreign accents were rated as less truthful-sounding. They claim that this credibility judgment comes from the difficulty in processing non-native speech – in other words, the more difficult it is to process an accent, the less truthful one will judge it to be. However, listeners have the remarkable ability to adapt to and process non-native speech (Bradlow & Bent, 2008; Landblom, 2013). We investigate whether processing fluency or social judgements is a stronger contributor to the subjective feelings of truth, by using natively-accented voices and by adding noise to the speech signal to create processing difficulties for the listeners.

Cross-Cultural Differences in Adolescents' Choices and Judgements of Truth Telling and Verbal Deception Scenarios

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Children are routinely sanctioned for antisocial lying; whereas, prosocial lies are frequently viewed as morally permissible speech acts. A developmentally early absolutist view of deception slowly dissolves in primary school, when children's conceptions of deception become more contextually nuanced. With age, participants prefer prosocial lies to blunt truths (Cameron et al, 2012). Cross-cultural developmental differences in moral evaluations of verbal deception reveal Western youths make more absolutist, Eastern participants, more utilitarian judgments; i.e., the latter view lies contextually, from a more communitarian perspective (Dmytro et al., 2014; Lau et al., 2013). This study examined Canadian adolescents' values reflective of collectivism/individualism respecting complex, verbal deception scenarios, comparing Euro-Canadian and Chinese-Canadian teens' behavioural intentions (*choices*) and *judgments* of deceptive or honest statements that protected or exposed either friends or compatriots in competitive contexts.

Ninety-one 16-year-old students were interviewed about moral dilemmas with patriotism and friendship contrasted. They estimated what they might say, were they involved (*choices*), and they *judged* what story characters said. No differences were detected between cultural groups in choices or judgments of *patriotic lies*. However, both Chinese-Canadians and Euro-Canadians evaluated *harsh truths* that exposed a compatriot more positively than honesty that exposed friends. Chinese-

Canadians more frequently chose harsh truths that exposed friends, compared with Euro-Canadians, who chose to lie for friends. Chinese-Canadian teenagers' greater willingness to expose friends than Euro-Canadians suggests that, when faced with a dilemma calling for honesty, a collectivist, patriotic perspective of saving face is more compelling than an individualistic, friendship perspective. By contrast, Euro-Canadian teenagers reported preferring to lie for friends and exposing compatriots, an individualistic view, indicating that they would rather compromise values of candidness for personal friendship over collectivist honour. These findings could potentially shed light and promote an appreciation of subtle diversities in value system expressions extant in an increasingly interconnected world.

Discourse & Society:

**A comparative study of the interpersonal dimensions of scientific discourses:
Frequency and function of reporting verbs and hedges in scholarly and popular
psychology genres**

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The construction of scientific knowledge is influenced by social factors that are derived from established hierarchies. Studies of academic discourse have tended to implement objective research methods and thus they are regarded as superior compared to popularized articles because of the perceived lack of expertise and rigorous methods. The established social rankings of different authors influence how they interact with their audience. Studies show that academic writers use features such as hedges and reporting verbs as ways to persuade their peers and establish a level of legitimacy (Hyland, 2000). Studies do show that the two genres have different purposes and readers; hence they have different linguistic features (Hyland, 1996). Our study is intended to extend such exploration by examining research and popular articles in psychology in order to compare the frequency and functions of key linguistic features in psychology discourse that realize the different social relations of each genre. We created two corpora of scholarly and popularized articles, which were analyzed to display the frequency of hedges and reporting verbs. Our findings indicate the presence of reporting verbs and hedges functioning similarly, suggesting that popularized articles might not be presenting information in a drastically different way compared to academic papers. These findings might contribute to the understanding of scientific reporting by providing support for the recognition of popularized articles as a source of information.

Unwrapping Misogyny in Rap Music Videos

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While there is plenty of professional research on how Hip Hop music and culture perpetuates misogyny in fields such as psychology, black studies, and feminist studies (Adams and Fuller, 2006; Cobb and Boettcher, 2007; Conrad et al, 2009), there are not many articles analyzing rap music from a discourse analyst perspective. This multimodal discourse analysis will examine how lyrics and images come together in three rap videos to construct certain sexist themes: the sexualization of women, the use of women as objects for male pleasure, and the commodification of women (Bezemer & Jewitt, 2010). I will compare the “clean” and “explicit” versions of three popular Hip Hop music videos from the 2000s era of rap music: “Shake That” by Eminem featuring Nate Dogg, “Just a Lil Bit” by 50 Cent, and “Gold Digger” by Kanye West. This presentation aims to perform as a case study to illustrate the misogynistic nature of rap music and explore what that suggests about the overarching values promoted by popular culture.