Effects of L1 Farsi on L2 English sentence processing in Farsi-English bilinguals: Behavioral and electrophysiological evidence

Fatemeh Abdollahi, Mahsa Morid and Janet G. van Hell

Poster 23-May

Much research has focused on whether late second language (L2) learners can learn an L2 to a native-like level. Behavioral evidence has been found both against (Johnson & Newport, 1989) and for (White & Genesee, 1996) successful late L2 learning. Neurocognitive research has shown that native-like processing emerges already after little instruction (McLaughlin et al., 2010), though behavioral measures may not show learning until much later. However, seemingly not all linguistic structures are acquired at the same rate. As predicted by the Competition Model (Bates & MacWhinney, 1989; MacWhinney, 2005) structures that are similar between the first language (L1) and L2 are learned most quickly, while those that are dissimilarly or uniquely represented are learned with great difficulty (Jiang, 2004) or are learned at a slower rate (Tokowicz & MacWhinney, 2005).

In the present study an understudied L2 learner group (learning a typologically different language from their L1) was investigated: L1 Farsi learners of L2 English. Much research on the topic of competition between L1 and L2 structures in bilinguals has focused on typologically similar languages with matching scripts. Moreover, virtually no psycholinguistic research has been conducted on Farsi, or on L1 Farsi bilingual speakers, in spite of a population of over 110 million speakers worldwide. In the present study late Farsi (L1) – English L2 learners, immersed in the L2, were tested on syntactic processing of structures similar between the L1 (Farsi) and L2 (English), and unique to the L2. A matched control group of monolingual English speakers were also tested. Similar structures consisted of Subject-Verb Number Agreement (example: Few students really know/*knows how to study for exams), Tense Marking (example: The boxes in the attic may still hold/*holding old photos) and Aspect Marking (example: Right now I am baking/*bake a cake for the party). Unique structures consisted of Adjective Order (example: The artist painted a clear blue/*blue clear sky), Gender Use (example: The lonely bachelor cooked dinner for himself/*herself after work) and Determiner Use (example: I told my friend that the/*∅ car was small). Using a self-paced reading task, Farsi-English bilinguals read grammatically correct and incorrect L2 English sentences and made a grammaticality judgment to each sentence to obtain online reading time and accuracy measures of L2 processing (Study 1). In a second study, a new group of Farsi-English bilinguals read the English grammatically correct and incorrect sentences while their brain activity was recorded, measuring Event-Related brain Potentials.

In the grammaticality judgment task, the Farsi-English bilinguals demonstrated higher accuracy to the similar structures than to the unique structures, and overall lower accuracy than native speakers to both types of structures. Word-by-word reading time data are currently being analyzed. Findings from the ERP study currently in progress will also be shared. The theoretical implications of these results for models of L2 learning will be discussed, as well as the role of typological similarity of L1 and L2, length of immersion and exposure to an L2, and linguistic composition of speaker community.

Bilingualism and aging: neurocognitive and neurolinguistics perspectives

Jubin Abutalebi, David W Green, Ellen Bialystok, Judith Kroll and Debra Titone

Thematic session Session 46

Recent research from different groups using different populations point to the possible neuroprotective benefits of life-long bilingualism. Such data has prompted public interest because of its eventual social repercussions and continued research into its empirical bases and the cognitive and neural mechanisms whose lifelong use might mediate such benefits. The four papers in this colloquium present cutting-edge research using a variety of techniques to address interrelated aspects of these questions.

The paper by Bialystok reports retrospective and longitudinal clinical data on suitably matched monolingual and bilingual groups revealing delayed onset of the symptoms of Mild Cognitive Impairment and Alzheimer’s Disease but an equivalent rate of subsequent decline. The proposed basis of such an outcome is recruitment of more intact frontal regions. Supportive data come from the behavioural and structural imaging data on clinically normal monolingual and bilingual participants reported in the paper by Green & Abutalebi. These data indicate enhanced grey matter density both in regions most subject to physiological change with age and in those implicated cognitive control. Such effects though appear contingent on high levels of bilingual proficiency and use. As to the cognitive mechanisms whose long-
term use may underlie maintained neural integrity, the behavioural and ERP data tracking speech planning in young
inguinal adults reported in the paper by Kroll, McClain, Rossi and Bloodgood implicate that fluency in a second language
potentially enhances expertise in inhibitory control. Any such benefits attributable to enhanced executive control
presumably operate over pre-existing individual differences. The paper by Titone and Whitford emphasizes that such
differences are predictive of reading skill in both languages but are only manifest in an older bilingual sample arguably
consistent with an increased compensatory role for the processes of executive control."

**Bilingual proficiency and age of acquisition are independently related to non-verbal cognitive control: Evidence from an
fMRI study**  Maya R. Greene, Aurora I. Ramos-Nuñez, Kelly A. Vaughn and Arturo E. Hernandez  Poster 22-May

"Many studies compare cognitive control abilities of bilinguals and monolinguals, but few consider individual
differences within the bilingual population that may affect performance. Previous studies have mostly treated
bilinguals as a homogeneous population, and have not taken into account language history variables and their possible
effects on non-verbal cognitive control processing. The purpose of the current study was to examine the bilingual
population in depth, and explore how individual differences in age of second language acquisition (AOA) and language
proficiency within a bilingual sample are related to brain activity during a non-verbal cognitive control task.
Forty-nine Spanish English bilinguals performed the Simon task[1] while being scanned with fMRI. In the Simon task
participants are tasked with responding to the color of a circle that appears on the screen, using either their left or right
hand. The circle can appear on the side of the response in a congruent condition, the side opposite the response in an
incongruent condition, or in the center of the screen in a neutral condition. Participants were administered subsets of
the Woodcock-Munoz Language Survey--Revised in English and Spanish[2] in order to assess their proficiency. The
proficiency scores from the English and Spanish assessments were summed in order to create a language ability variable
that was not dependent on one specific language. This composite proficiency score is thought to represent participants’
overall language proficiency. AOA was determined based on participant report.

Multiple regression analyses of Regions of Interest (ROIs) were conducted using SPM on brain areas selected
based on previous literature[3-11]. The two language history variables were used as predictors and found to be
differentially related to brain activity. This relationship however was only found for the incongruent condition. There
was no relationship between these variables and activity in the congruent or neutral conditions. AOA was positively
associated with activity in the left inferior parietal lobe (IPL), suggesting that later age of acquisition is related to greater
activity in this area. Language proficiency on the other hand, was negatively related to activity in the right anterior
cingulate cortex (ACC) and dorsolateral prefrontal cortex (DLPFC), indicating that lower combined proficiency is related
to increased activity in these areas.

The IPL, ACC, and DLPFC, have all been implicated in cognitive control processing. The observed associations
among activity in these areas, AOA, and language proficiency indicate that individual differences in language history
variables are related to brain activity even in a non-verbal task. AOA appears to serve as an indicator of training; more
experience managing two languages (lower AOA) is related to less activation during the inhibition condition of the task--
a graded bilingual advantage. Language proficiency on the other hand, seems to indicate that greater language skill is
related to increased non-verbal cognitive control ability, indicating a relationship between verbal and non-verbal skills.
The results of this study highlight the need to address these individual differences that exist within the bilingual
population even in examinations of non-verbal processing, and caution against treating the bilingual population as
monolithic.

**Cognate effects in visual and auditory lexical decision in child and adult bilinguals: Do phonological cues constrain
lexical activation to one language?**  Katharine Donnelly Adams, Fatemeh Abdollahi, Laurie B. Feldman,
Ping Li and Janet G. Van Hell  Paper Session 83

"How do bilinguals access words in their two languages? Previous research with highly proficient adult bilinguals
indicates that both languages are activated even when comprehension and production demands require access to only
one language. The view of language non-selectivity in bilinguals is supported by evidence that cognates (words that
share meaning, phonology, and orthography across languages) facilitate faster and more accurate lexical processing
than non-cognates (words that only share meaning) in production and comprehension. It is less well known how
A COMPARATIVE STUDY OF STUDENT PARTICIPATION IN TWO BILINGUAL EDUCATION PROGRAM MODELS IN THE UNITED STATES

Samuel Aguirre and Judith Yturriago Paper Session 27

"Bilingual education programs in the United States (US) predominantly focus on developing the English proficiency of English Learners (ELs) or those students who are learning English as their second language. This research study examines student participation in two different bilingual Spanish/English education programs with different goals. Using a mixed-method research approach, observations of student participation during regular classroom lessons were conducted in two classrooms - a fifth grade Transitional Bilingual Education (TBE) classroom and in a fifth grade Two-way Immersion (TWI) classroom- in a suburban school district outside of a large metropolitan area of the Midwestern United States. In TBE programs, the focus is on developing English proficiency. In TWI programs, the focus is on developing proficiency in both the native language, in this case Spanish, and in English. The purpose of the study was to compare students’ classroom participation in the two different bilingual programs with a focus on the participation elicited by ELs. In addition, interviews with the classroom teachers in the two different bilingual programs and a survey of bilingual educators at each of the schools were administered and analyzed so that student participation could be compared to teacher perceptions of student activity in the classroom.

The hypothesis for this research study was that students in the TWI program would elicit more student participation given their access and use of both Spanish and English in the classroom compared to the student participation in the TBE program, in which learning English is considered far more important than developing the students’ native language, Spanish. Actual results from the student observations in the study indicated that among ELs with low English proficiency, the students in the TWI program demonstrated higher student participation than low English proficiency of ELs in the TBE program. Student observations also revealed a power status tied to the amount of English that students possessed in the TBE classroom, something that was not observed in the TWI classroom where Spanish and English were at times used interchangeably by students, eliciting translanguaging. Qualitative data was first collected through interviews of the classroom teachers. It was deemed important to understand the teacher’s perception of student oral participation. For example, in a classroom in which the teacher valued students that raised
their hands in order to obtain permission to participate, student participation consisted of students raising their hands before taking part of a conversation or activity. If the classroom teacher welcomed all participation from all students, then the students were more likely to engage in conversations on free will and the classroom was louder with student-talk based on the academic content. Interestingly, among educators in both programs, it was found that there is a misconception that the bilingual education program model has no effect on student participation in the classroom."

**Early Bilingual Development and Well-Being: Insights from a New Subfield of Research**

Daniela Aldoney, Natasha Cabrera, Brian A. Collins, Timothy W. Curby, Jessica J. De Feyter, Annick De Houwer, Yoon Kyong Kim, Jenessa Malin, Lourdes Ortega, Claudio O. Toppelberg and Adam Winsler

Thematic session  Session 44

"Recent calls for researchers to pay attention not only to linguistic aspects of children's bilingual acquisition but also to the contribution of bilingual development to children's socio-emotional well-being have coincided with empirical studies in different disciplines investigating the links between early bilingual development and various aspects of the complex notion of well-being. This new trend in research has originated in the United States (e.g., Collins et al., 2011; Han, 2010; Han & Huang, 2010). The proposed thematic session brings together some of the main pioneers who continue to work on this topic."

After a brief introduction by the session organizer (a linguist specializing in bilingual acquisition) outlining the importance of paying attention to well-being as it relates to early bilingualism, specialists from the fields of education, social policy and psychology present their perspectives on bilingual development in children and children's well-being in three original contributions. A prominent applied linguist will act as a discussant, and there will be plenty of opportunity for a general discussion.

All three panel contributions focus on immigrant children growing up in the United States with Spanish and English. Together, they trace children's bilingual development in relation to aspects of children's socializing environments and children's own cognitive and social skills that are known to generally contribute to positive development, including well-being. The studies provide data on toddlers, preschoolers and school children up to grade 5.

The order of presentations follows bilingual children's development throughout the first decade of life. The first contribution presents a study of family influences on bilingual toddlers' language and social skills. This is followed by a presentation focusing on Spanish and English proficiency and degree of self-regulation in 6- and 8-year-old children and on how these relate to school success. The third and last empirical contribution presents a large scale study of children aged 4 (pre-K) to about 10 (5th grade) and outlines the importance of preschool child social and behavioral skills and immigrant status for successful bilingual and academic development.

Most children in the studies reported on at this session live in disadvantaged circumstances. Especially for this population it is important to know what aspects of development contribute to greater well-being, so that appropriate social and educational policies may be put in place to help bilingual children gain more positive developmental outcomes. Only interdisciplinary and cross-disciplinary work can uncover the complexities involved (De Houwer, 2013). By bringing together some of the major American researchers from different disciplines who are carrying out groundbreaking work that can speak to these issues, this thematic session at the largest international conference on bilingualism hopes to act as a catalyst for similarly oriented research not only in the US but also beyond.

**How Alphabets can Alter Perception: Orthography’s Influence on the Mental Representation of Phonological Information**

Nick Anderegg, Matthew Carlson and Eleonora Rossi  Poster 21-May

"Speakers’ awareness of sound units in their languages can be constrained by their writing systems. Speakers using an alphabetic writing system (e.g., English) are aware of sounds at the phonemic level [1]. Speakers of Chinese, using a morphographic writing system (based on morphemes), are unable to add or delete individual consonants in spoken Chinese words, indicating storage of phonological information at the word level [2]. Even with previous experience with alphabet-based Chinese transcription systems (e.g., Pinyin), Chinese speakers rely less on phonemic information [3]. Recent research has shown that there is a strong relationship between the orthographic form of newly-learned words and their phonological encoding [4]. We hypothesize that the focus on grapheme-phoneme correspondences associated with knowing an alphabetic orthography would lead English speakers to try to identify
newly-learned words as strings of phonemes to a greater extent than Chinese speakers, making them more prone to assimilate nonnative phonemes to native categories. We further hypothesize that native English speakers will be more likely to accept an incorrect version of the newly-learned words in which the nonnative phoneme has been replaced with a native L1 approximation.

We tested native Chinese (n=22) and English (n=13, data collection ongoing) speakers using a novel-word learning task. Participants learnt 12 target and 12 control stimuli in Modern Standard Arabic (MSA). Stimuli were presented auditorily alongside line drawings of common objects. Importantly, the first consonant sound of the target stimuli was a phoneme that is present in MSA but not present in Chinese or English (i.e., /ħ ġ q/), while for the control items, all sounds in each word were shared across phonologies (e.g., /b m f/).

The study consisted of two phases separated by a night’s sleep to assist stimuli storage in memory. In phase 1, participants were presented with each word-picture pair four times, after which they were given a criterion test to verify learning. In phase 2, they were presented with the same pictures, this time in three auditory conditions:

1) Exact Phonetic Realization in MSA/Matched Picture: A word was correctly matched with a picture and had the same phonetic realization as the training phase.

2) Exact Phonetic Realization in MSA/Mismatched Picture: A word was incorrectly matched with a picture and had the same phonetic realization as the training phase.

3) Approximate Phonetic Realization/Matched Picture: A word was correctly matched with a picture. Critically, the initial phoneme of the target stimuli was replaced with a Chinese or English phonetic approximation (e.g. /hasaba/ approximated as /hasaba/ in English or /xasaba/ in Chinese), a condition not seen in the training phase.

We hypothesized that Chinese speakers and English speakers would perform equally well in the Exact Realization conditions, whereas Chinese speakers would outperform English speakers in the Approximate Realization condition because they lack a phoneme-based writing system to influence phonological storage. Preliminary data supports this hypothesis as English and Chinese speakers perform equally well in the Exact Realization conditions, while Chinese speakers significantly outperform English speakers in the Approximate Realization condition.

Language immersion and early effects on suprasegmental features during oral reading

Inge Anema  Poster  22-May

"Introduction: This presentation addresses the post-training changes in fluency-based suprasegmental production, such as reading rate and pausing, in late bilingual readers. Changes in the production of these suprasegmentals were anticipated based on the relative late acquisition of fluency-based suprasegmentals (Botinis et al., 2001), as compared to prosody-based suprasegmentals, in native readers (L1, here; English). Specifically, native-like phrasing in oral reading is correlated to reading comprehension (Kuhn & Stahl, 2003). Reading theories (e.g., Samuels, 2002; Grabe & Stoller, 2011) explain this correlation by an increased ability to automatize lexical processes and to free up cognitive resources for post-lexical or comprehension processes.

Method: Ten Korean- and 15 Mandarin Chinese-speaking bilinguals were recruited at an English Language Immersion program at SUNY New Paltz. Intermediate and advanced speakers of English as a Second Language completed oral reading tasks before and after two 3-month periods. One group received training during the first period, followed by an observation-only period. A second group started with an observation-only period, followed by a 3-month training period. Training consisted of passive training (listening and reading along with native-English reader) and active training (repeated practice in phrasing and reading aloud). Training took place in a classroom setting; testing was completed individually.

Results of two 3-paragraph reading tasks are reported. Oral reading performance was recorded and analyzed. The recordings were analyzed for frequency of pausing, non-native pauses, and reading errors from pre to post testing. Comprehension was measured by multiple choice questions following the oral reading. Performance of Korean and Mandarin intermediate and advanced learners of English was compared following each 3-month period for a change of over 15%.

Results: Over the 3-month observation period, participants demonstrated improved reading levels (16% from pre to post), increased reading rate (6%) reduced pausing (12%) and fewer non-native pauses (22%). Comprehension outcomes
stayed the same, however post measures were from higher level reading materials. Between group and within group results for this period were comparable.

Over the 3-month instruction period (passive and active instruction), reading levels, reading rates, total number and non-native use of pauses stayed the same, only reading accuracy improved (43% for advanced-level and 47% for intermediate level). Within group results showed increases in reading levels and reading rates for advanced-level bilinguals (respectively 18% and 9%). For the same group, fewer total pauses (7%) and pauses at non-native locations (25%) and improved comprehension (8%). For the intermediate-level bilinguals reading levels increased less than 1% and reading rates were slower (4%). The intermediate-level readers demonstrated an increased number of pauses (5%) and an increase in pauses at non-native locations (14%).

Results of between-group analyses (Korean and Mandarin Chinese) were comparable.

Discussion: The data suggest that L2 immersion facilitates acquiring reading skills. Instruction related to phrasing appears more effective for readers who have automatized lower-order reading processes and are able to allocate resources to incorporate higher-order or comprehension processes.

Speech sound learning depends on individual’s ability, not just experience

Pilar Archila, Ferenc Bunta and Arturo Hernandez
Poster 21-May

“Aims: The goal of this study was to investigate if phonetic experience with two languages facilitated learning of novel speech sounds or if general perceptual abilities independent of bilingualism played a role in this learning.

Rationale: Studies of auditory training have shown that individuals can be categorized as good or poor learners of tones and L2 phonemes after limited exposure to the stimuli (1-4). However, it has also been reported that professional musicians with extensive experience have enhanced auditory perceptual abilities relative to non-musicians (5); demonstrating that experience with certain type of auditory input can enhance perceptual abilities. These studies suggest two alternatives: (1) novel speech sound learning may depend on general perceptual abilities of an individual independent of the amount of exposure to the stimuli, or (2) it may depend on the amount of experience with diverse phonemes.

Method: The neural mechanisms involved in novel speech sound learning were examined in groups of English monolinguals (n = 20), early Spanish-English bilinguals (n = 24), and experimentally derived subgroups of individuals with advanced ability to learn novel speech sound contrasts (ALs, n = 28) and individuals with non-advanced ability to learn novel speech sound contrasts (non-ALs, n = 16). Participants completed four consecutive sessions of phonetic training in which they listened to novel speech sounds embedded in Hungarian pseudowords. The novel speech sounds employed were: /œ/, /ø:/, /u:/, /u/, /o:/, /y/, /y:/, /o/. Eight native Hungarian speakers recorded the pseudowords. During the training sessions, participants were asked to discriminate if the pseudowords heard were the same or different. The tests of picture vocabulary and listening comprehension were selected from a standardized language battery (6) to assess overall expressive and receptive abilities in English for monolinguals or in both languages for bilinguals. Participants completed two fMRI sessions, one before training and an other one after training. While in the scanner, participants passively listened to the speech stimuli presented during training. Participants were asked to attend to a movie while the pseudowords played in the background. A repeated measures behavioral analysis and ANOVA for fMRI data were conducted to investigate learning after training.

Results and Conclusions: The results showed that bilinguals did not significantly differ from monolinguals in the learning of novel sounds behaviorally. Instead, the behavioral results revealed that regardless of language group (monolingual or bilingual), ALs were better at discriminating pseudowords throughout the training than non-ALs. Neurologically, region of interest (ROI) analysis showed increased activity in the superior temporal gyrus (STG) bilaterally in ALs relative to non-ALs after training. Bilinguals also showed greater STG activity than monolinguals. Extracted values from ROIs entered into a 2x2 MANOVA showed a main effect of performance, demonstrating that individual ability exerts a significant effect on learning novel speech sounds. In fact, advanced ability to learn novel speech sound contrasts appears to play a more significant role in speech sound learning than experience with two phonological systems.

Significance: This study explored individual ability in speech sound learning in the context of extended experience with two languages.
The contribution of Spanish vocabulary knowledge to the English reading comprehension skills of Latino adolescent students in the U.S.  
Igone Arteagoitia  
Paper  Session 70

"Research on the acquisition of first-language reading skills has demonstrated a strong relationship between knowledge of word meaning and ability to comprehend passages containing those words (Anderson & Freebody, 1981). While much less is known about how English language learners become fluent readers at advanced levels, a recent review of experimental and quasi-experimental studies by the National Literacy Panel (August & Shanahan, 2006) emphasizes the importance of vocabulary knowledge in English and Spanish for Latino students’ continued success in reading development beyond third grade. When it comes to English words derived from Latin, Spanish-speaking students may be able to use their knowledge of Spanish vocabulary to unlock the meaning of general academic words in English, as these words often have close Spanish cognates which generally are high-frequency words in Spanish and low-frequency words in English (e.g., encounter, in Spanish encontrar, the equivalent of to find or meet in English). A study conducted with 78 Spanish-speaking middle school students enrolled in a two-way immersion program in the U.S. examined the effects of Spanish vocabulary knowledge on reading comprehension in English. Controlling for the effects of grade, English language proficiency, vocabulary and fluency, knowledge of Spanish vocabulary was found to have a significant and positive effect on English reading comprehension as measured by a standardized assessment of reading ability (i.e., Gates MacGinitie Reading Test). These findings highlight the role that the Spanish language plays in meeting the academic needs of Latino students in the U.S. and provide support for research that indicates that a strong foundation in the native language facilitates second-language development (Cummins, 1984; Lindholm-Leary, 2013; Lindholm-Leary & Borsato, 2006; Oller & Eilers, 2002; Thomas & Collier, 2012).

The Impact of Pre- and Post-cuing in Language Switching on Switching Costs and Global RTs  
Khateb Asaid, Rana Shamshoum and Anat Prior  
Paper  Session 14

"Different paradigms have been used in psycholinguistic studies to investigate how bilinguals switch between their languages during language production. In the unpredictable language cueing paradigm a cue word instructs the participants in which language they should respond in each experimental trial. Results of such studies show that switching between languages carries a cost in RT and accuracy, defined as the switching cost. Models of bilingual language production (e.g. the IC model, Green, 1998) have interpreted the switching cost as evidence that the non-target language needs to be inhibited on switch trials, thus leading to delays in performance. However, there is still debate in the literature regarding the locus of such inhibition – whether it is manifest at the whole-language level, or might rather be better understood as resulting from item- or lemma-specific lateral inhibition.

In the current study we investigated this issue by comparing the impact of 5 different cuing parameters on the language switching performance of 45 proficient unbalanced Arabic-Hebrew bilingual adults. Participants completed a picture naming task, and the time of language cue presentation relative to the picture onset was manipulated. Language cues could precede the picture (by 900 or 300 ms), could be presented simultaneously with the picture, or could follow the picture (by 900 or 300 ms). Each participant completed all 5 cuing conditions, allowing for easy comparisons.

Participants were overall faster to respond in their L1 across pre-cuing and simultaneous cuing conditions, thus not exhibiting global L1 slowing that has been observed in some previous language switching studies (Verhoef, Roelofs, & Chwilla, 2009). In the post-cuing conditions there were no differences in response times in the L1 and the L2. Switch costs were asymmetric in the pre-cuing conditions, with larger costs for switching into the L1, as has been found in previous studies (Meuter & Allport, 1999). However, simultaneous and post-cuing conditions lead to symmetric switch costs for L1 and L2, a pattern previously reported for pre-cuing condition in balanced (Cost & Santesteban, 2004) as well as unbalanced bilinguals (e.g. Declerck, Kock & Philipp, 2012).

These results allow us to separate processes of global language selection that are available to participants in the pre-cuing conditions from processes of lexical competition resolution at the specific lemma level, which become available in the post-cuing conditions, after the picture to be named is already available. Methodological and theoretical implications will be discussed."
The nature versus nurture of simultaneous interpretation

Laura Babcock and Antonino Vallesi  Paper Session 8

"Simultaneous interpretation (SI) is a cognitively demanding process. In SI the individual must comprehend a stream of auditory material in one language and with a few seconds delay produce the same content in another language. The neurocognitive aspects of SI have thus far been understudied, and thus a full understanding of the processes needed to and enhanced by interpretation is still elusive. To investigate the cognitive abilities required for SI and whether these abilities are innate or acquired through training we conducted three studies. In the first study professional simultaneous interpreters and a well-matched group of multilinguals were tested on measures of executive functioning, memory, and intelligence. Differences between the two groups were seen on a non-linguistic task-switching paradigm. The interpreters were overall faster, on both single-task and mixed-task blocks, and they showed a smaller mixing cost (the difference in response times between single-task blocks and repetition trials in the mixed-task block), though no difference in switching cost (the difference in response times between repetition and switch trials in the mixed-task block). Switching costs are thought to index the difficulty of switching between task-sets and have previously exhibited an advantage for bilinguals. Mixing costs, which do not usually show advantages for bilinguals, are thought to index the sustained control required for maintaining two task-sets. The results suggest that interpreters are advantaged in this sustained control, a process which is likely recruited during SI when two languages must be accessible simultaneously. The interpreters additionally outperformed the multilinguals on three tests of memory indexing verbal short-term memory (STM), verbal working memory (WM), and spatial STM. No differences were seen on spatial WM.

The second study focused on the role that training plays in the origin of these enhancements in professional interpreters. Students earning a Master of Conference Interpreting were tested on the same battery of tests at the start and completion of their Master’s degree. On the task-switching paradigm, the students showed faster responses on all trial types at the second testing as well as a reduced mixing cost. No difference in switching cost was evident. Additionally, the students of interpretation increased their memory spans in verbal STM, verbal WM, and spatial STM, but not spatial WM. These changes in cognition are analogous to those seen in the comparison between the professional interpreters and multilinguals. The final study compared students beginning a Master in Conference Interpreting to those beginning a Master in Translation. On the task-switching paradigm no significant differences were seen between the groups, however near trends were evidenced on the switching and mixing costs. In both cases, the students of interpretation produced smaller costs than the students of translation. The memory tests also yielded no significant differences, though a near trend enhancement in interpretation students was seen in spatial STM. Thus it appears that training plays a larger role in producing the cognitive abilities that separate interpreters from multilinguals, though a role for innate abilities cannot be excluded."

Bilingual language dominance and prosodic focus marking in the K'ichee’ of Spanish-K’ichee’ bilinguals

Brandon O. Baird  Paper Session 18

"Previous research on different languages has described the role of prosody in marking a contrastive focus constituent. This prosodic prominence is realized in a variety of ways, such as, but not limited to, a higher pitch peak and an earlier peak alignment (Face, 2001; Smiljanić, 2004, Xu & Xu, 2005). However, research among bilingual populations has demonstrated that different factors, such as language dominance, may be correlated with prosodic contrastive focus marking (O'Rourke, 2012; Simonet, 2008) and that there may be significant individual speaker variation in the intonational contours produced by bilinguals (Bullock, 2009).

The present study analyzes prosodic contrastive focus marking in K’ichee’, a Mayan language spoken in western Guatemala. 24 Spanish-K’ichee’ bilinguals participated in this study and were assessed for language dominance by the Bilingual Language Profile, or BLP (Birdsong et al. 2012) which measures language history, use, competence, and attitudes. Previous research on the Spanish spoken by these bilinguals has shown that Spanish-dominant bilinguals tend to mark contrastive focus with a greater peak height than K’ichee’-dominant bilinguals whereas K’ichee’-dominant bilinguals tend to have earlier peaks in both broad and contrastive focus constituents (XXXX, 2014, in press).

The bilinguals in this study participated in a question-answer task that elicited broad and contrastive focus utterances similar to those used in previous studies (Face, 2001; O'Rourke, 2012; Simonet, 2008; Smiljanić, 2004). However, in order to include speakers with varying levels of literacy, the broad and contrastive focus utterances were
elicited via a series of video clips of native speakers. For the acoustic analyses, broad and contrastive focus constituents, which were all located in phrase-medial position, were analyzed via ProsodyPro (Xu, 2013) in Praat (Boersma & Weenink, 2012) where the intonational contour associated with the tonic syllable was analyzed for both peak height and peak alignment following the methodology employed in previous studies (Face, 2001; Henriksen, 2012).

The overall results demonstrate that these bilinguals mark a contrastive focus constituent in K’iche’ with a higher pitch and an earlier pitch peak than a broad focus constituent. Furthermore, the individual speaker analyses demonstrate that 23 of 24 bilinguals mark a contrastive focus constituent with a significantly earlier peak. However, these results also reveal that only half of the speakers mark a contrastive focus constituent with a significantly higher pitch peak. In a correlation analysis with the BLP language dominance score, the results parallel the findings of the analysis of Spanish: K’ichee’-dominant speakers tend to have earlier peaks, regardless of the focus condition, than Spanish-dominant bilinguals whereas Spanish-dominant bilinguals tend to mark contrastive focus with a greater pitch height. Specifically, peak height was correlated with language use and language attitude among these bilinguals.

Overall, the results of this study demonstrate that an earlier alignment of an intonational event, and not a greater pitch excursion, was more commonly used to mark contrastive focus among this population. The results of these analyses also reveal that individual speaker differences may be correlated with different features of intonational contours in either language of these bilinguals."

**Convergence and Divergence in the Acquisition of Ergative-Absolutive and Nominative-Accusative Cases by Kaqchikel-Maya Children**
Ivonne Heinze Balcazar

"This presentation presents results of research carried out on the acquisition of Kaqchikel, particularly the ergative-absolutive system of the Maya transitive verb in the Kaqchikel Maya community of Tecpán, Guatemala. This research was completed with the collaboration of eight Kaqchikel Maya children of ages between 8 and 10 years, who are consecutive bilinguals. That is, they acquired Kaqchikel at home and Spanish at school.

The methodology utilized for this research consisted of picture naming, picture description, and acting-out tasks. These are various instances of the elicited production method, which was designed to reveal the grammars of children by having them produce particular structures. According to Thornton (1996), the elicited production method has two advantages. First, it reveals the child’s grammar without the need to make inferences from “yes” and “no” responses, as is necessary in a judgment task. Second, the experimenter can control the meaning that is to be associated with the targeted utterance. Furthermore, Thornton pointed out that such resulting data reveals what children ‘do say’, and it also reveals what children ‘cannot say’ (1996:78).

The children were administered a lexical test in order to determine levels of lexical knowledge. These results indicate that half of the group knew 50 percent or less of the elicited Kaqchikel lexical items. In comparison, the other half of the group knew 60 percent or more of the same Kaqchikel items. Interestingly, these two groups had in common that they knew more of the Spanish lexical items than of the Kaqchikel ones. The group’s average in Spanish was 90 percent, which contrasts with their 58 percent average in Kaqchikel. As a group the children's knowledge of the Kaqchikel vocabulary lagged behind that of Spanish. This finding is significant since they acquired Kaqchikel first and their years of exposure to Spanish at school varied from 1 to 6 years.

Regarding the marking of the Maya ergative and absolutive cases, it was found that the children scored higher percentages on ergative case marking. The 41 percent average of the children at marking absolutive case stands in contrast to their 70 percent average at marking ergative case. The children seemed to have no trouble in keeping separate the ergative and nominative case systems; however, this was not the case with the absolutive and accusative case systems. Some children seemed to have converged the marking of absolutive case in Kaqchikel with the marking of accusative case in Spanish by utilizing a prepositional phrase to indicate the direct object rather than marking it with absolutive case markers. This presentation will discuss the advantages and disadvantages of analyzing this convergence as either an instance of the processes of bilingual acquisition or an instance of language loss in Kaqchikel. Finally, levels of bilingual knowledge will also be discussed in this presentation.
A Sense of Belonging – The Role of Language in the Negotiation and Construction of Identity in Multilingual Families
Sandra Ballweg

“From a postmodernist point of view, a person constantly switches between a number of identities in a complex world (cf. Hemmi 2014: 76). This range of possible and even necessary identities is even larger for multilingual individuals. However, linguistic and cultural diversity should not only be considered as reasons for using a certain identity, but instead also be viewed as the essential influences in creating a sense of identity through linguistic and cultural socialisation (cf. Aguado 2013, Kramsch 2009). Migration can disrupt these processes and lead to speechlessness, linguistic and cultural insecurity and a sense of loss (cf. Krumm 2013: 119; Rösler 2013). Under such circumstances, existing identities are re-shaped and expanded and new identities are developed.

These cultural and linguistic shifts not only affect the migrants themselves, but recent research shows that within im/migrant families, attitudes towards languages and the linguistic identities are crucial. They can dominate and prevail over their academic achievements over generations (cf. Brizić 2007; Edwards 2011). However, although it is clear that the role of the family is vital in the forming of linguistic identities, there is little research on exactly how identities are negotiated and formed in multilingual families. Therefore, in my presentation, I will present the results of a case study that is part of a larger research project on language, identity and power in multilingual families. The presented case shows how migration to Germany, political and social circumstances and decisions of the parents affect the linguistic identities and the language learning of a whole family, especially of the children.

In this case study, data were collected by means of individual interviews with the family members and one group interview with the whole family. For the data collection and analysis, Grounded Theory methodology (cf. Charmaz 2006, Corbin/Strauss 2008) was used to gain a deeper understanding of how identity is negotiated in multilingual families who have migration experiences and how these processes have an influence on further language learning and later academic career decisions.

The Contribution of Language-specific Characteristics to Spanish-English Bilingual Preschoolers’ Comprehension of Subject-Verb Agreement

Isabelle Barriere, Sarah Kresh, Victoria Fay, Erika Lanham, Claribel Polanco, Stephanie Rauber, Jenice Robertson, Geraldine Legendre and Thierry Nazzi

“The present study tests the hypothesis that bilinguals’ comprehension of similar constructions across languages is driven by language-specific characteristics and will thereby reveal patterns similar to monolinguals with respect to conditions that attract better performances. Based on previous studies we also predicted that to a lesser extent comprehension would reflect amount of exposure and language preference.

Nineteen bilingual Mexican Spanish-English speaking, low SES preschoolers between 3;7 and 5;6 exposed to Spanish from birth were administered comprehension video-matching tasks in English and Spanish (Figure 1). The stimuli involved 3rd person singular versus plural subject verb agreement (Table 1). They were administered a language preference task and information on their age of first exposure to each language, percentage of exposure to each language and maternal education was also collected.

The results of the Spanish experiment (Figure 2) revealed that the bilinguals performed above chance on the comprehension task overall (mean accuracy = 0.55, one-tailed t = 1.71, p = 0.04, 95% CI: = [0.5016, Inf]), similarly to higher SES age peer monolinguals in Mexico tested on the transitive and intransitive sentence final conditions (Gonzalez-Gomez et al., 2013). Mixed effects logistic regression analyses (Jaeger, 2008) that considered age, conditions (transitivity, position of the marker and number), linguistic environment and language preference as fixed effects and participant and target as random effects revealed that number was the only fixed effect that significantly improved the null model. The estimate of the intercept was -0.311 (SE = 0.1530, z = -2.033, p = 0.0421), indicating that the children were more likely point to the wrong target on singular items. The estimate of the logodds of accuracy on plural items was 1.004, (SE = 0.15, z = 4.54, p < 0.001), indicating that the children were significantly more likely to point to the correct target than the incorrect target on plural items (at a rate of 2.7 to 1).

In contrast, similar analyses on the English comprehension task revealed that the bilingual children did not perform above chance overall (mean = 0.52, t = 0.70, p = 0.24, 95% CI: = [0.4723, Inf]), and in the logistic regression model, plural number was only significant in interaction with percentage of exposure to English (estimate of the logodds
of accuracy on plural items as percentage English exposure increases = 0.02, SE = 0.01, z = 2.07, p = 0.04). Results obtained so far on the on-going study of English monolinguals also reveal a better performance on plurals.

The results cast light on the complex relation between comprehension and linguistic environment in that participants a) performed better on the plural constructions in Spanish (see Arias-Trejo et al., 2014 for better performance on Spanish nominal plurals in monolinguals) although plurals are less frequent than singular in the input (Alda et al., 2011) and b) respond differently to degree of exposure in their two languages.

Third Language Vocabulary Learning Benefits from Each of a Bilingual's Languages
James Bartolotti and Viorica Marian Paper Session 23

"Learning a new language involves substantial knowledge acquisition, including thousands of new words. Adult learners can accelerate their learning by transferring overlapping knowledge from their native language to the new one. For example, cognates, which overlap in form and meaning across languages, are relatively easy to acquire. Partial form overlap also provides a benefit: learners acquire L2 words that adhere to native language lexical patterns better than words that don’t (Bartolotti & Marian, 2014; Storkel, Armbrüster, & Hogan, 2006; Thorn & Frankish, 2005). Bilinguals learning a third language know two languages that each overlap and conflict with the target language in different ways. The present study investigated whether knowledge of two languages combines positively or negatively to affect L3 vocabulary learning.

Twenty English-German bilinguals were taught 48 novel orthographic words in an artificial language. The words varied in English- and German-wordlikeness (based on neighborhood size and orthotactic probability), yielding four categories: E+G+ words (e.g., nist) matched both languages, E+G- (e.g., sumb) and E-G+ (e.g., retz) words adhered to only English or German rules, respectively, and E-G- (e.g., gofp) words resembled neither languages. Participants viewed each word paired with a line drawing (e.g., tree) on a computer and then completed five testing blocks with feedback; each block included tests of word recognition and production. In recognition trials, participants saw a target word and four pictures, and selected one picture. After responding, the correct answer remained on the screen as feedback. In production trials, participants saw a target picture and typed the matching novel word. After responding, the correct word was displayed as feedback.

Results showed that participants become faster and more accurate over time. Production accuracy improved from 10.3% (SD=12.3) to 66.3% (SD=24.1) and RTs improved from 3.48s (SD=1.20) to 3.00s (SD=0.67) over blocks one to five. Recognition accuracy improved from 61.6% (SD=15.5) to 98.4% (SD=2.2); RTs improved from 3.33s (SD=0.47) to 2.21s (SD=0.38). The effects of English- and German-wordlikeness on learning over time were analyzed using Growth Curve Analysis. Accuracy and RT in word production and recognition were fitted with second-order orthogonal polynomials to capture the curvilinear learning shape. Word production accuracy (Fig. 1) was improved relative to the E-G- baseline by both English- (18.9%) and German-wordlikeness (11.9%), but they combined non-additively: E+G+ words were only 18.3% above baseline. Similarly, RT in the word recognition task (Fig. 2) was improved both by English- (368ms) and German-wordlikeness (320ms), but they combined non-additively, with E+G+ words only 309ms faster than the E-G-baseline.

These results suggest that bilinguals learning a third language transfer lexical form knowledge from each of their existing languages to promote vocabulary acquisition. However, the two native languages do not combine additively, as there was no additional benefit for novel words that resembled both English and German relative to words matching a single language. Bilingualism provides additional lexical scaffolding to anchor L3 word forms, which may contribute to bilinguals’ language learning advantage relative to monolinguals (Cenoz, 2003; Kaushanskaya & Marian, 2009)."

Grammatical production in Spanish English bilingual kindergarteners: Responsiveness to a grammatical priming task.
Lisa Bedore, Elizabeth Pena, Zenzi Griffin and Barbara Hidalgo Poster 22-May

"The language skills of young bilingual children are marked by variability. Grammatical skills of bilingual children often appear to be delayed relative to expectations established for monolingual children in their first language (Bedore, et al., 2012; Davison & Hammer, 2012). Knowledge of the first language supports transfer in the case of some but not all forms (Blom & Paradis, 2013). These patterns of performance could be attributed to lack of knowledge or to lack of access to forms. Evaluating performance on a short term learning task can help us differentiate the source of these
New Language Learning in an Individual with Aphasia and a Healthy Control

Marina Belkina, Olga Iukalo-Tokarski, Katy Borodkin, Peggy Conner and Mira Goral

"Theoretical Background: Few studies have addressed new language learning in people with aphasia. Two recent investigations suggest that people with aphasia are capable of learning new vocabulary. Kelly & Armstrong (2009) found that children demonstrated priming effects for challenging grammatical structure in English, Spanish, or both.

Participants: Fifty-one typically developing children were selected for this analysis from an ongoing study of language development in Spanish English bilingual with and without risk for language impairment. Children were selected if they were sufficiently bilingual to complete testing in both of their languages - all children used Spanish and English at least 20% of the time of recruitment. They also demonstrated performance with in the expected range on the Bilingual English Spanish Assessment (Peña, Gutierrez-Clellon, Iglesias, Goldstein, & Bedore, 2014) and there was no parent or teacher concern regarding children language development. All children were selected from school districts that served large number of Hispanic children in bilingual or ELL classrooms.

Method: All children completed grammatical priming tasks in Spanish and English. English targets included present tense, past tense, and copulas while Spanish targets included direct objects, imperfect, and subjunctive. In the unprimed condition all children were asked to describe a picture using a simple prompt that did not provide a model of the target though provided a semantic cue regarding the form. For example, past tense was cued with the phase ""Yesterday..."" Instruction and prompts were audio recorded and were paired with picture presentations to elicit productions of the target structures. All tasks were presented via Matlab to ensure reliable administration. All responses were transcribed and scored independently. Children's responses were classified as correct if they used the targeted grammatical structure and they were semantically feasible.

Results: Results for the kindergarten students are recorded in Table 1 for English and Spanish. Preliminary analyses indicate that children showed low levels of correct responses in the unprimed condition and significantly higher number of target or correct responses in the primed conditions. Present and past tense in English and direct object clitics and imperfect forms in Spanish significantly differed as a function of priming for the children who were balanced bilinguals.

Discussion: Preliminary results indicate that children demonstrate priming in both of their languages indicating that children can take advantage of short term learning opportunities both when they are learning a new language as in the case of English or to reinforce knowledge of a language they already know as in the case of Spanish. Differences in performance will be discussed as they relate to children's language exposure and use."

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change in the number of CIUs was 67% on the sentence production task). However, the relative change in these variables was greater in the healthy individual (e.g. the relative change in the number of CIUs was 83% on the Sentence production task). The multilingual individual with aphasia also presented with a greater number of code-switched units post-training (e.g. on the question-generation task, 36% of total verbal units in the person with aphasia and 0% in the control).

Conclusions: To our knowledge, this is the first study to show that novel language learning in individuals with aphasia can extend beyond vocabulary to include other language elements, such as grammar. Although additional healthy control data is warranted, the lower performance of the person with aphasia on the present tasks may be linked to the language disability, which has influenced the level of acquired proficiency in the novel language. Greater code-switching behavior may be explained by either diminished executive functioning ability or a strategy to compensate for word-retrieval difficulty in the novel language."

_The Changing Status/Function of English in North Africa: the Case of Algeria_
Mohamed Benrabah Paper Session 6

"Most scholars who study the strength of languages in the world agree on the fact that English holds an unrivalled position in the world language system, both in terms of status – it is a multinational and intercontinental language – and function – it serves the intergroup communicative needs of native and non-native speakers around the globe. French which has tried in vain to withstand this English dominance since the end of World War II, is declining rapidly. Yet, it puts up a strong resistance in France’s former colonial territories in Francophone Africa. Until the 1990s, French had a strong hold on the three countries of North Africa – Algeria, Morocco and Tunisia – which had remained relatively isolated from the English-speaking world. Since then, however, the English language has gradually made significant inroads into this stronghold of Francophonie due to several dynamics. What are these forces? How and why is English spreading in these three North African polities? In my presentation, I will attempt to answer these questions by looking at the emerging sociolinguistic role of English in North Africa in general and Algeria in particular. To answer “how” this new emergence has occurred requires that we examine the domains of language use and specifically differences in attitudes in relation to the usage of English and of French. To understand “why” the expansion of English has occurred so quickly calls for the analysis of the different parameters that have facilitated this cultural intrusion.

This paper consists of four parts. First, I describe the linguistic profile of North Africa. A historical perspective is used to account for the different statuses of languages: national/official, colonial (or L2) and foreign (or non-colonial). Next, I discuss the introduction of English in North Africa in terms of three distinct periods of time. The first starts with the time of independence from France and the second ends in the 1990s, with English being confined to the school fences during both periods. The third period is characterized by the integration of local economies into an international network (i.e. globalization) which ushered in the beginning of changes in the status/function of the English language in the region. In the third part of this paper, I use language attitudinal surveys on Morocco and Tunisia to conduct documentary analysis and establish the major factors that have facilitated the spread of English in these two societies. I conduct documentary analysis of the official language policies implemented in the aftermath of independence (Arabization), of differences along generational and social class lines, of linguistic pressures stemming from globalization forces, and of the legacy of French colonialism. The fourth and final section of this paper deals exclusively with Algeria where, unlike Morocco and Tunisia, the penetration of English has been less spectacular. I will argue that the main cause of this difference comes from the maintenance of the highly centralized distributive economy typical of “rentier” States. This system, put in place immediately after independence, has impeded Algeria from entering fully into the global economy. Nevertheless, the English language has increased in Algeria in terms of social domains and individual populations; the linguistic attitudes have changed dramatically since the turn of this millennium. In the case of Algeria, I will use attitudinal reactions to English (empirical surveys, linguistic landscape, etc.) to analyze the situation where top-down change occurs at a slow rate to match up with bottom-up language preferences."
group is the largest immigrant community with a population of 400,000 in the Netherlands. Compared to the first generation, second-generation Turks are mostly bilingual in Dutch and Turkish. In many cases, they are more proficient in Dutch than Turkish. They are now bilingual parents to the third generation. Besides, these parents are misdirected in many settings that they speak only Dutch but Turkish with their children so as not to interfere in their academic achievement at school and their acceptance in the society. There is extensive research on language maintenance/shift, code-mixing and switching of Turkish second-generation (Backus, 1996; Dogruoz, 2007; Everstijn, 2011; Yagmur, 2009); however, there is almost no research on language use, choice and preference of second-generation Turkish in interacting with their third-generation children. In this regard, being exposed to mostly monolingual parenting and growing up in a bilingual environment, and lacking educational opportunities in Turkish, how the second-generation Turkish-Dutch families in the Netherlands plan their family language practices is the focus of this presentation. This study aims at providing an insight into the family language policies of the second-generation Turkish-Dutch parents. With this in mind, an ethnographic approach is adapted as a research method. Data is collected through a set of observations and interviews. Twenty Turkish families are observed in their home environments. When the saturation level is reached, both parents are interviewed separately. A semi-structured interview protocol is utilized for the questions regarding the observation process, their beliefs, practices and management of languages in the home environment. Data analysis is realized using qualitative data analysis techniques, namely coding, re-coding and axial coding are conducted to derive the major strategies employed by the parents. At the time of writing this abstract, data analysis was not done yet. In our analyses, we search for the influence of Dutch policy of restricting home language use on bilingual parents’ language use strategies in the home context.

On the theoretical and empirical bases of translanguaging
Rakesh Bhatt and Agnes Bolonyai

"While mobility, qua globalization, has introduced a degree of unpredictability, of linguistic behaviors and practice, scholars of sociolinguistics of multilingualism developed terms such as languaging (Becker 2000), polylanguaging (Jørgensen 2004), metrolingualism (Otsuji and Pennycook 2010), and translanguaging (Garcia 2007, 2009; Creese and Blackledge 2010; Li 2011) to address the communicative dynamism in contemporary multilingual behavior. These terms seek to displace traditional linguistic vocabulary ("languages", "codes", "code-switching"), and underlying ideologies, seen as analytically inadequate in the study of post-modern diversity (Makoni and Pennycook 2007; Blommaert and Rampton 2011). Although we share translanguaging scholars’ central concern with an essentialist view of language and society, we also question what conceptual-theoretical advances are made by branding linguistic resource-mobility as a translanguaging exercise. In this paper we present arguments to (re-)claim the theoretical status of code-switching, as an active, agentive/socio-cognitive mechanism employed by social actors to produce and interpret the meaning potential (Halliday 1985) of linguistic symbols/acts/utterances/features in the (super-) diverse universe they now inhabit. We do so by analyzing ethnographic data:

(i) from two multilingual sites—Budapest, Hungary and New Delhi, India;
(ii) from two multilingual modalities—inter-personal interactions and linguistic landscapes.

We show that when “code”, and code-switching, in multilingual interaction is understood broadly (following Gumperz 1962) as a dynamic, creative resource available for meaning-making, several theoretical consequences follow:

(i) that mobility, when carefully examined, is in fact constrained, not chaotic;
(ii) given (i) above, a methodological imperative appears: to present a theoretical order on the limits of the indexical functions of resource-mobility;
(iii) that the visibility, or relative invisibility, of codes, in multilingual interaction (spoken, written, or displayed) is forced by social agents engaged in various acts of meaning-making;
(iv) unpredictability, just as mobility—a sociolinguistic outcome of globalization—can be theorized as an instantiation of simultaneity and bivalency (Woolard 1998) and hybridity (Bhatt 2008).

In the data analysis, we provide empirical evidence for fundamental similarities between translanguaging practices and code-switching. Translanguaging practices such as the Hungarian-English mixed-language, mixed orthographic trans-script XtraYO menü (‘extra good menu’) on a Burger King sign in Budapest exploit the performative
and indexical potentials of language users' semiotic resources to similar socio-pragmatic ends as 'classic' code-switching, e.g. in an internet café sign (showing big red lips) reading Rizsa chat bar ('Rice chat bar'), where 'rizsa' (rice) is a Hungarian slang word for 'chat'. Indeed, we demonstrate that both types of multilingual practices serve as creative resources that social actors mobilize for the production of the same set of (super-)diverse, nevertheless fundamental, ideational, interpersonal, and textual functions. Hence, we argue that these empirical facts find a natural explanation within existing broad conceptualizations of code-switching. In conclusion, we argue that translanguaging does not produce new generalizable knowledge. rendering it theoretically vacuous and empirically unnecessary."

Understanding L2 proficiency by comparing comprehension and production performance

Kinsey Bice and Judith Kroll    Paper Session 56

"Bilingualism researchers must decide how to operationalize second language (L2) proficiency. Though self-report measures correlate with objective measures, they are sensitive to biases (e.g., cultural norms) and may not fully characterize language dominance. Systematic investigations of L2 proficiency measures rely on promising tasks, but are limited to specific language pairs and require extensive coding procedures. Many researchers construct indices, combining language performance in both languages. Many proficiency measures use language production data, rather than comprehension data, since production is more demanding and should be more sensitive to L2 proficiency. However, comprehension tasks (e.g., a lexical decision task) are often faster to create, test, and analyze, but may capture different aspects of L2 proficiency. The goal of the present study was to evaluate several L2 proficiency measures from both comprehension and production tasks, including raw measures as well as indices like those used in past research, to determine which measures most accurately capture L2 proficiency and language dominance.

We asked L2 learners at various proficiency levels to complete a lexical decision task (comprehension) and a semantic verbal fluency task (production) in both the native language (L1) and the L2, and to provide self-ratings in both languages. Participants were native English speakers learning Spanish in university classrooms, ranging in L2 proficiency. Each participant completed the first session in English and the second in Spanish.

Raw measures included L2 self-ratings, years of L2 exposure, reaction time (RT) and accuracy (d-prime) on the Spanish lexical decision task (comprehension), and average number of exemplars produced in the Spanish semantic fluency task (production). All measures co-varied significantly with each other, excluding the reaction times in the lexical decision task. Each measure also correlated positively with the corresponding L1 measure, excluding verbal fluency (production) scores, which showed no relationship between L1 and L2 production.

Two indices were created, one from the comprehension data (L1/L2 RTs) and the other from the production data (L2/L1 number of exemplars produced). As stated, L1 and L2 performance correlate strongly, so these should control for verbal aptitude while also capturing the balance between proficiency in each language.

Critically, the comprehension index did not successfully predict the measures of L2 production or L1 performance. The production index, however, correlated significantly with RTs and accuracy in the comprehension task, both in the L1 and the L2, and language history questionnaire responses. These ratios reveal an interesting relationship between comprehension and production measures, confirming past reliance on production data to assess L2 proficiency.

Comparing across measures, the production index created from the number of exemplars generated in the verbal fluency task in the L1 and L2 most accurately captured L2 proficiency. It can be used for L2 learners, as it was here, or for more balanced bilinguals to assess language dominance as well as balance. Semantic fluency data can be collected quickly in the context of an experiment, are not specific to language pairs, and recordings of production and analyses of their acoustic properties can potentially provide important phonetic information about fluency in the L2."

Exploring 'ultimate attainment' in Welsh-English Bilinguals

Hanna Binks and Enlli Thomas    Paper Session 84

"This study explores the question of 'ultimate attainment' in bilingual language acquisition. Previous research has shown that bilinguals tend to acquire morphological systems slower than monolinguals because they do not receive as much input, on average, to each language (e.g., Paradis & Genesee, 1996; Gathercole & Thomas, 2005). However, with increased exposure to both languages, what gaps exist between monolingual and bilingual individuals can diminish by adulthood (Oller & Eillers, 2002)."
However, when the language is a minority language, opportunities to receive sufficient amounts of exposure to ‘catch-up’ are limited (Thomas, et al. 2014), and may ultimately lead to incomplete acquisition (Montrul, 2008). This is made harder when the morphological structures being acquired are complex even for monolingual children to acquire (Gathercole & Thomas, 2009; Thomas & Gathercole, 2007). An example of a complex system that is acquired slowly by L1 (Welsh-English) and L2 Welsh bilinguals is the plural system in Welsh, (Thomas, et al. 2014). 2L1 and L2 children (11-year-olds) learning Welsh plural morphology average around 40% performance whereas L1 children average around 70%. What we don’t know is to what extent 2L1 and L2 Welsh bilinguals progress beyond age 11, and when (if at all) they converge with performance of the L1 speakers.

The present study assessed teenagers’ expressive and receptive abilities on a range of complex structures in Welsh, including grammatical gender (highly opaque), the Welsh answer system (relatively transparent) and plural morphology (somewhere in between these extremes). They were grouped into two age categories - 13-14 and 16-17 years – and included three distinct bilingual groups: L1 Welsh (both parents speaking Welsh at home); 2L1 (one parent speaking Welsh, one parent speaking English); and L2 Welsh (both parents speaking English at home, Welsh learnt at school). All children attended Welsh-medium schools. Adult controls were also included. Results revealed that whilst L1 speakers were approaching adult norms on most tasks, 2L1 and L2 Welsh remained significantly behind their L1 peers and their 2L1/L2 control adults on even the most transparent tasks, highlighting the role of input and the possibility of incomplete acquisition in the minority language context. The implications of these findings for theories of bilingual acquisition are discussed.

**Becoming bilingual through immersion schooling: Cognitive development and literacy acquisition of L2 learners in an immersion school environment**

Laura Birke Hansen, Pedro Macizo, Manuel Carreiras, Luis J. Fuentes, David Saldaña, Jon Andoni Duñabeitia and M. Teresa Bajo

"This research investigates the cognitive and linguistic performance of native Spanish speaking children aged 7 through 14 enrolled in an English immersion program. Foreign language immersion programs are on the rise everywhere around the globe, rendering questions regarding their cognitive, linguistic and academic outcomes highly topical. Previous research comes from a longer-standing tradition of educational research (for review: Bournot-Trites & Tellowitz, 2002, Genesee & Jared, 2008), and a newer, cognitive-linguistic line of research (e.g., Bialystok, Peets & Moreno, 2014, Hermanto, Moreno & Bialystok, 2012, Nicolay & Poncelet, 2013). An integrated perspective linking findings from both levels together has been missing thus far. Here we adopt a cognitive components approach, with assessment stretching from basic cognitive processes to complex literacy skills. At the focus of our research are Working Memory and text-level Reading Comprehension, both of which are key to academic attainment and knowledge acquisition.

Experiment 1 centers on Working Memory development. Participants were 152 children aged 7-14 (76 immersion bilinguals, 76 controls). Measures of verbal Working Memory performance depend on executive control and verbal processing speed, but commonly used tasks differ in the degree in which they draw on each one of these aspects. Results revealed an intricate pattern of costs and benefits: Relatively slowed verbal processing in immersion bilinguals compared to monolingual children (assessed as automated naming), was paired with enhanced performance in Working Memory updating (N-back score). No between-group differences were observed for Reading Span, a more balanced measure of executive and language-based processing. This pattern of results is largely in line with research on the cognitive consequences of early bilingualism (for reviews, see Adesope, Lavin, Thompson & Ungerleider, 2010, Bialystok & Craik, 2010).

Experiment 2 aimed to assess the effect of immersion schooling on text-level Reading Comprehension, a complex literacy skill, and its underlying components in 144 children aged 7 to 14 (72 immersion bilinguals, 72 controls). There were no between-group differences regarding vocabulary and Reading Span. Immersion bilinguals showed a relative deficit on component factors including verbal processing speed, reading fluency, phonological, and morphological knowledge, but outperformed their monolingual age peers on others, such as Listening Comprehension and text-level interference. No differences were observed for Reading Comprehension, suggesting that benefits and costs at the component level factor each other out on the level of complex skill.

Overall, the results of experiments 1 and 2 suggests that children who are in the process of becoming bilingual via
that in Hungarian the distinction between IL and SL predicates is not lexicalized and the copular verb is often dropped, negligible in Spanish predicates. Bel (2013) found that in Spanish and Catalan the omission rate was much lower than in English, being nearly Becker (2000) observed that in the acquisition of English the copula is omitted more often in SL predicates than in IL predicates. Moreover, in Hungarian the copula is required in existential predicates but in locative predicates it can be optional. Therefore, participants’ code-switching behaviour on Facebook may require further research.

Copular verbs in trilingual acquisition: a case study of a developing Hungarian-Spanish-Catalan child
Andrea Biró, Aurora Bel and Estela García Alcaraz

"Whereas in Spanish and Catalan the distinction between individual-level (IL) and stage-level (SL) predicates (Carlson 1988) is partially lexicalized (copula ‘ser’ roughly corresponding to IL and ‘estar’ to SL), Hungarian has only one copula, ‘van’. Copular verbs are obligatory in all tense contexts in Spanish and Catalan but Hungarian is governed by the so-called ‘third person parameter’ that restricts copula absence to third person subjects in present tense (Pullum 1997). Moreover, in Hungarian the copula is required in existential predicates but in locative predicates it can be optional. Becker (2000) observed that in the acquisition of English the copula is omitted more often in SL predicates than in IL predicates. Bel (2013) found that in Spanish and Catalan the omission rate was much lower than in English, being nearly negligible in Spanish and fairly more frequent in Catalan; in addition copula choice errors were rarely attested. Given that in Hungarian the distinction between IL and SL predicates is not lexicalized and the copular verb is often dropped,
there is more than one option for the choice of copula in the simultaneous acquisition of three languages. This valuable data is unique and represents a very interesting language combination for copula acquisition.

Several papers address the acquisition of copula in monolingual Spanish (Sera 1992, Holteuer 2009, Bel 2013) and Catalan (Bel 2013) and in the early bi-trilingualism (Silva-Corvalán & Montarari 2008, Liceras et al 2011 for English-Spanish and Arnaus-Gil 2013 for German-Spanish-Catalan). As for Hungarian, there are some studies on monolingual acquisition (MacWhinney 1976, 1997, Dasinger 1997) and multilingual acquisition (Navracsics 1999), however there are no specific studies on copula acquisition neither in monolinguals nor in multilinguals.

In a first attempt to fill this gap, this paper reports on a case study of a trilingual girl and aims to answer the following questions: 1) Does Hungarian null copula influence the development of the other two languages causing a delay and a higher omission rate? 2) Has Spanish and Catalan dual copula system any facilitation effect on Hungarian copula acquisition?

Seventy video-sessions (30 minutes each one) of spontaneous longitudinal data (1;7-3;0) were transcribed according to CHILDES system. All copular sentences were extracted and coded for type of predicate, type of copula and omission. We summarize the findings for each language. Parallel patterns as in Bel (2013) were observed for Spanish and Catalan (see examples (1)-(2)) with few omissions (one example is shown in (1c)). Regarding Hungarian, the realization of copula ‘van’ is adult-like (3). The child converges with adult grammar in this domain early on in childhood. We conclude that trilingualism seems not to affect the developmental process of copula acquisition attested among monolingual children; the fact that copula omission is not attested in child Hungarian, as it is in English, and is not extended out of the contexts in which it occurs in adult grammar may be due to the positive influence of the Catalan and Spanish dual copular system that helps the child to discriminate between semantic predicates in Hungarian.

(1) Spanish
   a. *SAR: es pequeño. (2;7.16)
      is   small
         ‘It is small.’
   b. *SAR: aquí, (e)stá aquí! (2;7.16)
      here is here
         ‘(The water) is here.’
   c. *SAR: ese@e café@e. (2;5.20) (Omission)
      this coffee
         ‘This is a coffee.’

(2) Catalan
   a. *SAR: és gat. (2;8.8)
      is cat
         ‘It is a cat.’
   b. *SAR: està fora. (2;7.16)
      is outside
         ‘(The cat) is outside.’

(3) Hungarian
   a. *SAR: itt [% it] van. (2;9.8)
      here is
         ‘It is here.’
   b. *SAR: ez [% esz] is egy [% aegy] (cs)igabiga. (2;9.8)
      this also a snail
         ‘This is also a snail.’

Does Bilingualism Impose Desirable Difficulties?
Robert Bjork, Teresa Bajo, Judith Kroll, Julia Morales, Sean Kang, Alice Healy, Tamar Gollan and Cari Bogulski
Thematic session   Session 36

"A body of research on learning and memory demonstrates that conditions that impose “desirable difficulties”
In the bilingual group, non-parametric Mann Whitney U tests showed that the TD group outperformed the SLI group on eTD group outperformed the SLI group on four measures (Table 1). The children listened to a model story, followed by ten comprehension questions. The comprehension questions assessed the understanding of structurally complex episodes and the protagonists’ internal states. Production was scored based on children’s descriptions of three episodes in terms of goals, attempts and outcomes, and their use of internal state terms. Four outcome variables were calculated: model story comprehension (MC), production (P), comprehension of produced story (PC), number of internal state terms (IST).

In this study 122 children participated: 31 monolingual with typical development (monoTD), 30 monolingual SLI (monoSLI), 31 sequential bilingual children TD (biTD) and 30 sequential bilingual children SLI (biSLI). All children were five or six years old. Narrative ability was tested with the Multilingual Assessment Instrument for Narratives (MAIN; Gagarina et al., 2012). The children listened to a model story, followed by ten comprehension questions. Then the children told a story themselves, which was also followed by ten comprehension questions. The comprehension questions assessed the understanding of structurally complex episodes and the protagonists’ internal states. Production was scored based on children’s descriptions of three episodes in terms of goals, attempts and outcomes, and their use of internal state terms. Four outcome variables were calculated: model story comprehension (MC), production (P), comprehension of produced story (PC), number of internal state terms (IST).

The first analysis looked at effects of SLI in the monolingual and bilingual groups. In the monolingual group, a MANOVA yielded a significant outcome, F(4,56)=8.1, p<.001, ηp2=.37; TD outperformed SLI on three measures (Table 1). In the bilingual group, non-parametric Mann Whitney U tests showed that the TD group outperformed the SLI group on
all four measures. The second analysis focused on effects of bilingualism in the TD and SLI groups separately (Table 2). In the TD group, a MANOVA yielded a marginally significant effect, F(4,57)=2.8, p=.032, ηp2=.17. This effect was caused by the IST's: the bilinguals used more IST’s than the monolinguals, F(1,60)=4.3, p=.04, ηp2=.067. The SLI group showed no significant effects.

Various studies have indicated that identifying SLI in the context of bilingualism is problematic (cf. Paradis et al., 2011). This study demonstrated that children with TD outperform children with SLI on higher order narrative abilities in a monolingual and in a bilingual learning context. Therefore, narrative ability could assist the accurate diagnosis of language impairments in sequential bilingual children. The bilinguals were not delayed in macrostructural ability compared to monolinguals, confirming that macrostructure is universally acquired. Regarding internal state terms specifically, the bilingual children outperformed the monolinguals. We discuss this finding in light of research showing that bilingual children have more advanced Theory of Mind and perspective taking skills than monolinguals (Greenberg et al., 2013; Kovács, 2009).

L2 co-activation during L1 auditory processing in an ERP cross-modal priming paradigm

Susan Bobb, Julien Mayor, Katie Von Holzen, Nivedita Mani and Manuel Carreiras Poster 23-May

"Introduction. A central question in the bilingual literature has been whether bilinguals co-activate both of their languages when hearing, reading, or speaking in one language alone. Several studies have shown that unbalanced bilinguals activate both of their languages simultaneously during L2 processing (e.g., Spivey & Marian, 1999; Wu & Thierry, 2010; 2011), however, evidence for L2 activation while participants are tested exclusively in their L1 is more elusive (Weber & Cutler, 2004). In the current study, we investigate whether bilingual participants implicitly generate the label for a picture in one or both of their languages, and if so, whether labels implicitly generated in L2 can prime cross-linguistically related L1 spoken word targets. We more stringently controlled for language proficiency and language environment by testing highly proficient early Spanish-Basque bilinguals in their L1 only. Participants live in an environment that supports both languages.

Methods. We tested participants (n=28) on an ERP cross-modal priming task conducted in L1 Spanish; Basque was not overtly presented in the experiment. Participants saw a picture in silence and then heard a word in Spanish under five conditions (SPANISH/BASQUE picture prime labels respectively presented in capital letters; Spanish auditory words/Basque translations in lower case): 1) the Spanish label of the picture was identical to the auditory target, (CASA/ETXE-casa/etxe) 2) the Basque label of the picture rhymed with the auditory target, (GAVIOTA/KAIO-rayo/tximista) 3) the Basque label of the picture rhymed with the Basque translation of the auditory target, (AGUJA/ORRATZ-lápiz/arkatz) 4) the Spanish label of the picture rhymed with the Basque translation of the auditory target, (MANO/ESKU-aguila/arrano) or 5) there was no relationship between the label in either language and the target (CAMA/OHE-guante/eskularru). We recorded ERPs to the onset of Spanish auditory targets.

Results. To evaluate priming effects, we compared conditions 1 through 4 with condition 5 (Figure 1). Unlike previous results, we show that bilinguals implicitly generate the label for pictures in both languages, which subsequently primes L1 auditory words.

For condition 1, we found a reduction in N400 amplitude, indicating participants implicitly generated the prime label in L1 Spanish. For condition 2, we found a similar reduction in N400 for parietal sites, indicating participants also implicitly generate the prime label in L2 Basque. For fronto-central sites, there was an increase in N400 amplitude, suggestive of cross-language interference. Significantly, there was a similar increase in N400 for condition 3, suggesting that the L2 Basque translation of the L1 Spanish target word was activated. In condition 4, however, there was no reduction or increase in N400 amplitude.

Discussion. Our results suggest that participants activated prime picture labels in both Spanish and Basque, as well as Basque translations of Spanish auditory targets, even though the experimental environment was Spanish and did not require activation of Basque. We therefore provide the strongest evidence yet for the non-selectivity of bilingual lexical access, while also demonstrating limits to the extent of activation between the two languages. Our results add to a growing body of evidence for the interconnective nature of bilingual language activation."
Bilinguals show fewer age-related changes than monolinguals in lexical competition resolution
Henrike Blumenfeld, Scott Schroeder, Susan Bobb, Max Freeman and Viorica Marian
Paper Session 72

"Phonological similarity among words creates competition during language comprehension (e.g., McClelland & Elman, 1986). For example, hearing the word "marker" activates multiple similar-sounding words that compete for selection (e.g., "marshmallow" and "marble"). In bilinguals, additional words from a second language increase lexical competition (e.g., Marian & Spivey, 2003): Spanish-English bilinguals experience competition not only from "marshmallow" and "marble", but also from "mariposa" and "mariscos" ("butterfly" and "seafood" in Spanish). The task of managing crosslinguistic competition results in increased cognitive demands, and a lifetime of dealing with such demands may enable bilinguals to develop stronger cognitive control to more effectively resolve such competition.

Bilingualism may thus lessen some age-related changes in linguistic competition resolution (e.g., Bialystok, 2011), which have been attributed in part to age-related decline in cognitive control (Lustig et al., 2007). Here, we examined how bilingualism and aging interact to shape competition resolution during word identification within one language. We assessed older and younger bilinguals and monolinguals on word recognition in the presence of lexical competitors. We also examined if and when participants recruited non-linguistic cognitive control skills (as indexed by an arrow Stroop task) during word recognition.

Sixty participants (15 younger and 15 older English-speaking monolinguals; 15 younger and 15 older English/Spanish bilinguals) heard English words and identified the referent among four pictures while their eye-movements were tracked. Target pictures (e.g., cab) appeared with a phonological competitor picture (e.g., cat) and two filler pictures, allowing us to index competition resolution during online processing. Participants also completed a nonlinguistic Stroop arrow task where they identified the direction of an arrow while ignoring its location (Blumenfeld & Marian, 2011; see Figure 1).

Results yielded fewer age-related changes in lexical competition resolution for bilinguals than monolinguals. When controlling for age-related changes in processing speed, target identification latencies were less affected by competitors in older bilinguals than in older monolinguals, p<.01. Moreover, growth curve analyses of eye-movements to target pictures revealed less curvature in target activation (i.e., fewer looks between 0-1000ms post word onset) of older monolinguals relative to younger monolinguals, p<.05. There were no such effects across the lifespan in bilinguals, suggesting that less and/or slower target activation in older adults is most pronounced in monolinguals. During target deactivation (1000-2733ms post-word onset), bilinguals demonstrated a more curved downward trajectory than monolinguals, p<.01, indicating faster target deactivation, an advantage that was maintained in older adulthood. Results also revealed significant correlations for younger and older bilinguals (but not younger and older monolinguals) between Stroop task performance and word recognition, suggesting that younger and older bilinguals recruit cognitive control to resolve lexical competition.

Findings suggest that auditory word identification undergoes fewer age-related changes in bilinguals than monolinguals. Using two languages across the lifespan may better preserve the ability to identify relevant information and disengage from once-relevant information. These results contribute to a growing body of evidence suggesting a link between linguistic and nonlinguistic cognitive control in bilinguals, and extend previous research by examining auditory word recognition across the lifespan."

Quasi-Universal or Language-Specific? The Nonword Repetition Task as a diagnostic tool for sequential bilingual children
Tessel Boerma, Mona Timmermeister and Elma Blom
Paper Session 66

"It is an ongoing challenge for clinicians to determine whether or not a sequential bilingual child suffers from Specific Language Impairment (SLI) (Kohnert, 2010). The nonword repetition task (NWRT), measuring verbal short-term memory, is a promising diagnostic tool as it is culturally unbiased (Ellis-Weismer et al., 2000) and highly sensitive to SLI (Conti-Ramsden et al., 2001). However, performance on the NWRT is influenced by language-specific knowledge (Roy & Chiat, 2010), which disadvantages linguistically diverse learners thereby affecting the diagnostic accuracy of the instrument (Kohnert et al., 2006). The present research looks into the diagnostic potential of a newly developed quasi-universal NWRT that minimally draws on previous language-specific experience (Chiat, in press). This quasi-universal NWRT is compared to a language-specific (Dutch) alternative."
This study included 120 five and six year old children: 30 monolingual with typical development (TD), 30 monolingual with SLI, 30 sequential bilingual with TD and 30 sequential bilingual with SLI. Groups were matched on age and nonverbal IQ. Two NWRTs tested verbal short-term memory. A quasi-universal (QU) NWRT contained items compatible with cross-linguistically diverse constraints on lexical phonology (Chiat, in press). Items from a language-specific (LS) NWRT followed rules of Dutch lexical phonology and were divided into high and low phonotactic probability (PP) (Rispens & Baker, 2012). Analyses were carried out for the QU NWRT and all items of the LS NWRT combined (LS-All), as well as for the high PP items (LS-High) and low PP items (LS-Low) separately. Non-parametric Mann-Whitney U tests were used to compare the TD and SLI groups. Receiver Operating Characteristic (ROC) analyses were conducted to evaluate the diagnostic accuracy (applying Tape’s (2008) criteria), sensitivity and specificity of the NWRTs.

The results show significant effects of SLI on all NWRTs (see Table 1). In the monolingual group, effect sizes are similar for the four NWRTs (r=.74-.78). In the bilingual group, the magnitude of the difference is clearly the largest for the QU NWRT (r=.69). Table 2 presents the results of the ROC analyses. For the monolingual group, both the QU NWRT and the three versions of the LS NWRT have excellent diagnostic accuracy (AUC>.90). For the bilingual children, the QU NWRT yields similar results (AUC=.90), whereas the diagnostic accuracy for the versions of the LS NWRT is fair to good (AUC=.78-.82). Sensitivity and specificity rates follow a similar pattern.

The results of our study indicate that a quasi-universal nonword repetition task might be a promising diagnostic tool to help identifying SLI in sequential bilingual children. The traditional language-specific task discriminated well between monolingual children with and without SLI, but had lower diagnostic accuracy and inadequate sensitivity and specificity in a group of sequential bilinguals. Language-specific items with low PP were diagnostically least accurate and sensitive to SLI in the bilingual group. Currently, it is explored whether or not the effect of PP is related to the bilingual children’s limited Dutch vocabularies (Edwards et al., 2005).

From ‘Classic’ Code-switching to ‘Radical’ Code-mixing in Superdiversity
Agnes Bolonyai Paper Session 29

“There has been a growing interest in rethinking issues of language and communication in a global world that is characterized by ‘superdiversity’ (Vertovec 2007) and transnational mobility of people and resources. Recent studies have argued that language diversification in globalization can no longer be understood in terms of ‘the traditional vocabulary of linguistic analysis’ (Blommaert and Rampton 2011:3), prompting alternative conceptualizations of complex multilingual practices as ‘polylingualism’ (Jørgensen 2008), ‘translanguaging’ (García 2009) and ‘metrolingualism’ (Otsuji and Pennycook 2010).

The goal of this paper is to explore semiotic practices and ideologies of (im)mobility in linguistic landscapes and digital media-styles in emergent superdiverse contexts. I propose the term ‘radical’ code-mixing to refer to inter-semiotic practices in which language users orient to their multilingual/ multimodal resources as highly mobile resources that can be moved iteratively across semiotic spaces and combined creatively in meaning-making. In addition, the term attempts to capture continuities and discontinuities both in form and function between ‘classic’ and ‘radical’ code-mixing. Adopting Gal’s (2002) semiotic perspective, I examine how superdiverse resources take on particular indexical values and create dichotomizing ideologies and new hierarchies among people, places, and practices.

The study draws on ethnographic data—a corpus of 500 code-mixes collected from online (social/news media) and offline sites (public signs in Budapest, Hungary) involving Hungarian-English/German/ Russian/Chinese code-mixing—and informants’ meta-commentary on code-mixing practices. Taking a discourse analytic approach, I identify three distinct forms of code-mixing and trace this variation to the interplay between (1) language users’ orientation to their semiotic resources as relatively mobile vs. bounded units; (2) focus on linguistic creativity and semiotic styles for communicative effects/identity performance; and (3) the structure of speakers’ multilingual repertoires. Discussing examples such as the stylized representation of English phonology in Hungarian orthography (olckú ‘old-school’), I then show how the public/private distinction operates on multilingual resources through fractal recursion and how ideologies of superdiversity reconfigure ‘radical’ code-mixing as multilingual/multimodal capital indexing new distinctions of (im)mobile identities.”
DOES MULTILINGUAL COMPETENCE INFLUENCE COGNITIVE CONTROL SKILLS ALREADY SINCE CHILDHOOD? An er-fMRI follow-up study in multilingual children

Evelyn Bosma, Elma Blom and Arjen Versloot

Recent neuro-imaging evidence in literature showed that lifelong experience in dealing with two or more languages may lead to a neuro-cognitive advantage and a lifelong positive impact on the brain. Behaviorally there are studies showing that bilingual children outperform monolinguals on task measuring executive functioning skills (Bialystok et al., 2012), while structurally Della Rosa et al. (2013) have highlighted the relationship between grey matter changes in the left inferior parietal lobule and the interaction between the natural development of a multilingual competence and the capacity to resolve cognitive conflicts. As to fMRI studies, Abutalebi et al. (2011) reported that bilingual adults not only resolve cognitive conflicts with less neural activity but their brain seems also to be better tuned to monitoring cognitive conflicts. However, an unresolved question concerns the neural development of this neurocognitive advantage and whether it is influenced by a multilingual competence in terms of degree of language proficiency.

For this purpose, in a longitudinal event-related functional magnetic resonance imaging (er-fMRI) study, we investigated the effects of linguistic competence (i.e., as a measure of proficiency) on the executive control attentional network through an ANT task (Fan et al., 2005). Fifteen multilingual Ladin-German-Italian-English children (10 boys, 5 girls) (mean age = 9.86; SD= 1.44 years) from South Tyrol, Italy, participated in the study (mean scan interval (T1-T2) = 0.97 years, SD = 0.1 years). Global multilingual competence was calculated for each participant based on the mean value of the school marks related to all languages and the total school outcome.

Slice-timing, coregistration, realignment, unwarping and noise removal processes on all functional data for both time-periods was performed prior to longitudinal subject-specific normalization and smoothing through SPM8. Conflict effect of the ANT was computed as the contrast coding the difference between Incongruent and Congruent trials at both T1 and T2, and subsequently we created differential subject-specific contrast images (T2-T1) for conflict effect-related brain activity and performed correlations with the multilingual competence differential scores (T2-T1).

fMRI data analysis revealed that lower levels of multilingual competence at T2 correlated with higher functional brain activity in the left dorsolateral frontal cortex, the head of left caudate nucleus and the left putamen, which all have been found to contribute to executive control functions in both attentional and language domains (Abutalebi & Green, 2007). These results suggest that precursors of the neurocognitive advantage exhibited by multilingual adults with respect to their monolingual peers in many studies (Bialystok, 2012) may already be pinpointed at an early neural developmental stage.

A bilingual threshold for enhanced executive functioning: Cognitive advantages in Frisian-Dutch bilingual children

Evelyn Bosma, Elma Blom and Arjen Versloot

Previous research has shown that bilingual children outperform monolingual children on executive function (EF) tasks that test interference inhibition (Martin-Rhee & Bialystok, 2008; Engel de Abreu et al., 2012), selective attention (Engel de Abreu et al., 2012) and working memory (Blom et al., 2014; Morales et al., 2013). Recent studies have challenged bilingual children’s EF advantages (Duñabeitia et al., 2014; Paap & Green, 2013), pointing to the confounding effect of demographic differences between bilinguals and monolinguals. The current study investigates a new population of bilinguals: speakers of the national majority language Dutch and the regional minority language Frisian. While other studies comparing bilinguals in a similar setting investigated two very different languages, e.g., Welsh-English (Gathercole et al, 2010) and Basque-Spanish (Duñabeitia et al., 2014), Frisian and Dutch are closely related. All children are selected from the same population of bilingual Frisian-Dutch children, which minimizes the risk of confounding variables. At the same time, the bilingual Frisian-Dutch children vary substantially in their degree of bilingualism, which allows investigating whether enhanced EFs require a bilingual threshold (Blom et al. 2014; Carlson & Meltzoff, 2008; Poarch & Van Hell, 2012).

In order to examine if (i) bilingual Frisian-Dutch children have enhanced EFs, and (ii) EF enhancement is related to the degree of bilingualism, we tested 25 Frisian-Dutch balanced bilinguals and 25 Dutch-dominant children on interference inhibition, selective attention and verbal and visuospatial working memory. The two groups were matched on age (5-6 year olds), nonverbal IQ (WNV; Wechsler & Naglieri, 2006), socioeconomic status, Dutch expressive
Does Native Language Orthographic Depth Influence Visual Rhyming Performance in English? An Investigation of Behavioral and Electrophysiological Effects

Mona Roxana Botezatu, Carol Miller and Maya Misra
Poster 21-May

"Many studies have found that determining whether two words rhyme results in the electrophysiological rhyming effect (RE), a more negative N450 mean amplitude to nonrhyming than rhyming targets [1, 2]. The RE is sensitive to orthographic overlap between rhyming words, being larger for orthographically dissimilar than similar pairs [3]. The RE has also been observed during visual rhyme judgments cross-linguistically, in native speakers of languages with differing orthographic depths (i.e., how reliably spellings map to sounds) [4] such as English [deep; 5-8], Chinese [deep; 9], and Spanish [shallow; 10]. In English, comparable REs have been reported in word and pseudoword pairs [6], suggesting that rime activation may proceed similarly whether the reader relies on large units, or “grain sizes”, to read known words or smaller units to decode unknown words. However, we do not know if this flexible grain size [11] found in skilled English readers (with a deep, alphabetic orthography) would be observed in skilled readers of a logographic language such as Chinese, who may come to rely on large (word-level) units because they do not have the option of decoding [12], or in skilled readers of a shallow orthography such as Spanish, who may find it efficient to rely on small (letter/syllable-level) units [13, 14].

In the current work we investigated whether first language (L1) orthographic depth and grain size preferences modulate the RE in second language (L2) English speakers, as compared to English monolinguals. English monolinguals (N=29) and highly proficient, but L1-dominant, Spanish-English (N=22) and Chinese-English (N=24) bilinguals made visual rhyme judgments of semantically unrelated English word pairs, while behavioral and EEG measures were recorded. REs were evaluated for both orthographically dissimilar (e.g., WHITE–FIGHT, CHILD–COUGH) and similar (e.g., RIGHT–FIGHT, DOUGH–COUGH) pairs. In orthographically dissimilar trials, all groups responded more accurately to nonrhyming conditions, and monolinguals were overall more accurate than bilinguals. Chinese-English bilinguals were markedly faster in making nonrhyming than rhyming decisions, while the other groups did not show a latency difference between conditions. In orthographically similar conditions, all groups responded faster and more accurately to rhyming trials. Monolinguals were faster and more accurate than bilinguals; Chinese-English bilinguals were slower than Spanish-English bilinguals. All groups showed more negative N450 mean amplitudes to nonrhyming than rhyming targets regardless of orthographic similarity. However, in orthographically dissimilar conditions, the RE was more robust in monolinguals than in Chinese-English bilinguals, while Spanish-English bilinguals were intermediate to (and not different from) either group. This finding suggests that the amplitude of the ERP response to phonological mismatch in orthographically dissimilar conditions may be affected by differences between L1-L2 scripts. Alternately, the RE in these conditions may index proficiency, as it was largest for the group with the highest English proficiency self-ratings (English
monolinguals: 6.69 out of 7) and smallest in the group with the lowest self-ratings (Chinese-English bilinguals: 5.24 out of 7). The latter interpretation converges with previous study results that have shown proficiency to modulate phonological processing in L2 speakers [15]."

How do Different Aspects of Bilingualism Impact Executive Functions?

Milijana Buac, Ishanti Gangopadhyay, Megan Gross, Eileen Haebig, Meghan M. Davidson, Margarita Kaushanskaya and Susan Ellis Weismer

"The revised unity and diversity framework of executive functions (EF)1,2 specifies two components of EF: shifting and updating. Research has demonstrated enhanced EF skills in bilingual populations3, especially for shifting. However, little is known about the specific aspects of bilingualism that may result in improved EF, particularly for updating. Thus, the goal of the present study was to examine how several bilingual variables relate to children’s shifting and updating skills, as measured directly via experimental EF tasks, and as measured via parent reports of children’s EFs in everyday life.

Sixty-one Spanish-English bilingual children (MAge = 9.29, SD = 1.03) with typical language skills and non-verbal cognition were tested (see Table 1). Two non-verbal tasks were administered to assess shifting: the Local/Global task required children to identify shapes at the local and the global levels and the Dimensional Change Card Sort (DCCS) task required children to sort cards on alternating dimensions (e.g., shape vs. color). Two non-verbal tasks were administered to assess updating: the N-back task required children to determine whether each image in a list matched the image that was presented N positions before and the Corsi Blocks task required children to remember increasing sequences of blocks. A parent questionnaire, the Behavioral Rating Inventory of Executive Function (BRIEF), served as a measure of executive functions within the context of daily activities. Only the Shift and the Working Memory (indexing updating) sub-scales of the BRIEF were used in the present study. Finally, bilingualism was distilled to three variables: bilingual proficiency ratio, length of bilingualism, and bilingual exposure ratio.

Linear regression models were constructed to assess, after accounting for non-verbal cognition and English language skills, which bilingual variable(s) served as the best predictor(s) of children’s performance on the experimental EF tasks and on the BRIEF. Bilingual proficiency ratio was a significant predictor of performance on the DCCS task (p < .05). Length of bilingualism served as a significant predictor of performance on the Local/Global, the Corsi Blocks, and the N-Back tasks, and the Working Memory sub-scale of the BRIEF (all ps < .05). None of the bilingual variables served as significant predictors of children’s performance on the Shift sub-scale of the BRIEF. Furthermore, bilingual exposure ratio did not serve as a significant predictor of performance on any of the experimental EF tasks or the BRIEF sub-scales.

Together, these results suggest that the shifting component of EF skills appears to be impacted by both length of bilingualism and bilingual proficiency, while the updating component of EF skills appears to be impacted by length of bilingualism only. Additionally, the results indicate that both the parent questionnaire and the direct experimental measures assessing updating are related to the length of bilingualism. However, the results for the parent questionnaire and the experimental measures assessing shifting do not align. We therefore conclude that different aspects of bilingualism may impact EF skills in varying ways depending on how EF skills are measured and which component of EF is measured."

Fishing for peaches: A behavioural investigation of cross-language lexico-semantic ambiguity

Michele Burkholder and Laura Sabourin

"A substantial part of L2 acquisition involves learning a second set of vocabulary. This task, however, may be simplified when translation equivalents have significant orthographic/phonological overlap. For example, knowing the English word “banana” makes it straightforward to learn its French translation “banane”. But words that overlap in form can be misleading, as they are not always semantically equivalent. For example, the French word “librairie” is not translated into English as “library”, but as “bookstore”. Such cross-language word pairs are known as “false friends”.

While L2 learners are often consciously aware of false friends, processing difficulties may persist even at higher L2 proficiency levels. This is likely because all meanings of homonyms are initially accessed, not just within a language (ex. Swinney, 1979), but also across a bilingual’s languages (Dijkstra et al., 2000). In the case of false friends, this leads to the activation of semantically inappropriate words. The current psycholinguistic study investigates how different types of
false friends are processed, and specifically, the impact of cross-language lexico-semantic ambiguity on L2 speakers’ interpretation of L1 words.

Four types of false friends were investigated: "False cognates" (FCs), which have related but different meanings (ex. English: library; French: librairie “bookstore”); "Partial FCs" (PFCs), which share one meaning but have an additional related meaning in one language (ex. English: herb; French: herbe “herb”, “grass”); "Interlingual homographs" (ILHs), which have unrelated meanings (ex. English: bless; French: blesser “hurt”); and "Partial ILHs" (PILHs), which share one meaning but have an additional unrelated meaning in one language (ex. English: peach, French: pêche “peach”, “fishing”).

Participants were 38 native speakers of English, divided into groups based on their French proficiency: High (n=10), Mid (n=12) and Low (n=16). They performed a speeded semantic relatedness task, entirely in their L1, where they rated the similarity of pairs of English words on a 6-point scale from "no similarity" to "synonymous". Critical trials consisted of the English-language half of the four types of false friends (ex. “peach”), paired with the English translation of their French-language counterpart (ex. “fishing”). Participants also completed a French proficiency test, and a French-to-English translation task to evaluate their explicit knowledge of the false friends.

Repeated-measures ANOVAs revealed that three of the four false friends types were rated as significantly more similar by the High group than the Low group (ILH: p<.016; PILH: p<.003; FC: p=.013), and marginally so by the Mid group compared to the Low group. Crucially, linear regression analyses showed that participants’ ratings for all four false friend types were significantly correlated with their L2 proficiency score when their explicit translation knowledge was controlled for (ILH: R²=.289, p=.001; PILH: R²=.494, p<.001; FC: R²=.239, p=.002; PFC: R²=.161, p=.013). These results indicate that, when L2 learners know the translation for a false friend, the form-related L2 word is likely to interfere with lexico-semantic processing, even in a purely L1 task. These findings contribute to a growing body of literature that has found evidence for L2 effects on L1 processing (ex. Brien & Sabourin, 2012).

**Code switching across the lifespan: New data on speaking and listening**

Krista Byers-Heinlein, Elizabeth Morin-Lessard, Casey Lew-Williams, Carolyn Brockmeyer Cates, Adriana Weisleder, Samantha B. Berkule, Benard P. Dreyer, Kristina Vlahovicova, Diego Catalán Molina, Alan L. Mendelsohn, Irina Pivneva, Debra Titone and Anne Fernald

Thematic session  Session 40

"Bilinguals often alternate between two different languages within the same conversation, a phenomenon known as code switching. Yet, code switching engenders processing challenges, slowing both production and comprehension (Kroll & Gollan, in press). To better understand the nature and consequences of code switching, this thematic session takes a lifespan perspective. We bring together data on code switching comprehension and production from infants, adolescents, adults, and mother-child dyads. These studies reveal remarkable developmental continuity in how the mind processes code switches, and converge on sources of individual differences in bilingual learning.

Talk 1 will present a study of code switching in interactions between Spanish-speaking mothers and their Spanish-English bilingual preschoolers. The results revealed that code switching is common in mother-child communication, occurring in up to 85% of interactions. The study also identified individual differences in code switching, both internal and external to the child. For example, children’s English proficiency predicted their rates of code switching, and children whose mothers code switched more often produced more code switches themselves. These data motivate our second talk, which examines consequences of code switching on infants’ word comprehension.

Talk 2 will discuss data examining 20-month-old bilingual infants’ comprehension of code switching. Infants saw picture pairs, and heard one picture labeled in either a code-switched or a single-language context. Infants were less accurate at looking towards the labeled referent when it was labeled after an intra-sentential code switch (Look at the chien!). However, there was no processing cost when the switch occurred intra-sententially (I like that one! Le chien!). This suggests that some, but not all types of code switching could be challenging for the bilingual learner.

Talk 3 will present a study using a similar eye-tracking paradigm, this time with a population of 11-12 year-old Spanish-English bilingual adolescents. Participants were slower to fixate on a labeled referent when hearing a code-switched sentence (Look at the mariposa!) than an all-English sentence (Look at the butterfly). Analyses of individual differences revealed that participants with lower Spanish receptive vocabularies were more disrupted by the code switch. Together with Talk 2, these studies show how a simple eye-tracking methodology is powerful tool for...
investigating real-time comprehension of code switching across the lifespan.

Talk 4 will discuss bilinguals’ production of code switching, focusing intra-sentential switches. In a carefully-controlled experimental task, participants named three pictures in single-language and code-switched conditions. The results replicated previously reported asymmetrical switch costs (Meuter & Allport, 1999) such that L1 switch trials were more effortful than L1 stay trials, but no significant difference was found for L2. Explorations of individual differences showed that L2 proficiency modulated the effect, while executive control was unrelated. Together with Talk 1 and Talk 3, these studies find consistent evidence that L2 proficiency is an important contributor to the production and comprehension of code switching across the lifespan."

The Neuroprotective effects of Bilingualism upon the Inferior Parietal Lobule: A Structural Neuroimaging Study
Matteo Canini, Pasquale Anthony Della Rosa, David Green, Brendan Weekes and Jubin Abutalebi Poster 23-May

"There is a growing body of evidence showing that bilingualism has a positive impact upon healthy aging (Li et al., 2014). Crucially this neuroprotective effect may translate in a concrete social benefit (Abutalebi & Weekes, 2014) as it has been associated to the delay of onset symptoms of dementia (Bialystok et al., 2007) and Alzheimer disease (Craik et al., 2010).

One of the brain areas prone to neuroplastic changes induced by bilingual experience is the left inferior parietal lobule (LIPL) and its right counterpart (RIPL) (Mechelli, 2004).

Early identification of the contribution of these cortical areas to bilingual language production has been recognized by the German neurologist Pötzl (1925) who observed that lesions to this area resulted in the inability to switch among languages. Recent work by Abutalebi and Green (2007) support the role of these parietal regions as key control areas in their bilingual language control model. Leischner (1948) labeled this area as the "multilingual talent area" and Della Rosa et al. (2013), in a longitudinal study with trilingual children, showed that grey matter density in the angular gyrus correlated with language competence and skill in resolving non-verbal conflict. Specifically, Mechelli et al. (2004) reported in young bilinguals higher Grey Matter concentrations in these regions as compared to monolinguals and this effect was found to be associated with two critical factors: age of second language (L2) acquisition and second language proficiency. However it is unknown whether such findings replicate in older bilinguals. We examined this question in an aging bilingual population from Hong Kong. Results from our Voxel Based Morphometry study show that elderly bilinguals relative to a matched monolingual control group also have increased GM volumes in the inferior parietal lobules. However, unlike younger adults (i.e., see Mechelli et al, 2004), age of L2 acquisition did not predict GM volumes., LIPL and RIPL appear instead sensitive in a different manner to the degree of L2 proficiency and L2 exposure, with GM values in LIPL associated to the first, while RIPL values related to the second (see Figure 1). Our data also suggest that such differences are more likely to arise in speakers of languages that are linguistically closer such as in Cantonese-Mandarin bilinguals.

We suggest that if a bilingual individual has fluently spoken a second language for many years and has also been exposed to that language, for more than 40-50 years, the effects of age of L2 acquisition reported by Mechelli et al. (2004), may fade-out over time. One practical conclusion to draw from these findings would be to encourage the aging population to use their second language throughout their entire life in order to benefit from the neuroprotective effects of bilingualism."

Cross-linguistic Effects in Bilingual Acquisition of Null Objects in Brazilian and European Portuguese
Tammer Castro, Jason Rothman and Marit Westergaard Paper Session 22

Although mutually intelligible languages, Brazilian Portuguese (BP) and European Portuguese (EP) differ in many microparametric domains, which means that children or adults sufficiently exposed to both varieties have an opportunity to acquire both as separate mental systems with overlapping, yet discrete linguistic representations. In this light, we examine the domain of phonetically non-overt objects in two types of (BP)-(EP) bilinguals residing in Portugal. The first group consists of adult successive bilinguals with an age of L2 onset after puberty, having been exposed to EP for at least six years. The second group consists of adults who were child successive bilinguals taking up residence in Portugal before the age of 8 (range 4-8). The CSB group differs from the ASB group in several crucial ways: (a) they were
raised in Portugal, (b) have had their formative education exclusively in European Portuguese and (c) had a significant reduction in input to Brazilian Portuguese before acquisition of their native BP was completed.

BP constitutes a case of pro licensing or VP ellipsis, which limits restrictions on null object distribution to animacy and specificity constraints (e.g. Rothman & Iverson 2013 for discussion). Alternatively, EP offers a topic-operator variable syntax in which the semantic constraints aforementioned do not obtain (e.g. Costa, Lobo & Silva 2009). With these significant differences in mind, we investigate whether native BP speakers under possible attrition conditions and earlier child BP speakers brought up in Portugal: (a) acquire the syntactic differences between the two varieties and are able to apply them to appropriate contexts and/or (b) whether there is cross-linguistic influence in either direction such that the BP and/or EP grammars of these bilinguals are different from monolingual baselines.

We also collected data from two baseline groups of adult monolinguals in Brazil and Portugal. A Truth-Value Judgment Task (TVJT), adapted from Costa & Lobo (2009), was used to test two main conditions: null objects in simple clauses (NS) and null objects in island contexts (NI). The bilingual groups took this test twice (in BP and EP), with adjustments for dialectal distinctions. Results show that the control EP group preferred overt objects in both conditions (91.25%-NS, 88.3%-NI). The control BP group also chose to use overt objects, though allowed more object drop, especially in islands (81.25%-NS, 60%-NI). When tested in BP mode, the ASB group also showed a preference for this structure, though much weaker (62%-NS, 58.3%-NI). In EP mode, their judgments were closer to those of the control group (76-25%-NS, 80%-NI). As for the CSB group, the results indicate closer proximity to the EP grammar for object drop in both conditions in EP mode, but the numbers are closer to those of the BP control group in BP mode (77.95%-NS, 64,73%-NI) and EP mode (92.65%-NS, 88.2%-NI). This suggests interference of the EP empty category distribution in both BP and EP modes for both groups of bilinguals regardless of age of onset, with implications for micro-parametric domains of grammar in bi-dialectal bilingualism.

BP null object distribution
- Must be either [-anim] or [-spec] (Schwenter & Silva 2002)
(1) Sabe a árvore grande que tinha na minha rua? A prefeitura derrubou Ø. [-anim, +spec]
   ‘You know the big tree that was on my street? City Hall knocked (it) down’.
(2) O cachorro da Ana adora ir na rua. Ela sempre leva *Ø/ ele para passear. [+anim, +spec]
   ‘Ana’s dog loves to go out in the street. She always takes him for walks.’
- Can appear in strong islands (Rothman & Iverson 2013)
(3) A. Quem encontrou dinheiro?
   ‘Who found money?’
   B. Não conheço a pessoa que (#o) encontrou.
   ‘I do not know the person who found it.’

EP null object distribution
- Free variation with pronouns in main clauses (Costa, Lobo & Silva 2009)
(4) Comprei aquele livro e dei-o à Maria.
   ‘I bought that book and gave it to Maria.’
(5) Comprei aquele livro e dei Ø à Maria.
   ‘I bought that book and gave (it) to Maria.’
- Not possible in strong islands (Costa, Lobo & Silva 2009)
(6) A. Sabes quem é aquele rapaz?
   ‘Do you know who that boy is?’
   B. A Maria ficou a chorar porque *(o) reconheceu.
   ‘Maria is crying because she recognized him’.

Convergence of the vowel systems in the production and perception of early Spanish-Galician bilinguals
Pilar Chamorro and Mark Amengual Poster 23-May

"Galician, an understudied Romance language spoken in northwestern Spain, has a history of extensive language
contact and diglossia with Spanish. Today Galician is co-official with Spanish; however, as a result of a long process of language shift, the most common language for everyday use in the largest cities of Galicia is still Spanish rather than Galician (Monteagudo & Santamarina, 1993). Spanish and Galician differ considerably in their vowel inventories. Spanish has a simple five-vowel system. In contrast, Galician is described as a language that has a seven-vowel system, with an additional height contrast (/e/-/ɛ/ and /o/-/ɔ/) in the mid-vowel region (Álvarez & Xove, 2002). The context of extensive language contact in Galicia and the pervasiveness of Spanish in this bilingual community leaves open questions about whether Spanish-Galician bilinguals are maintaining the Galician-specific mid-vowel contrasts in their vowel inventory: do these bilinguals produce robust Galician-specific mid-vowel contrasts, or are they producing merged (Spanish-like) mid-vowels? Do Spanish-Galician bilinguals perceive the Galician mid-vowel contrasts? Are there differences based on language experience? That is, do Galician-dominant and Spanish-dominant bilinguals differ in their acquisition of these phonemic contrasts?

This study examines the production and perception of the Galician mid-vowel contrasts by 55 early Spanish-Galician bilinguals (ages ranged between 18-64) in the towns of Vigo and Santiago (Galicia, Spain). All participants responded to the Bilingual Language Profile questionnaire (Birdsong et al., 2012) to assess their language dominance in Galician or Spanish. Production data were collected in a reading-aloud task, in which participants named experimental words in randomized order contained in a carrier phrase. These tokens were acoustically measured (F0, F1, F2, F3) and normalized to eliminate variation caused by physiological differences among speakers (Baker & Trofimovich, 2005; Syrdal & Gopal, 1986). The perception of these mid-vowel categories was investigated in a series of binary forced-choice identification and AX discrimination tasks (based on synthesized stimuli along the range of mid-vowel formant values). Results from these three experiments indicate that Spanish-Galician bilinguals residing in urban areas of Galicia do not maintain two independent phonetic categories in the mid-vowel space. In other words, they did not consistently produce the Galician-specific /e/-/ɛ/ and /o/-/ɔ/ contrasts; instead they produced merged Spanish-like Galician front and back mid-vowels. Additionally, both Galician-dominants and Spanish-dominants had great difficulty in discriminating between the higher-mid and lower-mid vowels in both the front and back acoustic space, questioning the existence of the mid-vowel contrasts in the vowel inventory of modern urban Galician speakers. These results provide evidence of convergence with the Spanish vowel system as a result of extensive language contact, and are also interpreted in light of current models of cross-linguistic production and perception (Flege, 1995; Best, 1995), which predict that the acquisition of the Galician mid-vowel categories should lead to perception and production difficulties. This study also contributes with new data to the study of language dominance and the relationship between the production and perception abilities of early and highly proficient bilinguals."

Language Experience Predicts Cantonese-English Bilingual Children’s Phonological Awareness

Pui Ting Chan and Elena Nicoladis  Poster  21-May

"Metalinguistic awareness, the explicit knowledge about language structure, is important for literacy skills (Mehta et al., 2006). Children’s development of metalinguistic awareness has been linked with the structure of a particular language as well as children’s experience with that language (Chen et al., 2004). For example, rime awareness is an important predictor in learning to read English and tonological awareness is an important predictor in learning to read Chinese (Chan & Siegal, 2001). The primary purpose of the present study was to test whether Cantonese-English bilingual children’s rime and tonological awareness was related to their experience with English and Chinese, respectively.

Some studies have shown that bilingual children outperform monolingual children on tasks of metalinguistic awareness (Kang, 2012). A secondary purpose of the present study was to compare the bilingual children’s performance with that of English monolinguals.

Cantonese-English bilingual children between three and five years participated in this study. These children could best be characterized as early sequential bilinguals, with onset of exposure to Cantonese preceding that of English. According to parental report, the children were dominant in Chinese. English monolingual children who were matched on age to the bilingual children served as a comparison group. The children were asked to do three same/different judgment tasks: 1) English rime awareness, 2) Chinese rime awareness, and 3) Chinese tone. In each task, the children were presented with real English or Chinese words and asked..."
whether they rhymed (on the rime tasks) or had the same tone (on the tone task). We used the children’s vocabulary scores in English and Cantonese as proxy variables for experience with each language.

The results showed that all the children performed equivalently on the two rime tasks (i.e., no significant differences between the two and accuracy in one language highly correlated with accuracy in the other language). The monolingual children’s accuracy was significantly higher than that of the bilingual children on both rime tasks. The bilingual children’s English vocabulary scores were highly and positively correlated with their performance on the rime awareness tasks. Their Chinese vocabulary scores were not correlated.

On the tone task, the children performed, on average, at chance. Children’s performance on this task was not correlated with their performance on the rime tasks. These results suggest that this task was too difficult for children within this age range, regardless of their experience with Chinese.

These results suggest that children’s experience with English is an important predictor of their rime awareness. The structure of English (notably, many different possible codas and therefore rimes in English words) may lend itself to attending to rhyme explicitly, as children’s exposure to English increases. Unlike previous studies, we did not show bilingual advantages in these phonological awareness tasks. This result suggests that bilingual advantages in metalinguistic awareness may not extend to all bilingual populations, perhaps precisely because the structure of the language(s) that children hear is so important in the development of metalinguistic awareness (McBride-Chang et al., 2008)."

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Deciphering Indian Multilinguality through Hindi Film Songs

Yashika Chandna and Suneeta Mishra Paper Session 45

"In a country like India, with four language families and more than three thousand languages (1991 census), its high time we come to terms with the multilingual reality of the society and the individuals. In day-to-day dealings, the multilingual aspect is well-woven in a variety of discourses from haggling to casual conversations to songs from various languages. Where this reality faces a major challenge is the area of Education where a purist view of language drives the routine discourse and rich cultural resources out of the classroom to bring in an alien language that most learners cannot relate to. One of these rich resources is the film songs.

Cinema is an ephemeral medium which brings a myriad of socio-cultural aspects of life to the wider arena and songs have been the blood and flesh of Indian films. These cut across the class-caste-culture boundaries; an Oriya speaking child can be seen humming a Hindi-Punjabi bollywood song with all its effervescence. In a span of around eight decades, Bollywood songs have managed to bring together various dialects, wide ranging genres and literary traditions in the general public domain, erstwhile limited to specific circles.

But the irony is that such cultural resources as these songs, have been resolutely kept outside the realm of formal education, resulting in the neglect of children’s home language and multilingual reality of India, to the extent that many children drop out of schools due to linguistic incomprehension. Observing this relationship between drop-out rate and the linguistic factor, National Curriculum Framework 2005 (latest document on educational policy in India) has proposed the way forward through multilingual education to reduce the gap between the home language and the school language.

But any policy has to be put into praxis by the teacher, thus before school children it is the teacher who has to first undergo the experience s/he wants for her students, to be able to appreciate it and transfer the same from interpersonal to intrapersonal plane in the classroom.

As Hindi cinema reaches out to masses like no other medium, the use of film songs creates an excellent opportunity for using multilingualism as a powerful resource for language learning in classroom. In fact a wide variety of languages reflected in these songs is a very rich resource for intricate morpho-syntactic analysis of language and other linguistic and metalinguistic aspects such as code switching, code mixing, translanguaging and metaphorical use of language.

This paper presents an attempt to use the multilingual resource brought in by bollywood songs for comparative morpho-syntactic analysis of the various varieties of Hindi such as Braj, Khadi boli, Awadhi, Maithali and Chattisgarhi with a group of prospective teachers, with the aim to understand contextualized language pedagogy.

Research questions:
1. To see the impact of using Hindi film songs as a multilingual resource for understanding language vis-a-vis other resources
2. To see the extent to which this resource can be used for linguistic and metalinguistic understanding

**Orthographic influences on the skill differences in learning to read English and Chinese**

Chern Far Chin, Beth Ann O’Brien and Kenneth Kin Loong Poon  
**Paper Session 37**

This study examined whether there are differences in the contribution of pre-literacy skills (i.e., phonological awareness, rapid automatized naming, and vocabulary knowledge) of English-Mandarin bilingual preschool children to their early reading of two orthographically very different languages – English and Chinese.

Eighty-nine senior kindergarten children in Singapore were administered a battery of tests in English and Mandarin, which included phonological awareness (phonological deletion, sound matching, and tone matching), rapid automatized naming (letter and digit naming), vocabulary knowledge (picture selection), and word/character reading, respectively, in addition to a non-verbal intelligence task. The relative contribution of the reading correlates to reading in each language was investigated with multiple regression analyses.

Rapid automatic naming of letters and digits was the strongest predictor to reading in both English and Mandarin but the role of phonological awareness in reading each language was more varied. Entered as a composite score, phonological awareness explained significant and unique variance in English word reading but failed to predict Chinese character reading. When phonological awareness was analyzed as its component tasks, syllabic awareness (syllable deletion) did not make a significant contribution to word reading whereas, phonemic awareness, operationalized as phoneme deletion and matching, continued to exert unique influence on word reading. On the other hand, character reading was predicted uniquely by syllable deletion, but not by phoneme deletion and tone matching. Vocabulary knowledge also played a differential role in reading English and Chinese. Acting as a weak suppressor, it failed to account for significant variance in reading English but was a unique predictor of character reading.

The differences in the predictor profiles of reading in English and Chinese are argued to be a function of the very dissimilar writing systems. The consistent prediction of rapid automatized naming to reading in either language may represent reading universally which requires visual-verbal connections and orthographic processing (McCrory, Mechelli, Frith, & Price, 2005). On the other hand, the differential phonological grain sizes encoded in English and Chinese scripts likely result in the different contribution of phonemic and syllabic awareness, respectively, to reading in each of the languages. Similar language specific findings with monolingual readers of English and Chinese (e.g., Adams, 1990; Shu, Peng, & McBride-Chang, 2008) are thus reflected here within bilingual children who are just beginning to read. Further, the finding of vocabulary knowledge playing a more important role in reading characters concurs with computational models of Chinese versus English reading acquisition that showed differential weightings of semantic and phonological paths (Yang, Shu, McCandliss, & Zevin, 2013).

The present results imply that young bilinguals at the beginning of reading acquisition do not adopt the same set of strategies in reading two orthographies. Instead, they adopt two different sets of strategies tailored to the requirements of each language. This has implications for early reading instruction for each language of simultaneous bilinguals.

**Referential choice in a second language: evidence from highly proficient learners of English**

Carla Contemori and Giuli Dussias  
**Paper Session 38**

The ability to refer to entities in the surrounding world constitutes a prerequisite for successful communication. Native speakers use attenuated forms (e.g., pronouns or phonologically silent elements) when the referent is in the addressee’s focus of attention (e.g., Arnold & Griffin, 2007, A&G). However, they use more explicit forms (e.g., full NPs) when their own focus of attention is distributed among potentially competing referents in the discourse, either through the visual presence (Fukumura et al., 2010) and/or through the previous mention of another animate referent (A&G).

Studies on learners of pro-drop languages (e.g., Spanish) have demonstrated that highly proficient second language (L2) learners may over-use pronominal forms when a null subject is required, showing residual indeterminacy in the L2 referential choice (e.g., Sorace & Filiaci, 2006). However, we do not know if learners of a non-null subject
language experience similar problems in the choice of referring expression. The present research aims at contributing to fill in this gap, by examining the process of choosing between pronouns and proper names in L2 speakers of English whose L1 is Spanish.

Eighteen English monolinguals and seventeen L2 speakers participated in a story telling task based on A&G. Participants were presented with two pictures that contained: (1) one character in the first panel and one in the second panel (Figure1); (2) two characters in the first panel and two in the second panel (different gender) (Figure2); (3) two characters in the first panel and one in the second panel (different gender) (Figure3); (4) two characters in the first panel and one in the second panel (same gender) (Figure4). After listening to a description of the first panel, participants were asked to describe the second panel. We used multi-level mixed models with Condition (4-levels) as within-subjects factor and Group (2-levels) as between-subjects factor to analyze the proportion of pronouns produced, out of the total number of pronouns and NPs. For native speakers, even when a pronoun would not be ambiguous, the presence of another character in the discourse (either in the first panel or in both panels) decreased pronoun use to refer to the most prominent character in the discourse. For the L2 group, results showed a higher production of pronouns than in native speakers when there were two characters in the preceding discourse who had either similar or different gender (Group by Condition interaction: p=0.04; Post-hoc comparisons, main effect of Group in (2): p=0.0006; (3): p=0.04; (4): p=0.007).

We conclude that the production of referring expression is susceptible to L1 interference in highly proficient learners of English. We hypothesize that L2 participants fail to suppress the assumption from their native language that overt pronouns are interpreted as referring to a non-topic referent. The learners produced more overt pronouns in two-referent contexts than native speakers of English likely because an overt pronoun is more explicit for them than a null form. While it may seem that they are being more explicit, in fact they are not yet explicit enough as an English native speaker."

**Issues of Experience, Proficiency, and Transfer of Tense in Cross-Linguistic Priming**

Solaman Cooperson and Lisa Bedore  
Poster 22-May

"Results from cross-linguistic syntactic priming have shown that bilinguals’ hearing a particular sentence structure in one of their languages increases the likelihood that they will produce a similar structure in the other language. This supports a shared-syntax model of bilingual processing in which bilinguals store similar structures together (Hartsuiker, Pickering, & Veltkamp, 2004). Priming from L1 to L2 and L2 to L1 appears to be equally strong (Kantola & van Gompel, 2011; Loebell & Bock, 2003; Schoonbaert, Hartsuiker, & Pickering, 2007). However, Bernolet, Hartsuiker, & Pickering (2013) and Shin (2010) found effects of L2 proficiency on priming that suggest that a shared-syntax model with fully integrated syntactic representations may be a final state of bilingual acquisition. To determine the degree to which synt is shared in a group of bilinguals with diverse experience and proficiency profiles, we examine how the factors of age of acquisition, current use, and language proficiency affect cross-linguistic priming in a group of bilinguals who acquired Spanish natively and acquired English at a range of ages.

Pickering and Branigan (1998) found that similarity in the verb features of tense, number, and aspect did not modulate priming of syntactic structures in within-language priming of English. However, the model of sentence production Pickering and Branigan proposed leaves open the possibility that these features might prime themselves. The second part of this study examined priming across languages of tense expressions that show different levels of similarity to each other across languages in the same group of Spanish-English bilinguals.

Participants were 68 Spanish-English adult bilinguals. Participants completed a language history questionnaire and measures that assessed proficiency in the domains of vocabulary and morphosyntax in each language. The priming task involved participants in a picture description activity with a confederate in which the confederate spoke one language and the participant spoke the other. To address the question of the effects of language experience and proficiency, the active-passive alternation was used. This structure alternation was chosen because it has already been found to prime from Spanish to English (Hartsuiker et al., 2004). To address the question of priming of tense across languages, the future and present tenses were used. These tenses were chosen because there is a type of future tense that might be considered a translation equivalent in Spanish and English, whereas the other tense forms that could be used have no particular cross-linguistic similarity.
Results indicated that although there was a significant cross-linguistic priming effect for passive structures, the factors of age of acquisition, current use, and language proficiency had no effect on priming in this group of bilinguals. These results suggest that the shared-syntax model accurately represents bilingual sentence production in this group. Results also indicated that there was no priming of tense across languages, even for translation equivalent tense expressions. Although this suggests separate stores for tense for each of a bilingual’s languages, the results leave open the possibility that tense expressions prime each other within languages."

**Internal and external variables in older adult SLA: Bilingualism and explicit instruction**
Jessica Cox and Cristina Sanz  
Paper Session 38

"It is well documented that both internal and external variables play a role in language learning for young adults (e.g., Sanz, 2005). For example, evidence confirms that previous language-learning experience enhances further language learning, and so bilinguals outperform monolinguals (Swain et al., 1990; Sanz, 2000; Bartolotti & Marian, 2012), and bilinguals with higher proficiency in both languages outperform other bilinguals (Sanz, 2007). Also, advantages of form-focused, explicit instruction (EI) at various levels of bilingualism are generally limited to immediate learning, but not retention (e.g., Lado et al., 2014). However, there is very limited research on less traditional learners, such as older adults (age 60+), despite the fact that they increasingly migrate, travel, or otherwise study a new language (Cox, 2013). Moreover, cognitive differences between young and older adults suggest that learning processes may differ, too (Baum & Titone, 2014). While studies of multilingual older adults demonstrate some successful language learning (e.g., Cohen, 2014), they tend to be case studies. Additionally, there is initial evidence that older adults have greater success with more meaning-oriented, less explicit instruction (Lenet et al., 2011; Midford & Kirsner, 2005), but to date, no one has investigated the interaction between bilingualism and EI in older adults.

To fill this gap in the research, 43 older adults (age 60-82) who were either monolingual English speakers or bilingual English/Spanish speakers learned basic Latin morphosyntax via a computer program. Bilinguals were L1-dominant, late learners of L2, who used both L1 and L2 regularly. The specific linguistic target was assignment of the roles agent and patient to nouns, because the most reliable cue in Latin, noun case morphology, is novel to speakers of English and Spanish. Half of each language group completed a pre-practice grammar explanation (EI) while the other half did not. All participants completed form-focused practice with yes/no feedback. A battery of four tests counterbalanced across participants in a pre/post/delayed design measured learning.

A series of repeated-measures ANOVAs showed learning on all tests. Bilinguals outperformed monolinguals on the two receptive tests (written and aural) regardless of provision of EI. In contrast, on tests of grammaticality judgment (GJT) and production, which required transfer of skills from practice, only bilinguals who had EI showed a statistical advantage. For the GJT, this advantage was limited to the immediate posttest, whereas for production, it was maintained at the delayed posttest.

This study makes a novel contribution to research on L3 acquisition by showing an advantage for older adult bilinguals as well as the interactions of internal and external variables in older adulthood. It also adds a new dimension to the study of older adult bilinguals, which has focused on language use/attrition (de Bot & Makoni, 2005) and case studies (Cohen, 2014).

**The relationship between exposure to code-switching and language skills in bilingual children**
Kimberly Crespo, Megan Gross, Milijana Buac and Margarita Kaushanskaya  
Paper Session 1

"There is strong evidence for a relationship between language input and language development in children, both monolingual1 and bilingual 2. Language input experienced by bilingual children is likely to include code-switching. There is limited research exploring the influences of code-switching on language development, and the evidence that does exist offers conflicting findings.3-5 The current study examined the impact of frequency of code-switching exposure on broad language skills in school-aged bilingual children.

Participants included 63 Spanish-English bilingual children (Mage=6.79; SD=.94). Primary caregivers reported the frequency (on a 0-10 scale) with which their children heard code-switching from individuals in their environment (Example 1), and the average value across individuals was used to index each child’s exposure to code-switching. Children’s language skills in English and Spanish were assessed using the Core Language, Receptive Language, Expressive

Pearson R correlations revealed a significant negative relationship between exposure to code-switching and English core language (r=-.34, p<.05), receptive language (r=-.26, p<.05), expressive language (r=-.33, p<.05) and structural language scores (r=-.29, p<.05). Exposure to code-switching was positively associated with Spanish expressive language (r=.27, p<.05) and structural language scores (r=.27, p<.05). Overall, children with greater exposure to code-switching obtained lower English scores and higher Spanish scores.

To examine whether code-switching continued to predict language scores after accounting for background variables known to influence language development, we constructed regression models for each language index. In Model 1, containing only the background variables, predicted 50-57% of the variance in English language scores and 13-42% of the variance in Spanish language scores, depending on the specific index examined. Specifically, socioeconomic status was a significant positive predictor of all Spanish and English measures, where children from higher socioeconomic status performed better on each language index (p<.05). Current exposure was a significant positive predictor for core language, expressive language, and structural language indices in both English and Spanish; children with greater exposure to English obtained higher English scores and children with greater exposure to Spanish obtained higher Spanish scores (p<.05). Age of acquisition was a significant predictor for expressive language in Spanish (p<.05); children who acquired Spanish earlier exhibited more robust expressive language abilities.

Together these results suggest that, although exposure to code-switching is negatively associated with English scores, this relationship is likely driven by other factors known to affect language development (i.e., socioeconomic status, current exposure, and age of acquisition). Exposure to code-switching itself does not appear to have a significant independent impact on broad language skills in school-aged bilingual children. Future work where code-switching exposure is measured using more objective tools is required in order to confirm these findings.

**Bilingualism and Ageing - Executive functions, language use and management in normally ageing speakers and speakers with dementia**

Kees de Bot, Marianne Lind, Hanne Gram Simonsen, Bente Ailin Svendsen and Jan Svennevig Paper Session 13

"In this paper we combine psycholinguistic and sociolinguistic approaches to the study of bilingualism and ageing. We explore the ways elderly bilinguals’ code-switching and use of executive functions over the life span may lead to the ‘bilingual advantage’ (Bialystok 2004). This is contrasted with results from a Norwegian multiple case study on how dementia is manifested linguistically and interactionally in bilinguals who have recently been diagnosed with dementia of the Alzheimer type (DAT).

Dementia refers to a set of symptoms seen in connection to various brain diseases that usually affect older people. Dementia causes progressive and persistent changes in at least three of the following areas: memory, language, visuospatial skills, personality or behaviour, and manipulation of acquired knowledge (including executive functions) (Mandell & Green 2014). Dementia also affects interaction with others. Anomia (word finding difficulties) is common in speakers with DAT, resulting in a spontaneous speech production characterized by semantic paraphasia and empty speech. The maintenance of discourse coherence is also often problematic (Goral 2013:194). Comprehension deficits are also frequently observed in DAT, and may include misunderstandings of individual words or whole sentences (Cullum and Lacritz 2012).

In this paper, we explore the linguistic manifestations of dementia in bilinguals in restricted tasks (e.g. naming and grammatical comprehension) and in less restricted tasks (i.e. spontaneous speech, such as picture descriptions and conversation). The data from the speakers with dementia is compared on a case by case basis to data from bilingual speakers (matched for language background, age, gender and level of education) without dementia.

Among the topics we investigate are possible differences in symptoms in L1 and L2, and possible differences in performance in the restricted vs the less restricted tasks that call on different executive functions. The spontaneous speech data is analyzed for code switching, coherence, word finding difficulties and repair strategies. Moreover, we
include perspectives on how people with dementia and their significant others experience and relate to the general life changes that follow the disease, in the family and in encounters with the health care providers.

**Bilingual toddlers can learn from variable input**

Elise de Bree, Josje Verhagen, Annemarie Kerkhoff and Sharon Unsworth  
Poster 22-May

"The amount of language input has been found to facilitate language acquisition (Hoff, 2006) The effect of input quality on language acquisition has not received much investigation yet. However, quality of input might be especially relevant for bilingual language learners, as they not only receive less input in each language, but are also often exposed to variability in the form of non-native speech. In terms of phonology, this could lead to accented speech. In terms of grammar, this could lead to errors in the input.

Previous research has shown that variation in phonological input can be ignored by bilingual children: vowel mispronunciations impeded word recognition in monolingual, but not bilingual children (Ramon-Casas et al., 2009). Studies have not investigated whether reduced grammatical quality impacts on toddlers' language learning ability. Here, we investigate whether monolingual and bilingual toddlers can find patterns in a novel language, even when this language contains 'errors' (i.e. sentences that are not consistent with the pattern). Bilingual toddlers might have an advantage in learning from inconsistent input, as they are used to learning language on the basis of more limited and more inconsistent input.

A novel language containing two non-adjacent dependencies was presented to 22 monolingual Dutch and 14 simultaneous (Dutch+other language) bilingual 24-month-olds. Non-adjacent dependencies are dependent elements with varying linguistic material in-between, such as ‘is X-ing’. Here, is and –ing are non-adjacent, separated by variable information (e.g., is singing). The literature has shown that monolingual children are able to distinguish between strings with dependencies they have been trained on (e.g. a-x-c, b-x-d) and ‘ungrammatical’ strings with the reverse dependencies (e.g. a-x-d, b-x-c) (Gómez, 2002; Kerkhoff et al., 2013).

In the current experiment, using the Headturn Preference Procedure, toddlers were familiarised with one of two artificial languages, Language1 or Language2, consisting of strings of three pseudowords. The training phase included both ‘correct’ strings (following the dominant pattern) and ‘incorrect’ strings (see Tables 1&2). The test phase included four Language1 trials and four Language2 trials, corresponding to consistent or inconsistent trials.

A repeated measures ANOVA with mean looking time as dependent variable, trial type (consistent, inconsistent) as within-subjects variable and Group (mono-/bilingual) as between-subjects factor rendered an effect of trial type (p=.010), indicating that toddlers generally looked longer to inconsistent strings, a marginal interaction between trial type and Group (p=.056), and no effect of Group (p=.882). This interaction reflects the finding that the novelty effect is stronger for the bilinguals, see Figure1. Follow-up paired sample t-tests showed a difference between consistent and inconsistent trials for the bilinguals (p=.017) but not monolinguals (p=.408).

These findings indicate that, in contrast to their monolingual peers, bilingual toddlers were able to learn from inconsistent input in an artificial language, suggesting that they are better able to ‘ignore’ noisy input and generalize to the dominant pattern."

**Narrative Abilities in Preschoolers: A Bilingual-Monolingual Comparison**

Annick De Houwer, Marc H. Bornstein and Diane L. Putnick  
Paper Session 12

"Narrative ability is fundamental to understanding the world around us and is linked to subsequent academic development. The scarce research on narrative abilities in bilingual preschoolers has had mixed results in terms of whether bilinguals resemble monolinguals. However, to our knowledge, no comparative studies of narrative ability have focused on children with bilingual input from birth. Rather, most bilingual children studied so far started off acquiring one language at birth and added a second language later. To investigate whether the number of languages acquired leads to different kinds of cognitive and linguistic functioning, other potentially important variables, such as the overall time of exposure to a language, must be controlled. This can only be done if groups of children are compared who have had continued input to either one or two languages since birth and who are otherwise demographically similar. This study investigated whether preschool-age children with bilingual input from birth showed similar narrative ability to children with monolingual input."
Our study compared groups of bilingual (N=23) and monolingual (N=25) firstborn middle-class children in the fifth year of life with regular input to Dutch from birth. Bilingual children had regular input to French from birth as well.

An investigator who spoke Dutch presented each child with a colorful picture book that the child had never seen before and asked the child to explain to a puppet what the book was about. All children spoke Dutch in this session. Data were transcribed according to CHAT transcription conventions of CHILDES (MacWhinney, 2002). Using CLAN analysis, the following 5 language measures were computed for each child's stories: the total number of utterances, words (tokens) and different words (types), the highest number of morphemes in a single utterance, and the average number of morphemes per story (Mean Length of Utterance, MLU). Furthermore, two independent raters, blind to children's language status, rated each story on a 3-point scale with the possibility for a worse or better rating at each level. Raters achieved 100% agreement.

Wide differences amongst children in each language group emerged on the five language measures. However, bilinguals and monolinguals did not differ on any of the language measures, except on average MLU, which was higher in bilinguals than monolinguals, t(37.18) = -2.51, p = .017. Narrative scores were unequally divided among the three categories (good, average, bad). Bilinguals tended to have better narrative scores than monolinguals, however, the differences were not significant.

To our knowledge, these results are the first to show that being exposed to two languages from birth instead of one does not lead to any negative effects in narrative ability. In addition, given the link between MLU and overall language complexity in young children, the elevated MLU average in the bilingual group suggests that bilinguals are able to tell slightly more complex stories earlier than demographically matched monolinguals. Our findings thus contribute to the growing body of research showing developmental advantages of growing up bilingual from birth that go beyond the obvious advantage of knowing more than one language.

Are there executive function advantages for bilingual children?

Cécile Decat, Ludovica Serratrice and Sanne Berends

Paper Session 72

Variance in the language experience of dual language learners (DLLs) has been held responsible for monolingual peers typically having an advantage over bilingual children in age-matched tests of standardized receptive vocabulary [1]. This is in line with a large body of research showing a positive correlation between input quantity and vocabulary skills (e.g.[2]).

Whether bilingual language experience confers other advantages to children is less clear. Some studies have shown bilingualism to be advantageous in certain executive function (EF) tasks [3], while others have called this into question [4]. Our study set out to clarify the role of language experience in a set of EF tasks including working memory, inhibitory control and cognitive flexibility.

We tested 170 children (age range 61-84 months) that differed in terms of their exposure to English, the community majority language, and in terms of their socio-economic status (SES) as measured by parental occupation [5]. Half (N=85) were exposed exclusively to English (mean: 72 months; SD=7), the other half had varying degrees of exposure to another language beside English (mean: 70 months; SD=5.7) according to parental reports. The DLLs spoke a range of heritage languages (30 in total) and were recruited in primary schools in the North of England with higher than average numbers of children with English as an additional language. The children were administered the following measures of language proficiency in English: the sentence structure sub-test in the CELF-IV-UK [6]; verb contrasts, preposition contrasts, real verb mapping and novel verb mapping sub-tests from the Diagnostic Evaluation of Language Variation[7], and the School Age Sentence Imitation Test [8]. The children were tested for short-term memory and working memory (forward and backward digit recall [9]); an inhibitory control task (Simon task [10]) and a cognitive flexibility task (DCCS [11]). Analysis was by Mixed Effect Modelling [12].

Our results show that the strongest predictors of performance on the working memory task were (i) performance on the (forward digit span) short-term memory task (which correlated with age) and (ii) proficiency (SASIT measure). An interaction of bilingual experience (input and output) and SES also approached significance. In the Simon task, shorter reaction times were found in children from bilingual households (“one parent = one language”) and in children with longer cumulative home-language exposure. Other significant predictors included: Trial (congruent/incongruent), SES
and Age. In the DCCS task, bilingualism (cumulative home-language exposure and bilingual household) predicted lower scores. Better performance was predicted by Age, SES, Gender and Proficiency (CELF measure). These findings present a complex picture of the relationship between dual language learning experience and performance on executive function tasks. Like other recent studies [4] we did not find a coherent, substantive advantage for the DLLs in a heterogeneous sample of child speakers. We discuss why different measures of bilingual experience and proficiency predict performance in different EF tasks.

How Phonological and Orthographic Translation Overlap Influences Bilingual Word Meaning
Tamar Degani and Zohar Eviatar Poster 21-May

"To elucidate the nature of interconnectivity in the bilingual lexicon we examine cross-language influences between the two languages of bilingual speakers. Previous work has shown that when two words in one language (e.g., map and tablecloth in English) share a translation in another language (e.g., MAPA in Hebrew), bilingual speakers tend to rate these words as more similar in meaning than pairs of words that do not share a translation, in comparison to monolingual English speakers with no knowledge of Hebrew. Thus a shared form in one of the languages influences semantic relatedness in another language.

The present study examined the extent and timeline of the effects of translation overlap. We asked whether partial overlap is sufficient to cause increased semantic relatedness and manipulated both the degree and the content of the overlap: Firstly, we had pairs of words with complete overlap: words that were unrelated in meaning (e.g., 'beak' and 'source'), but whose Hebrew translation has identical form (a homophonic homograph-'MAKOR'); The other two conditions result from a dissociation between phonology and orthography: pairs with phonological but not orthographic overlap (e.g., 'yes' and 'nest') that translate into heterographic homophones (like 'plain' and 'plane'); and pairs of words with orthographic but not phonological overlap: where the translations are identical orthographically but phonologically different (heterophonic homographs such as 'tear'). This last manipulation is extreme, because English and Hebrew utilize completely different and unrelated orthographies. The two English words were presented one after the other, at either 300 or 750 SOA. In an all English task, participants were asked to judge as quickly and accurately as possible whether the two words were related in meaning.

Results from 48 Hebrew-English bilinguals were compared to those of 48 monolingual English speakers to reveal substantial cross-language influences for bilinguals. We replicated the effects found previously in pairs with complete overlap in translation: irrespective of SOA, bilinguals but not monolinguals tended to judge these pairs as related more often than control pairs. Furthermore, bilinguals made faster related responses and slower unrelated responses on such pairs. In addition, at the short SOA, pairs of English words with translations that overlap in phonology but not orthography were also judged as related more often than controls. Importantly, pairs with translations that overlap in Hebrew orthography but not phonology also showed this pattern, but only at the longer SOA.

The results suggest that words in one language of bilingual speakers automatically activate both the phonological and the orthographic form of the translations, and that this form activation influences semantic decisions. Moreover, the findings shed light on the time-course of activation of phonology and orthography in an integrated bilingual lexicon of different-script bilinguals. Ongoing extensions of this work examine whether these effects are modulated by order of language acquisition and language proficiency by testing Hebrew/English bilinguals with diverse language backgrounds. In additional to the implications for the multilingual semantic lexicon, the results emphasize the primacy of orthographic knowledge in adults, in that a non-presented orthography affected responses independently of phonology."

Theoretical implications of research on bilingual subject pronoun production: The Vulnerability Hypothesis
Ana de Prada Pérez Poster 22-May

"In this paper we present data from subject personal pronoun use in Spanish in Minorca, as compared to Minorcan Catalan and Valladolid Spanish uses, which are consistent with a new formal analysis of cross-linguistic influence, the Vulnerability Hypothesis (VH), which establishes a categorical-variable continuum of permeability (1), i.e. variable phenomena are permeable while categorical phenomena are not. The notion of variability-categoricality is a continuum where a form that happens 0% or 100% of the time in a specific condition is said to be categorical in that
condition and, thus, occupies one end of the continuum, while a form that happens near 50% of the time in a condition is said to be variable and, therefore, occupies the other end of the continuum.


In order to test the predictions of the VH, naturalistic Spanish language samples were collected from 12 monolingual Spanish speakers, 11 Spanish-dominant bilinguals, and 12 Catalan-dominant bilinguals, and naturalistic Catalan language samples from 12 Catalan-dominant speakers. Data from the ethnolinguistic survey were transcribed, coded for 11 language-internal variables and submitted to statistical analysis using Goldvarb X. Two separate analyses were performed: one for first person singular and one for third person singular subjects. Some of these variables were controlled for by only including samples in the first/third person singular, in topic continuation contexts in broad focus, with animate referents, and in main clauses for the final analyses, reducing considerably the initial over 14,000 tokens coded to 4,466 included in the first person singular analysis and 1,291 in the third person singular analysis. The variables that were analyzed included CONNECT (a combination of TAM continuity and co-referentiality), VERB FORM AMBIGUITY, and SEMANTIC VERB TYPE. The language-external variables included in the analysis were LANGUAGE GROUP (Spanish monolinguals, Spanish L1 bilinguals, Catalan L1 bilinguals and Catalan controls), AGE and GENDER.

Results indicate that CONNECT is the highest-ranked variable in the Spanish control group (most categorical variable) while AMBIGUITY and VERB TYPE are ranked lower, with only AMBIGUITY reaching significance both in first and third person. The VH would, therefore, predict bilinguals would be similar to monolinguals in the most categorical variables, in this case, CONNECT. This prediction bears out in our data. For all groups CONNECT is the highest ranked variable, with almost identical factor weights. Differences, however, are found in the other two variables, where ambiguity is no longer significant in the bilingual groups while verb type reaches significance in first person singular forms. In third person singular, neither variable reached significance in the bilinguals. These results are discussed in terms of simplification, specified as the reduction of variability in the data. Regarding the language external variables, Whereas LANGUAGE GROUP was not returned as significant in the first person singular data, it was in third person data. The separate runs for each language group revealed that AGE and GENDER were significant factors. While there is no clear pattern regarding gender across groups, for age the pattern most recently found in other studies is replicated: younger generations exhibited a decrease in overt pronoun expression (Orozco & Guy 2008).

This paper contributes to current discussions in the fields of language contact, second language acquisition and bilingualism, offering evidence for a recent hypothesis, the VH, and defining it further by redefining concepts such as simplification, and convergence. Additionally, it contributes to variationist approaches to subject personal pronoun expression by examining a novel community of bilingual speakers.

(1)  Permeability Hierarchy
More invulnerable  More vulnerable
Categorical phenomena  Variable phenomena

"Mae pobl monolingual yn minority": Factors favouring the production of code-switching by Welsh-English bilingual speakers.  Margaret Deuchar, Kevin Donnelly and Caroline Piercy  Paper Session 53

This paper presents new findings regarding the relationship between early bilingual acquisition and the use of code-switching in adulthood, a relationship which has not previously been reported in any detail from a large number of speakers. Poplack (1980) found that those speakers who did the most intrasentential code-switching had acquired both English and Spanish in early childhood and also rated themselves as ‘bilingual’ as opposed to dominant in Spanish or English. However, she was not able to examine the effect of early simultaneous vs. early successive bilingualism or to deal with the data from more than twenty speakers. Given the evidence that code-switching appears to be facilitated by proficiency in the two languages, a question which has not yet been fully answered is how varying patterns of bilingual acquisition lead to a greater or lesser propensity to code-switch. Meisel (2004), argues that the differing effects of various patterns of bilingual acquisition need to be determined “in the light of empirical research investigating linguistic
and neuropsychological aspects of bilingualism acquired during different age ranges” (Meisel 2004: 105). Indeed, in a study of structural plasticity in the bilingual brain, Mechelli, Crinion, Noppeney, O’Doherty, Ashburner, Frackowiak & Price (2004) report on how the timing of bilingual acquisition and proficiency attained affect the density of grey matter and structural reorganisation in the brain. It seems likely, then, that similar factors may affect code-switching behaviour.

We report on the results of an automatic analysis of 67,515 clauses from a Welsh-English corpus (www.bangortalk.org.uk) collected from 148 speakers. Using a clause-based analysis, we aimed to determine which extralinguistic factors appear to influence the production of bilingual clauses (i.e. containing code-switching) versus monolingual clauses. We used an innovative automatic glossing mechanism to extract clauses and analysis by Rbrul. We found that intraclausal code-switching was produced more frequently by those who had acquired Welsh and English in infancy than those who had acquired the two languages sequentially. We speculated that this difference could be due to the timing of different patterns of bilingual acquisition in relation to neural maturation. We also found a tendency for younger speakers to code-switch more than older speakers, and suggest that there is a change in progress related to more permissive attitudes to code-switching. Finally, we suggest that the large size of our corpus and our automatic data extraction methods allow considerable confidence in our results.

**Predicting Upcoming Information in Native-Language and Non-native-Language Auditory Word Recognition by Bilinguals**

Aster Dijkgraaf, Robert J. Hartsuiker and Wouter Duyck

“Second language comprehension is slower and less accurate than first language comprehension (Lagrou, Hartsuiker, & Duyck, 2013; Weber & Broersma, 2012). Currently, it remains unknown what are the consequences of, and what factors contribute to, the observed difficulty. Here we tested whether predictive language processing (e.g., Altmann & Kamide, 1999) in non-native auditory word recognition occurs to the same extent as in native listening. Dutch-English bilinguals listened to sentences in Dutch and in English, and viewed pictures on a display while their eye-movements were measured. Picture displays included a target object and three unrelated objects. Target words/objects in the sentences were predictable when the verb in the accompanying sentence was constraining (e.g. Mary knits a scarf, where the scarf is the only knittable object in the display), or non-predictable if the verb was neutral (Mary loses a scarf, where all object in the display are losable). There was a bias of eye-movements towards the target object in the constraining condition relative to the neutral condition, and this effect was present before the target word occurred in the auditory signal. Interestingly, this prediction effect was equally large in the native and non-native language conditions. This indicates that unbalanced, proficient bilinguals use linguistic context information during sentence processing to generate predictions about upcoming referents in both of their languages. Higher processing effort associated with non-native language processing, does not go at the expense of top-down prediction, at least not in supportive contexts.

**Fostering Bilingualism in Canadian Bilingual Programs: Language in Action**

Roswita Dressler

“As Canadian Bilingual Program (BP) teachers seek to foster bilingualism through immersion pedagogy (Lyster, 1998), they encounter a discourse of ‘separation of languages’ (Cummins, 2014). This separation of languages is found in the curriculum documents and time table (Alberta Education, 2007), promoted in professional development workshops, and taken for granted in published testing results (Macnab, 2010). Although proficient bilinguals themselves, these BP teachers often lack coursework in bilingualism and second language pedagogy and do not recognize the educational discourses in curriculum documents which portray bilinguals as two monolinguals in one person (Grosjean, 2008; Heller, 2007). However, their training in sociocultural pedagogy provides them with a wealth of teaching practices upon which to draw (Bainbridge & Heydon, 2013). Therefore, understanding teaching within these programs must arise from a close examination of actual teaching practices, rather than solely a look at curriculum documents and results-based research (Leung, 2005, 2014). Observation of classroom practice in this publically-funded partial immersion program reveals an enactment of pedagogy that differs from the aforementioned strict separation of languages and provides researchers with a clearer picture of bilingual pedagogy and practice.

This paper explores the fostering of bilingualism as a social practice in one elementary school German Bilingual Program. Nexus analysis (Scollon & Scollon, 2004) is the meta-methodology used as it allows the researcher to examine
language in action. In this social context, that social action is the fostering of bilingualism which through repeated action can be considered a social practice. This social practice occurs at the nexus of the discourses in place (Scollon, 2001), the interaction order (Goffman, 1983) and the historical body (Nishida, 1998). By exploring all three aspects of the nexus of practice, the ways of thinking, doing and being around the teaching practices that foster bilingualism are foregrounded. Data for this paper was collected from curriculum documents; interviews and stimulated recall sessions with two teachers as well as classroom observation with 13 participating students. The findings reveal immersion pedagogy and sociocultural pedagogy as two competing discourses in this setting. Ethnographic vignettes (Kroon & Sturm, 2007) illustrate how teachers use team teaching (Freeman, 1996; Pardy, 2004; Potowski, 2008) and translanguaging (Cummins, 2014; Garcia, 2009, 2011) as teaching practices which allow them to negotiate the tensions between immersion pedagogy and sociocultural pedagogy.

Omission vs. Commission: An ERP Study of Subject-Verb Agreement Violations in Mandarin L2-learners of English

Sithembinkosi Dube, Varghese Peter, Carmen Kung and Katherine Demuth  Paper Session 38

"Recent event related potential (ERP) studies suggest that second language proficiency explains the different electrophysiological patterns observed in L2 syntactic violation processing (Bowden et al., 2014; McLaughlin et al., 2010; van Hell & Tokowicz, 2010; Chen et al., 2007). However, some studies using proficient L2-learners have yielded inconsistent ERP findings. For example, Xue et al., (2013) reported an N400 effect to subject-verb agreement violations in advanced Mandarin L2-learners of English but Osterhout et al., (2008) reported a P600 effect in advanced Spanish L2-learners of English. In this paper, we suggest that these different ERP effects may reflect an interaction between type of morphosyntactic violation and L1-L2 similarity. For example, given that Mandarin L2-learners have problems using the 3rd person singular -s (3SG), even after 5 years of L2 immersion (Jia & Fuse, 2011); they may be less sensitive to morphosyntactic violations involving 3SG omissions. Therefore, using only omission violations to investigate the neural mechanisms underlying morphosyntactic processing in Mandarin L2-learners may not give a clear picture of their syntactic abilities.

This study examined whether Mandarin L2-learners would show different ERP responses depending on the two types of subject-agreement violations: i.e. errors of omission versus commission (superfluous addition of 3SG). We presented 12 native Australian English speakers (i.e. L1-controls; Mean age: 22 years) and 12 Mandarin L2-learners (Mean age: 25 years; more than 2 years of immersion to Australian English), with 200 sets of sentences that described some cartoon pictures on a screen. The stimuli consisted of four sentences types that differed only by their grammaticality and the type of violation (The boy often hikes/*hike in the bush and The boys often hike/*hikes in the bush). We hypothesised that the L1-controls would be equally sensitive to both types of violations but that Mandarin L2-learners would show a dissociation between omissions and commissions.

As predicted, results from the cluster-based permutation tests show significant negative clusters for the L1-controls in both types of violation (see Figure 1): a fronto-central negativity from 60-110 ms for commissions, and a broad negativity from 125-160 ms for omissions. On the other hand, for Mandarin L2-learners, the tests showed two significant negative clusters for omissions; one with a broad distribution from 260-300 ms, and another with a fronto-central distribution from 360-460ms, but two significant broadly-distributed positive clusters for commissions: one from 255-305 ms and another from 370-480 ms. The difference between the latency of the negative clusters in L1-controls and L2-learners indicates that controls processed omission violations faster than the L2-learners. Moreover, the presence of positivity in only the commission violations, but not omission violations, reflects that commissions were more salient than omissions for L2 learners, and hence triggered a re-analysis.

These results suggest that, in addition to L2 proficiency, Mandarin L2-learners’ sensitivity to subject-verb agreement violation depends on the type of morphosyntactic violation used. This implies that we should revisit the findings of previous studies on L2 ERPs on subject-verb agreement violation that only use violations that are similar to the production errors made by L2 learners."

Exploring Language Attitudes and Ideologies in Multilingual Spain: Secondary Students’ Perspectives on Minority Languages

Joanna Duggan  Paper Session 27

"A recent influx of immigration into Spain has led to increased levels of linguistic and ethnic diversity in settings
Does intensive L2 learning modify between-language competition in bilingual comprehension? Evidence from a longitudinal study with interlingual homographs.

Joanna Durlik, Jakub Szewczyk and Zofia Wodniecka  Poster  23-May

Available evidence shows that being intensively exposed to L2 may change patterns of processing of both L2 and L1 (e.g. Linck, Kroll, & Sunderman, 2009; Martin, 2011). In the present study we set out to investigate consequences of intensive L2 learning as they emerge over time. Our main goal was to explore whether long-term intensive L2 learning and increase in L2 proficiency modify co-activation and competition between L1 and L2, and in particular, level of L1 activation during L2 comprehension.

To meet these goals, we conducted a longitudinal study with two groups of secondary school students, unbalanced Polish-English bilinguals. The experimental group consisted of students enrolled in a program with English as a medium of instruction in part of their school curriculum, whereas the control group learned English in a regular classroom setting as a foreign language. Both groups were tested three times, with ca. 7-month breaks between testing sessions.

To measure cross-language activation in bilingual comprehension, we used interlingual homographs (IHs): words that share orthography but differ in meaning across languages (e.g. an English-Polish homograph "pies" means "dog" in Polish). Based on the original paradigm developed by Macizo et al. (2010), we created an English-Polish task that employed IHs and English translations of IHs' Polish meanings. The task measures two aspects of bilingual comprehension: (1) interference between L1 and L2 elicited by presence of cross-linguistically ambiguous words and (2) interference resolution indexed by subsequent inhibition of the irrelevant L1 meaning (for details of design see Figure 1 below).

We expected that the intensive exposure to L2 in the experimental group should significantly limit L1 activation during L2 comprehension and consequently reduce accessibility of IHs' meanings in L1. In addition, more efficient resolution of the cross-language interference should be observed, since frequent L2 usage provides training in switching between L1 and L2 and in ignoring activation of a contextually irrelevant language.

Contrary to predictions, we did not observe between-group differences in the task performance. Across all testing times, both groups showed significantly longer response latencies for IHs and their translations, compared to control words. The results demonstrate a robust interference between L1 and L2 IHs' meanings and suggest that mechanisms employed to resolve cross-language interference remain rather stable during L2 learning in classroom settings.
We performed post-hoc analyses to investigate whether magnitude of an increase in L2 proficiency across the three testing times (treated as a factor independent of individual participant’s group membership and measured with self-assessment scales as well as with Verbal Fluency and LexTALE tasks (Lemhöfer & Broersma, 2012)) correlated with a lower cross-language interference and more efficient interference resolution in the IH task. Preliminary results show no correlations between task performance and the magnitude of the increase of L2 proficiency, even for participants showing most rapid change in L2 proficiency. These results combined with a stable pattern of task performance across the three testing times suggest that cross-language interference in bilingual comprehension is a robust phenomenon not easily modified by increasing L2 proficiency or L2 exposure."

Effects of cross language ambiguity on word learning and processing
Chelsea Eddington and Natasha Tokowicz Poster 22-May
Within the English language a large portion words are semantically ambiguous such that a word has more than one meaning (e.g., trunk). Semantically ambiguous words can be classified based on the semantic similarity of the ambiguous word’s meaning. For example, homonyms are ambiguous words with unrelated meanings (e.g., bank), and polysemous words are ambiguous words with related meanings (e.g., paper). Semantic ambiguity within a language can sometimes result in translation ambiguity, which occurs when a word in one language has more than one translation in another language. Translation ambiguity can also be due to near-synonyms in the target language (e.g., fruit can be translated in German to Frucht and Obst). Semantic ambiguity within a language and translation ambiguity across languages have been found to affect processing and learning (e.g., Eddington & Tokowicz, 2013; Elston-Güttler & Friederici, 2005; Rodd, Gaskell, & Marslen-Wilson, 2002). However, despite the extensive research on semantic ambiguity within a language there is less research on how ambiguity across languages affects processing in second language learners and bilinguals. In this study we examine how naïve learners of German acquire words that are translation ambiguous and how they process the different types of translation-ambiguous words semantically. We are interested in how learners acquire translation ambiguous words that are due to near-synonyms in the target language (e.g., fruit–Frucht and Obst), polysemy in the source language (e.g., paper–Aufsatz(content) and Papier(material)), and homonymy in the source language (e.g., trunk–Baumstamm(tree) and Kofferraum(car)). Participants were trained on a set of German-English vocabulary words on two days and were tested on their learning of the words two days after their first training session and one week after the second training session. We examined how easily participants can acquire German vocabulary words, and their performance on a semantic relatedness task, which measures semantic processing. The semantic relatedness task asks participants to decide if the English word is semantically related to the German word or not. Preliminary results indicate that participants respond more slowly to translation-ambiguous words that are due to polysemy compared to translation ambiguous words due to homonymy. This suggests that the similarity between the polysemous words interferes with effectively deciding if the English word is related in meaning to the German vocabulary word. Additionally, participants were faster at making semantic relatedness decisions after two days of training than after one day of training. The accuracy results of the semantic relatedness task revealed that participants were more accurate when deciding that the German-English word pairs were translation equivalents compared to semantically related word pairs. Participants were also less accurate at making decisions for words that are translation ambiguous due to near-synonyms in the target language than the other word types. Results indicate that the type of ambiguity impacts learning and may impact semantic processing of the words as indicated by the semantic relatedness task. We will further discuss the results with respect to how they relate to models of bilingual memory.

Self-Paced Reading of Intra-sentential Codeswitches in Spanish-English Bilinguals
Paige N. Elinsky, Kaitlyn A. Litcofsky, M. Teresa Bajo and Janet G. van Hell Poster Session 14
"Codeswitching is a phenomenon where bilinguals naturally alternate between their two languages within a conversation, or even a sentence. For example, a Spanish-English bilingual might say, “Yesterday I went to the store para comprar leche”. Most experimental research on intra-sentential codeswitching only examines switching in one language direction (e.g., Moreno, Federmeier, & Kutas, 2002), despite the finding of asymmetrical switch costs in the single, isolated word language switching paradigm (e.g., Meuter & Allport, 1999). Proverbio, Leoni, and Zani (2004) did examine both directions in high-proficient simultaneous interpreters and found that, contrary to the direction of the asymmetry
in language switching studies, switches into the second language (L2) incur a greater processing cost than switches into the first language (L1). A recent study (Litcofsky & van Hell, in prep) examined this asymmetry in highly proficient Spanish-English habitual codeswitchers using a behavioral self-paced reading task. Again, switches incurred a greater processing cost, in terms of reading time, when switching into the L2 than into the L1. The current study also examines intra-sentential codeswitches, but in lower proficient bilinguals who are not habitual codeswitchers in order to examine whether the asymmetry effect extends to this population.

Twenty-five unbalanced, L1-dominant Spanish-English bilinguals completed a behavioral self-paced word-by-word sentence reading task that included four conditions (see table for an example): 1) codeswitched sentences from Spanish into English 2) codeswitched sentences from English into Spanish 3) non-switched sentences in Spanish 4) non-switched sentences in English. Reading time was measured for each word. Comprehension questions ensured participants read for meaning. Results show that there was a processing cost when switching from Spanish (the dominant language) into English (the weaker language) such that reading time was slower for the codeswitched word and the following words than when reading non-switch sentences. When switching from English to Spanish, switch and non-switch sentences were read similarly, indicating there was no switching cost. This pattern of results is in line with an ERP study testing bilinguals drawn from the same population (Litcofsky, Bajo, & Van Hell, in prep). An increased late positive component (LPC) was found when switching from Spanish to English, but there was no effect in the opposite direction. The combined self-paced reading and ERP data suggest that both languages are dynamically managed during sentence comprehension, and the comprehension of intra-sentential codeswitches depends on relative proficiency in each language."

"Aim: The present study investigated the development of morphological awareness in English as a foreign language (EFL) among poor spellers (PS) and normal spellers (NS), and the relationship between morphological awareness development and the development of spelling accuracy by investigating morphological awareness of inflectional morphemes (IMA) and derivational morphemes (DMA) separately and by targeting morpheme spelling and morphological-rule spelling separately. Tasks: Students were administered the following tasks: a) morphological awareness tasks (recognition and production) for inflectional and derivational morphemes separately; b) inflected and derived word spelling tasks. In addition to the English morphological awareness and spelling tasks the participants were administered a number of cognitive linguistic tasks in Arabic (L1) including phonological awareness, rapid naming and working memory.

Results: The results showed a significant development in both IMA and DMA across grades and in both NS and PS groups. However, development was steeper in the NS than the PS group. The results also showed significant differences between the NS and PS groups in favor of the NS group. As to differences between IMA and DMA, the results showed a significant difference in the 5th grade in both groups, and in the 7th grade in the PS group only.

Regarding the relationship between morphological awareness and spelling accuracy, the results showed a significant correlation between inflectional-morpheme awareness and inflectional-morpheme spelling accuracy, but only in the youngest NS and PS groups as well as in 7th grade PS group. The results also showed a clear relationship between inflectional-morpheme awareness and inflectional-rule spelling. However, the results varied across grades and groups with inflectional-morpheme awareness correlating with inflectional-rule spelling among the older 9th grade NS group. In terms of derivational-morpheme awareness and derivational-morpheme spelling and derivational-rule spelling to our surprise there was no correlation.

Discussion: One important outcome of the study is the demonstration that morphological awareness does develop implicitly in EFL learners, despite the lack of explicit teaching and the limited exposure to the language, and that this knowledge is utilized by EFL learners in their spelling. Yet, such morphological processing is more apparent in normal than in poor spellers. The results also clearly demonstrate the psychological reality of the distinction between the two affix systems: the derivational and the inflectional with one preceding the other in emergence and in utility in spelling development. Finally, the results show that spelling ability in English, and due to the deep orthography and the complex relationship between morphemes and how they are realized in spelling, with some morphemes changing the phono-
orthographic representation of the stem (consonant doubling, e deletion, y rule etc.), entails two distinct morphologically based components. The first is linguistic and it pertains to awareness of the morphological structure of words. The second is orthographic, and it pertains to knowledge about the mapping between morphology and orthography. The two components, while showing different developmental trajectories, reveal a reciprocal relationship with each other and with spelling development.

Sample: Participants consisted of 131 Arabic native speaking school-students in the 5th, 7th and 9th grades. The participants were broken down into normal and poor spellers based on a battery of screening tests consisting of reading and spelling tasks (5th grade: NS=21, PS= 24; 7th grade: NS= 19, PS= 24; 9th grade: NS= 23, PS=20."

**Turkish at School in Berlin: A Closer Look at Prevailing Discourses**

Isil Erduyan 

"Turkish has been offered as a foreign language elective in some high schools in the immigrant-heavy neighborhoods of Berlin since the 1980s. While the curricular decisions for the Turkish instruction have been made by the Berlin Senate’s Department of Education, much has been left to the discretion of individual schools. This raises questions as to what kind of Turkish should be taught to the multilingual Turkish students at school and what sorts of discourses should inform the Turkish lessons. As Blackledge and Creese (2012) demonstrate, discourses promoted in a heritage language classroom are situated in local time and space, as much as go beyond them to include histories of migration and narratives of nationalism. Analyzing these discourses, then, becomes an important step in uncovering the multilingualism in practice in the classroom.

In this paper, reporting on an ethnographic study that includes classroom recordings and interviews, I aim to shed some light on the prevalent discourses in the Turkish lessons of an urban high school in Berlin. I discuss three major discourses in circulation in the Turkish classes. The first one is the discourse of pure Turkey-Turkish; which the teacher designates as the standard the students should be able to speak, devoid of influences from German or non-standard varieties. The reception of this discourse by the students, however, is far from the teacher’s expectations of them. The second major discourse in circulation is the discourse of old-Turkish, incorporating elements such as borrowings from Arabic. Within her pro-Republican, secular rhetoric, the teacher presents old Turkish as a matter of nostalgia. However, students do adopt this style, although playfully, and juxtapose it against German, bypassing its standard, pure Turkish equivalents. The third major discourse is a mixed urban Turkish, which combines both the urban Turkey-Turkish elements and urban German-Turkish elements as a marker of modern and urban Turkish-German identity by the students. Although not particularly promoted by the teacher, the students perceive this discourse as the modern-day German-Turkish marker of identity that separates them from the immigrant rhetoric of the previous generations in Germany.

**Code-switching strategies in Guarani-Spanish mixed words**

Bruno Estigarribia 

"Mixed words are common in language contact involving agglutinative languages (Backus 1992; Gardner-Chloros 2009; Myers-Scotton 1997). Muysken (2000) considers morphological integration producing mixed words diagnostic of the code-switching strategies of insertion and congruent lexicalization. We discuss here contact data between Spanish (fusional and somewhat analytic) and Guarani (agglutinative and polysynthetic). We show that mixed words can also result from the use of L1 markers in discourse that has switched to a now-dominant L2 (backflagging, Muysken 2013).

Figure 1 summarizes the processes yielding mixed words in Guarani-Spanish mixing. Insertion is responsible for mixed words when the Matrix Language (Myers-Scotton 2002) of the clause is Guarani. In (1), two Spanish verbal stems (vale-, lucha-) admit Guarani affixes. In this case, the stems are established borrowings. They are single stems, they bear the native oxytone Guarani stress (paroxytone stress for indicative forms is expected in Spanish); and they have displaced the historical Guarani stems tepy and ñorairõ. In (2), the Guarani affix -nte forms a word with the Spanish stem gubernamental. However, this is NOT an established borrowing. It is not phonologically integrated: it does not show obligatory Guarani nasal harmony and it includes the non-Guarani phoneme /b/. Moreover, it does not result from insertion of a Spanish word, but rather from insertion of an Adj+N constituent, itself not lexicalized in Guarani.
1. nd-o-valé-i  re-luchá...
   NEG-3.SBJ-be.worth-NEG 2SG.SBJ-fight
   'It isn’t worth it to fight...' (Ayala de Michelagnoli 1989:20)
   NEG-REQUEST 2SG.SBJ-REFL-CAUS-stupid-NEG that propaganda governmental-only
   ‘Don’t let yourself be fooled by that mere government propaganda.’ (Ayala de Michelagnoli 1989:20)

However, whereas in (1) and (2) the Matrix Language is Guarani, in (3) below the Matrix Language is Spanish. When this occurs, mixed words result from backflagging. In (3), the Spanish stems sé and qué appear with the Guarani bound morphemes -ete and -pa. These are not borrowings of Spanish words since sé and qué have Guarani counterparts (kuaa and mba’epa), and the Matrix Language is Spanish. Nor are they insertions of –ete and –pa since these are not constituents, not selected elements, and they are function words (Muysken 2000:230). Moreover, Spanish is here the now-dominant L2. Hence, Guarani intensifiers and question markers appear in Spanish-Matrix clauses via backflagging.

3. ...no sé-etequé-paes eseso...
   ...no i.know-INTENSIFIER what-Q is that
   ‘I really don’t know what that is...’ ’ (Ayala de Michelagnoli 1989:11)

We conclude that, when agglutinative languages are involved, mixed words can come about via different processes. When the agglutinative language is the matrix language, insential switches are often morphologically integrated. This is known from previously studied pairs (Finnish-English: Halmari 1993; Quechua-Spanish: Muysken 1991; Swahili-English: Scotton 1983). However, when the agglutinative language is not the matrix language, mixed words are still possible, not through morphological integration, but through the backflagging usage of affixal morphology that has often sentential or phrasal scope (rather than lexical scope), and serves the function of flagging the original community language.

**Word Learning by Young Emergent Bilinguals: Fast Mapping in Arabic and Hebrew**

Zohar Eviatar, Haitham Taha, Vikki Cohen and Mila Schwartz  Poster  22-May

"Introduction: The process of word learning has been a central focus in the study of children’s understanding of reference in language, and the manner in which this understanding is integrated with other world knowledge (Swingley, 2010). One of the central concepts in this area, fast mapping (FM), was introduced by Carey & Bartlett (1978), and refers to the ability of children to associate a novel label with a novel item or action after a single or very few exposures. There is a large literature on FM abilities in monolingual children (e.g., Yurovsky, Fricker, Yu, & Smith, 2014), and a somewhat smaller one, comparing bilingual and monolingual children. In general, studies that compared monolingual and bilingual children in novel word-novel object learning tasks reveal equivalent performance within the two groups (e.g., Kaushanskaya et al., 2014). However, there is disagreement about whether FM processes differ between bilinguals and monolinguals. The main goal of this study is to look for possible differences between bilingual and matched monolingual kindergarteners on FM tasks, as well and to explore the manner in which phonological and morphological abilities are related to new word learning.

Methods: We tested 94 five and six-year-olds, divided into two monolingual and two emergent bilingual groups: 26 monolingual Hebrew speakers; 24 monolingual Arabic speakers; 18 bilingual children with Hebrew as L1; and 25 bilingual children with Arabic as L1. All emergent bilingual children were recruited from three Hebrew-Arabic bilingual kindergartens and had been attending the school for 8-9 months. The Hebrew and Arabic speaking monolingual children were selected from five kindergartens from mid-level socioeconomic neighborhoods in the north of Israel. All groups were matched on SES and parent education was controlled. We used a fast mapping task in which the form of the novel label was similar to Arabic, Hebrew, or neutral, to tap phonotactic sensitivity and its effects on word learning. All of the tests were given in the childrens’ home language, and all used the same stimuli. We measured both identification and production of the novel words, and also phonological and morphological abilities in L1 and L2.

Results and Discussion: Overall, the bilingual groups did not differ from each other and performed better than the monolingual groups, who also did not differ from each other. The Arabic speakers, both bi- and monolinguals,
performed worse with Arabic-like stimuli than with the other types of nonwords. We interpret this as reflecting the complicated diglossic situation in which Arabic children acquire language. In addition, for the children who know Hebrew (the two bilingual groups and the monolingual Hebrew speakers), morphological abilities best predicted FM ability. For the children who know Arabic (the two bilingual groups and the monolingual Arabic speakers), phonological abilities best predicted FM ability. We interpret this as reflecting the higher level of morphological complexity in Arabic than in Hebrew. The results support the hypothesis that early emergent bilingualism confers an advantage in novel word learning for both identification and production.

How individual differences in language proficiency and cultural identification influence code-switching in Spanish-English bilinguals

Sarah Fairchild and Janet van Hell
Poster 23-May

Individual differences in cognitive and linguistic abilities are known to affect language comprehension and production in bilinguals. For example, L2 proficiency (Kohnert et al., 1998), cultural identification (Altman et al. 2013), and inhibitory control (Pivneva et al., 2012) can affect speech production in both languages. Additionally, L2 proficiency and language learning motivation have been found to affect L2 morphosyntactic processing (e.g., Tanner et al., 2013).

The present study sought to better understand individual variation in code-switching in Spanish-English bilingual heritage speakers, thereby extending earlier work on individual variation in language production. More specifically, we explored how individual differences in L1 and L2 proficiency, amount of L2 exposure, L2 age of acquisition (AoA), American and Hispanic cultural identification, and motivation to speak L2 English affected the production of code-switched determiner-noun phrases. We hypothesized that increased proficiency in and exposure to their less dominant L1 Spanish, greater Hispanic cultural identification and a later L2 English AoA would lead to more efficient code-switching. In a second analysis, we examined how these factors affect the naming of pictures in Spanish and English.

Participants completed a determiner-noun picture naming task designed to elicit code-switching in both switching directions. They also named the same pictures using bare nouns and single language noun phrases. Accurate responses consisted of both the correct noun and the determiner with the appropriate grammatical gender (if applicable) in the specified language. Finally, each participant completed an extensive language history questionnaire and a Flanker test measuring attention and inhibitory control.

Correlational analyses revealed that stronger American cultural identification was related to decreased accuracy when code-switching from a Spanish determiner to an English noun, and a greater likelihood of defaulting to the use of the masculine determiner 'el'. L2 AoA was positively correlated with accuracy when producing English determiner-Spanish noun switches. Multiple regression analyses indicated that Hispanic cultural identification, exposure to English, L2 AoA, and self-rated Spanish proficiency were all significant predictors of code-switching behavior. Interestingly, performance on the Flanker task did not modulate code-switching performance.

In a second series of analyses, we examined individual variability in naming pictures in Spanish and English. More exposure to Spanish and stronger Hispanic cultural identification was related to better production of bare Spanish nouns and Spanish determiner phrases. American cultural identification, self-rated Spanish proficiency, and motivation to speak English well were significant predictors of Spanish noun phrase production.

These results align with earlier findings, but there are notable differences. Altman et al. (2013) found that cultural identification affected code-switching behavior and language production in Russian-Hebrew bilinguals. A similar pattern emerges in our Spanish heritage speakers, further confirming that cultural identity plays an important role in code-switching (Bhatt & Bolonyai, 2011). Unlike Kohnert et al. (1998), we did not find a relationship between naming accuracy and self-rated proficiency in the two languages, although both studies do show that the amount of exposure to each language influences production ability. We will discuss the importance of taking individual variation into account when studying code-switching, and bilingual language production more generally.

Cultivating Bilingual Identities: Language and Literacy Practices in Formal and Informal Contexts

Shanan Fitts, Greg McClure, Ofelia Garcia, Alice Ahyea Jo, Ruth Harman, Soojin Ahn and Brittany Bogue
Thematic session Session 19

*Proponents of bilingual education in the United States have heard the oft-repeated refrain, él que habla dos idiomas vale por dos (one who speaks two languages is worth two people), affirming the value of bilingualism and
bilingual people. The reality of growing up bilingual in the U.S. is often quite different. Historically, bilingualism has not been valued or nurtured in U.S. public schools (Crawford, 2004), and despite decades of research demonstrating the academic, cognitive, and social benefits of bilingualism and bilingual education (Collier & Thomas, 2012; Lindholm-Leary, 2001), many states have passed legislation focused on dismantling bilingual education (Gándara, Losen, August, Uriarte, Gómez, & Hopkins, 2010). Still the popularity of dual-language immersion programs in the U.S. continues to grow, with the number of language immersion programs increasing from 260 in 2000 to over 2,000 in 2011 (Wilson, 2011).

In the U.S., bilingual education programs, and particularly dual-language education programs, are built upon explicit social justice philosophies and are lauded for allowing students to have access to schooling and literacy in their home languages. However, research on such programs has demonstrated that power differentials between majority and minority language speakers, and between speakers of different varieties of English and Spanish may be reproduced (McCollum, 1999; Palmer, 2009). Therefore, bilingual educators and their students must consider issues of power and status with regards to the language varieties and practices that they accept or promote, and must also consider their beliefs about language varieties. The day-to-day language practices of bilingual individuals, what Garcia (2010) refers to as languaging, might include code-switching, language mixing, or the use of vernacular varieties of Spanish and English. Such language practices are frequently denigrated, corrected or ignored in the context of formal education. Current research in the field of bilingualism points to the importance of developing a better understanding of the complex ways that bilingual people use language, and developing new ways to incorporate bilinguals’ multilingualism and multiliteracy into formal and informal educational contexts (Farr, Seloni, & Song, 2010). The four papers included in this themed session explore these issues by examining intersections of language use, language attitudes, identity, and performativity in bilingual students and bilingual teachers in the Eastern United States.

The first two papers in this session focus on curriculum and instruction for bilingual youth. The first paper describes translanguaging as a theoretical and pedagogical model for increasing bilingual students’ literacy engagement and skills, and provides examples of how translanguaging may be applied in the classroom. The second paper presents findings from an after-school program focused on developing critical language awareness in bilingual youth. The third and fourth papers focus on bilingual teachers and their identities and experiences as bilinguals. The third paper presents a study of bilingual teachers’ experiences growing up bilingually and explores the ways that their prior experiences inform their teaching. Our final paper explores efforts to use performance and discourse analysis as methods of teacher reflection and empowerment.

**Modelling bilingual sentence reading**

Stefan Frank Paper Session 8

"It is well known that words are recognised faster if they occur more frequently in the language. For bilinguals, recognition time on an interlingual homograph depends on its frequency in the two languages combined, which shows that the mental lexicon is not strictly separated into two languages. This also holds for reading times on words in sentences, independently of whether the sentence is in L1 or L2 (Duyck, Van Assche, Drieghe, & Hartsuiker, 2007; Van Assche, Duyck, Hartsuiker, & Diependaele, 2009). However, it is as yet unclear if this effect is merely lexical or whether reading in one language is affected by knowledge of another language beyond the process of word recognition. The current study tackled this question by comparing word reading times to quantitative predictions from computational models of sentence processing.

Any language model that assigns probabilities to (words in) sentences can be used to estimate word surprisal (formally: the negative logarithm of the word’s probability given the sentence so far). Surprisal has repeatedly been shown to form a significant predictor of reading time (e.g., Fernandez Monsalve et al., 2012; Smith & Levy, 2013). Here, we use recurrent neural networks (RNNs; Mikolov et al., 2011) as language models and implement three such models. One RNN is trained on a large number (4.5 million) of English sentences; one on 5.8 million Dutch sentences; and one on both the English and the Dutch sentences without being told which sentence belongs to which language. The two monolingual (English or Dutch) models can be viewed as simulating a bilingual whose two languages are fully separated, whereas the bilingual (English plus Dutch) model embodies the other extreme: a bilingual whose two languages are treated as one. After training, each RNN can accurately estimate word surprisal in the language(s) on which it was trained.
The models are evaluated against self-paced reading times (RTs) on the 56 filler sentences from a study by Frank et al. (2014), who tested 46 native Dutch speakers (with L2 English) either in English or in Dutch. Surprisal values for sentences in both languages are estimated by the monolingual and bilingual RNNs. Linear mixed-effects regression analyses reveal that RTs on Dutch stimuli are predicted more accurately by the monolingual Dutch model’s surprisal estimates than by those of the bilingual model: Bayesian model comparison estimates the probability that the monolingual model outperforms the bilingual model to be $P(\text{mono} > \text{bi}) = .91$. This means that there is no evidence that L2 English affects L1 Dutch reading. Conversely, however, RTs on English are predicted more accurately by the bilingual model ($P(\text{mono} > \text{bi}) = .00$). Hence, L1 Dutch does affect L2 English reading. This cannot be merely a lexical effect, as word frequency and length are factored out in the analysis.

*Is codeswitching costly? Evidence from disfluencies and speech rate in spontaneous bilingual conversation*

Melinda Fricke, Orren Arad-Neeman, Judith Kroll and Paola Dussias  

"Experimental studies employing the language switching paradigm have consistently provided evidence for a “switch cost”: when bilinguals are required to switch languages during a naming task, errors and naming latencies tend to increase (Meuter & Allport, 1999). But could this switch cost be an artifact of the experimental setting? Is there evidence for a switch cost during fluid, communicative, highly practiced, and potentially qualitatively different spontaneous codeswitching?

We address this question by examining speech disfluency and speech rate in the Bangor Miami Corpus of Spontaneous Codeswitching (Deuchar et al., 2014), a corpus of 56 conversations between 85 highly balanced English-Spanish bilinguals. Utterances consisting of a switch from the predominant (“matrix”) language of the conversation to the non-matrix language were selected for analysis. For each codeswitched utterance, a set of unilingual matrix language utterances were identified to serve as a control. Unilingual utterances were matched for speaker identity, conversation, utterance length in words, and syntactic category at the “switch point”. All matching unilingual utterances were included, and codeswitched utterances lacking a match were excluded. The final data set consisted of 1739 codeswitched utterances and 5548 matched unilingual utterances, for a total of 7287 observations. The critical portion of each utterance (the portion preceding the switch point or matched non-switch point) was hand-labeled using Praat (Boersma & Weenink, 2014), and speech rate was calculated by dividing the duration by the number of syllables in that portion. Utterances containing disfluencies (uhs, repetitions, disfluent pauses, etc.) were hand-tagged and excluded from the speech rate analysis.

Mixed-effects regression modeling indicated that codeswitched utterances were significantly more likely to be disfluent (37.4% of codeswitched vs. 21.8% of unilingual utterances; $\chi^2(1) = 61.3$, $p < .0001$). In the speech rate analysis, there was a main effect of matrix language: mean syllable durations were significantly shorter in Spanish than in English (140.7 ms vs. 165.1 ms; $\chi^2(1) = 14.5$, $p = .0001$). Crucially, there was also a main effect of utterance type: syllable durations were shorter in unilingual than in codeswitched utterances (151.1 ms vs. 167.8 ms; $\chi^2(1) = 48.3$, $p < .0001$). The interaction between utterance type and matrix language was also significant: the apparent switch cost was greater when switching from Spanish to English than vice versa (21.6 ms vs. 11.6 ms; $\chi^2(1) = 6.1$, $p = .01$).

To our knowledge, this is the first evidence suggesting a processing cost associated with switching languages in spontaneous bilingual conversation. However, the direction of causality remains unclear: Does planning a language switch incur a processing cost, or does codeswitching function as a repair mechanism for already disrupted speech? To shed light on this question, an analysis of consonant voice onset time is underway; if speakers anticipate that a language switch is coming, their production of the matrix language may show anticipatory phonological influence from the non-matrix language. We are also exploring the data further by deriving corpus-based measures of language dominance, incorporating measures of bigram probability into the models, and investigating alternative explanations for the slowed speech rate."
"The number of Americans who speak a language other than English has risen to one in every five residents, such that children in the U.S. have become increasingly exposed to languages other than English (U.S. Census Bureau, 2011a). Additionally, it is often the case that these children belong to a lower socioeconomic status (SES) relative to children exposed exclusively to English (U.S. Census Bureau, 2011b).

The relation between family socio-economic status (SES) and early language acquisition is well established in English monolingual children (Hart & Risley, 1995) and maternal education has proven to be a robust proxy for SES (Hoff, 2003, 2013). Importantly, there is evidence that maternal education exercises its effects on child language through the quality and quantity of maternal language input (Hoff, 2006; Hurtado, Marchman & Fernald, 2008) in English- and Spanish-speaking children. Further, there is evidence that mothers with higher, contrasted with lower, educational attainment have children who are more efficient at word processing (Hurtado, Marchman, & Fernald, 2007). However, in a large study of rural English-speaking households, maternal engagement was a stronger predictor of maternal language than was education (Vernon-Feagans et al., 2008). Although maternal education also predicted maternal language, these findings suggest a more nuanced view in which the relation between maternal education and child language is mediated by global parenting variables. Consistent with this notion, some recent studies of Spanish-speaking monolingual and dual language learning children have not found effects of maternal education on acquisition (DeAnda, et al., 2014, Place & Hoff, 2014; Weisleder & Fernald, 2013).

The theme of the proposed session is the characterization of maternal contributions to the language environment of emerging, Spanish-English bilingual children. Of interest is the relation of maternal education and other maternal and environmental factors to early language acquisition. The proposed session explores this question in three samples from three distinct geographical regions of the United States: Southern California, Florida, and New York City. The first paper contrasts the vocabulary acquisition trajectories of monolingual and dual language-learning English and Spanish-speaking children in California and explores the influence of maternal education and language input on acquisition in each of these subsamples. The second paper explores the relation between maternal education and vocabulary acquisition in Spanish-English bilingual children in Florida as a function of the language in which mothers received their highest level of education. The final paper presents findings elucidating the relation between SES and maternal responsivity in emerging bilingual children from low-income Spanish-Speaking households in NYC.

Together, these papers provide a perspective on the relations between maternal education, input, and responsiveness and their respective contributions to language acquisition in emerging Spanish-English bilinguals in the U.S. Two conclusions derive from these findings: first, the process of acquiring language in a bilingual setting places unique demands on maternal language practices and second, these language practices may account for variance beyond maternal education, particularly in the Spanish-speaking population.

Convergence in motion encodings in French-English bilingual children
Reyhan Furman, Nadia Miller and Elena Nicoladis
Paper Session 26

"Bilingual adults sometimes show convergence in speaking their two languages, using the same kinds of constructions in both their languages (Deuchar, 2000). Studies on how adults encode motion events have also illustrated this conclusion. Languages differ on how they encode motion events (Talmy, 2000). In satellite-framed languages like English, speakers often encode manner of motion in main verbs and path in satellites. In Verb-framed languages like French or Spanish, speakers often encode the path of motion in main verbs and manner in optional gerunds. Spanish-English bilingual adults show some signs of convergence in speaking about motion events using more manner verbs in Spanish than monolinguals and slightly more path verbs in English than monolinguals (Hohenstein et al., 2006).

The primary purpose of the present study is to test if this same convergence in lexicalizing motion is characteristic of simultaneous French-English bilingual children. If so, they might show different lexicalizations from both groups of monolinguals. Secondarily, we’ll look at whether there are developmental changes between early and middle childhood. Previous studies have shown that English-speaking monolinguals initially use a lot of path main verbs in encoding motion and only later start to use a lot of manner main verbs, resulting in more path/manner confrations (Nicoladis & Brisard, 2002).

French-English bilingual children between the ages of four and ten years participated in this study. We compared their motion encodings in French and English to those by age-matched French and English monolingual children. All the
children watched a cartoon and told the story back to a native speaker of the target language. The bilingual children did this twice, once in each language, on two different days with two different interlocutors, the order of the language sessions was counterbalanced. The children’s motion encodings were coded for path alone (e.g., he went down or he descended), manner alone (e.g., he ran), or path/manner conflation (e.g., he ran down).

The bilingual children differed from the English monolingual children, using more lexicalizations of the path of motion in both of their languages. The bilinguals’ lexicalizations in both French and English did not differ from those of the French monolinguals. In other words, the bilinguals showed convergence on the French style of encoding motion, using it in both of their languages.

The results showed no differences by age groups (4–6 year olds vs. 8–10 year olds) in any language group. There were no interactions between age group and language group.

We cannot entirely rule out the possibility that the bilinguals are lagging behind English monolinguals in the development of motion lexicalizations in English. However, this possibility seems unlikely, as we observed no age differences between early and middle childhood in the English monolinguals on this task. This same pattern of results has been shown with sequential English-French bilinguals (Soroli et al., 2012). Our results indicate that convergence can develop early in bilingualism. We argue that the bilinguals have converged on the simplest way to talk about motion, path being the core aspect of motion (Talmy, 2000), that is acceptable in both languages."

The role of weekly mother tongue instruction for the biliteracy development of Somali-Swedish speaking children in the early school years

Natalia Ganuza and Christina Hedman

This paper is based on a study of the role of weekly mother tongue instruction (henceforth MTI) for the biliteracy development of Swedish-Somali speaking children in the early school years. Somali is one of the largest growing minority languages in Sweden due to recent years of immigration, and many children in the Swedish school system are entitled to weekly instruction in Somali. Through provisions in the Swedish Education Act (SFS 2010:800), the schools are obliged to offer weekly MTI to all pupils with a legal guardian with a mother tongue other than Swedish, if the pupil has basic knowledge of the language in question and uses it for daily communication in the home. In practice, this legal right is most commonly restricted to 40–60 minutes of MTI per week for entitled pupils and the subject is often not included in the school’s regular timetable. Despite these and other problems of implementation of MTI, the Swedish National Agency for Education (2008) has found that pupils who have participated in MTI leave compulsory school with a higher average merit rating as compared to pupils who, despite being entitled to it, have not been enrolled in MTI. As no previous studies have explored in what way MTI may support literacy development or general academic success, we aim to focus specifically on the role of MTI for bilingual children’s vocabulary and literacy development. In literacy research, it is often emphasized that vocabulary development plays a vital role in children’s acquisition of de-contextualized school-situated language and in the development of general literacy skills. By means of a survey of the pupils’ literacy practices in Somali and Swedish, as well as measures of their (school related) vocabulary breadth and depth, word decoding abilities and reading comprehension in both Somali and Swedish, we have compared the results of pupils who have participated in Somali MTI for several years throughout primary school with the results of pupils who have not had MTI, or who have had MTI for a limited number of years. In the presentation, we will discuss the results of these comparisons and draw on ethnographic data from a previous study of classroom literacy practices in Somali MTI (Ganuza & Hedman, submitted) in order to shed light on some of the results.

Verbalizing as a Tool to Promote Conceptual Development in Heritage Learners

Prospero Garcia and Silvia Perez-Cortes

"Framed within a Sociocultural Theory of Mind approach in the field of Second Language Acquisition (Lantolf & Poehner, 2014), this study seeks to explore the role of Heritage Speakers’ (HS) verbalizations in their development of the grammatical concept of aspect. Spanish HS have been documented to exhibit a considerable degree of attrition in their command of aspectual distinctions (Montrul, 2002, 2009, 2011; Montrul & Bowles, 2010; Montrul & Perpiñán, 2011; Silva-Corvalán, 1994). Although some researchers have emphasized the importance of implementing pedagogical practices fostering form-meaning connections (Cuza et al., 2013; Garcia-Frazier, 2013; Valdés, 2005), the majority of
studies concerning the role of instruction in this population’s development of grammatical categories have focused on their degree of accuracy and morphological recognition (Beaudrie, 2012; Montrul, 2009, 2011; Potowski et al. 2009).

The present study qualitatively analyzes data from advanced Spanish Heritage Speakers (N=7) involved in a larger-scale project investigating the role of Concept-based Instruction (CBI) in the foreign language classroom (García, 2012). Participants’ conceptual understanding of aspectual contrasts (i.e. Preterit/Imperfect tenses) was examined over a period of 12 weeks, and consists of two types of data: written (definition and performance data) and oral production (verbalizations occurred during teacher-student interactions).

Findings suggest that participants’ verbalizations are a key factor to ascertain conceptual development in the heritage language, as well as being an insightful mediational tool to foster the development and internalization of grammatical concepts. It is proposed that verbalizations not only allow researchers to have a more comprehensive picture of HS’ development, but they also help promote a more sophisticated semantic understanding of grammatical conceptual categories in HS, fostering their control over grammatical concepts during communication.

What determines the accessibility of the antecedent of pronouns? Disentangling between order of mention and syntactic function in bilingual Spanish  

Estela Garcia-Alcaraz and Aurora Bel  
Poster 22-May

Pronominal anaphora resolution is a challenging phenomenon since it implies the integration of pragmatic and syntactic information, which, according to the Interface Hypothesis (Sorace 2011), is a complex linguistic process for bilinguals and L2 speakers. Previous research, mainly in L1 English, has investigated the factors affecting the accessibility of the antecedent of pronouns, especially in ambiguous contexts. Two factors have been suggested as key to better explain the ease of access: order of mention (or position) and syntactic function of the antecedent. While the former suggests that elements presented first are more available (Gernsbacher & Hargreaves 1988), the later implies that subjects are more prominent (Crawley et al. 1990). Nevertheless, it is not easy to distinguish subjects from elements in first sentence position. Studies in Finnish, which is not an SVO rigid language and thus allowing the dissociation of both factors, have revealed either a subject bias (Kaiser & Trueswell 2003) or a confluence of both factors (Järvinen et al. 2005).

Spanish, as Finnish, allows the separation of both factors. To our knowledge, this issue has not been addressed before. Moreover, no studies have tackled the relative weight of these two factors in bilingual and L2 Spanish. With this study, we want to find out whether Moroccan Arabic (MA)-Spanish bilinguals resort to the same factors as natives for retrieving an antecedent (both languages show flexible word order).

Two groups were tested: 22 sequential bilingual MA-Spanish adolescent speakers that learned Spanish in a naturalistic environment and 22 undergraduate students with Spanish L1. A truth-value judgment task with three conditions with two-levels each was designed (pronoun: null (NP)/overt (OP), position: first/second, syntactic function of the antecedent: subject/object). Participants were presented with 16 experimental ambiguous mini-stories consisting of two sentences while they looked at pictures with two same gender characters as shown in (1). Participants were asked to judge whether the story and the picture matched. Implicit causality of verbs was controlled for (Goikoetxea et al. 2008).

A repeated-measures ANOVA for L1 Spanish revealed an interaction of Position and Syntactic Function (F(1,10)= 8,639, p= 0,015) and a marginal interaction of Pronoun and Syntactic Function (F(1,10) = 4,643, p= 0,057). This means that the confluence of both factors is relevant for NPs (particularly when the antecedent of a NP is a subject in first position), similar to the findings for Finnish; however none of these factors seem to play a role for OPs. Between-groups analyses showed a main effect of Group (F(1,20)= 33,012, p= 0,000), and certain interactions of Group with other factors. As predicted by the Interface Hypothesis, these results reveal that bilinguals do not perform like natives when retrieving antecedents for NPs. Additional analyses suggest that they appear to rely more on the semantic and contextual information provided in the experiment instead of the structural/syntactic cues that primarily guide the L1 interpretation of NPs. This also holds for the interpretation of OPs in L2. The use of this pattern might be receiving positive reinforcement from the lack of OP’s bias in L1."
Cross-linguistic influence in Cantonese-English bilingual children: the case of right-dislocation

Haoyan Ge, Stephen Matthews and Virginia Yip
Poster 21-May

The paper investigates the conditions on and directionality of cross-linguistic influence in bilingual acquisition by looking at the development of right-dislocation in Cantonese-English bilingual children. Hulk and Müller (2000) hypothesize two conditions on cross-linguistic influence in bilingual acquisition: (1) the structure involves the interface of two modules of grammar and (2) the structure in which cross-linguistic influence occurs is one where two languages overlap. If the hypothesis is correct, then one might expect cross-linguistic influence to occur in the bilingual acquisition of right-dislocation (RD) constructions, as RD is a phenomenon at the interface of syntax and pragmatics, and shows partial structural overlap at the surface level in the two target languages (Yip, 2013). However, Ge et al.’s (2013) study calls into question whether these two conditions can adequately account for the quantitative and qualitative differences between Cantonese-English bilingual and English-speaking children in the acquisition of English RD.

The present corpus-based study extends previous findings on cross-linguistic influence by comparing the development of Cantonese RD in seven Cantonese-English bilingual children (Yip & Matthews, 2007) and eight age-matched Cantonese-speaking children. Cross-linguistic influence from English to Cantonese is observed in the distribution of three types of Cantonese RD (examples see (1) (2) and (3)): bilingual children have a significantly lower proportion of null-pronominal RD, and a higher proportion of copying RD and pronominal RD, in comparison to their Cantonese-speaking peers. With regard to the rate of development, Cantonese-speaking children tend to produce more Cantonese RD with increase in age; however, a similar pattern was not evident in bilingual children’s development by the age of four. The results also show that the pronoun as dislocated element appears 6 months later in bilinguals than in Cantonese-speaking children. We attribute the delay in bilingual children’s use of pronoun as dislocated elements (as in (2)) to the influence of English. Furthermore, bilingual children produce non-target forms that are not attested in Cantonese-speaking children, as shown in (4).

Moreover, language dominance and individual variation must be at work in interacting with the two conditions to explain the overall picture. Cantonese-dominant bilingual children produce Cantonese RD as frequently as their eight Cantonese-speaking counterparts, while the English-dominant child dislocates much less frequently than other bilingual peers. In addition, the English-dominant child produces pronominal RD before copying RD and null-pronominal RD in Cantonese, showing a pattern that contrasts with the other non-English-dominant bilingual children. Furthermore, bilingual children exhibit larger individual variation than Cantonese-speaking children in terms of the dislocated elements.

The findings are consistent with previous work (Ge et al. 2013) in suggesting that the extent and degree of cross-linguistic influence must be accounted for by the interaction of a number of factors. Along with the cross-linguistic influence from Cantonese to English found in the case of English RD, the present findings show that cross-linguistic influence can manifest itself quantitatively and qualitatively in two directions, a result not predicted by Hulk and Müller’s (2000) hypothesis.

Examples:
Three types of Cantonese RD: null-pronominal RD, copying RD and pronominal RD, are shown in (1), (2) and (3) respectively (Cheung, 2009, 2012; Matthews & Yip, 2011):

(1) 好 吒 嗨, 你.
    hou2 lek1 wo3, nei5
    ‘You are so smart.’

(2) 佢 好 方 耐心 嘅, 佢.
    keoi5 hou2 mou5 noi6sam1 gaa3, keoi5
    he very have-not patience SP he
    ‘He is not very patient (he isn’t).’

(3) 佢 好 方 耐心 架, 阿明.
    keoi5 hou2 mou5 noi6sam1 gaa3, Aa3Ming4
He is not very patient, AaMing.

Non-target form of Cantonese RD produced by bilingual children:

(4) 有好多架, 我有.
jau5 hou2 do1 gaa3 ngo5 jau5
have very many SP I have
'I have many (I have).' (Janet 3;06.16)

Bilingual Education in Spain: A Fulbright Senior Scholar Research Project
Linda Gerena and Maria Dolores Ramirez  Paper Session 15

"In 2011 a Fulbright Senior Scholar Research grant, sponsored and supported by the United States State Department and the Government of Spain, was awarded to study bilingual program designs in Madrid Spain, and to investigate effective practices that lead to positive student outcomes in both language and content material.

Throughout Spain bilingual education is being promoted and developed in schools, with the objective of teaching a second language, overwhelmingly English (in communities that are officially bilingual, English is the third language) from pre-kindergarten through secondary levels. The main vehicle in Spain for bilingual teaching is known as CLIL (Content and Language Integrated Learning), based on the Council of Europe Framework (2005).

Nowhere is this more evident than in the Comunidad de Madrid, whose official order for bilingual education (Order 1672/2009, April 16, 2009, paragraph 1) begins by stating that ‘the Comunidad de Madrid is convinced that bilingualism is imperative for their students to be effective and integrated participants in the European Union and that the Ministry of Education is demanding renewed efforts to achieve this goal’ (Derecho.com, 2010, unofficial translation of original text). As a result, the pace and scope of bilingual program development and implementation in the Comunidad de Madrid have been rapid. In 2007, there were approximately 250 primary bilingual public schools, with over 2000 native English speaking teaching assistants and 880 officially trained and certified bilingual teachers. By 2015, the target is to prepare the students in the Comunidad de Madrid to become fully competent in English. To achieve this, the goal is to have over 3000 bilingual teachers. In addition, 100% of early childhood centers will be bilingual, 50% of all primary schools will be bilingual centers, and 30% of secondary and high schools will be fully developed as bilingual centers.

The implementation of these programs has relied mainly on the Content and Language Integrated Learning (CLIL) approach, which requires an important shift in terms of teaching methodology. Within this study, CLIL lessons were observed and analyzed to gauge the impact that CLIL may have in teaching and learning processes and pedagogy. Data was gathered from over 30 field observations of public primary and middle schools classes in educational centers located in the Northern area of Madrid during 2012. An observational protocol was developed and used to record field observations and an analysis tool was developed to assure consistency in subsequent data analysis. The observational protocol included detailed components describing major areas of interest such as language and content goals and objectives, lesson delivery strategies, student centered pedagogy, student feedback, and assessments, among others.

This session will present the results of two research questions, “What effective practices can be observed in bilingual classrooms?” and “Are these practices standard or typical in bilingual classrooms?” It will also discuss the participants, methodology, and data collection tools, including the observational protocol and the analysis tool. Findings will be described and explained to help construct an overview of effective practices in CLIL settings in bilingual programs in Spain."
tends to occupy later positions in the sentence as opposed to given information (i.e. topic). The latter contends that heavier constituents (i.e. longer) tend to appear towards the end of the sentence.

Methodology: In addition to a background questionnaire and a language proficiency test, 10 controls and 30 HS participants completed two aural-scalar pragmatic felicitousness tasks. Experiment 1 tests whether HSs understand that Spanish psych-verb (gustar ‘to like’) word order is regulated by pragmatic factors. Following the End-Focus Principle, sentences like (1) in which the <Experiencer> is preverbal (<Experiencer>-Verb-<Theme>-EVT) are preferred in contexts in which the <Experiencer> is the topic (E-contexts). On the other hand, sentences like (2) with the structure <Theme>-Verb-<Experiencer> (TVE) are preferred in contexts in which the <Theme> is the topic (T-contexts) (Franco & Huidobro 2003). Relatedly, experiment 2 examines the influence of information structure (givenness vs. newness) and phonological weight (light vs. heavy) on ditransitive verbs (3).

Results: In experiment 1, participants showed a preference for EVT in E-contexts and TVE in T-contexts as expected according to the End-Focus Principle (Figure 1). In experiment 2, they preferred constituents that are heavy and represent new information to appear at the end while they placed constituents that are light and represent given information in earlier positions following both the End-Focus Principle and End-Weight Principle (Figure 2).

Analysis: HSs follow both pragmatic and phonological principles that regulate word order in Spanish, showing therefore convergence with respect to monolingual speakers. These principles are universal and their goal is to ease the listener’s processing (Hawkins 1995; Wasow 1997, 2002). Like monolinguals, HSs seem to have implicit knowledge of these principles and are able to apply them to Spanish constructions despite the syntactic differences between English and Spanish (i.e., less restricted word order possibilities of Spanish). We take these results to suggest that principles that have a facilitating effect on processing may not be subject to incomplete acquisition.

(1) E-context with EVT sentence
María detesta vivir en un pueblo. Adora las grandes ciudades pero una en particular, ¿era Los Ángeles o San Francisco?
To María le gusta San Francisco, no Los Ángeles
A María le gusta San Francisco, no Los Angeles

(2) T-context with TVE sentence
La biología tiene fama de ser una asignatura difícil. Sin embargo, algunos disfrutan estudiándola. ¿Era Alejandro o Marta quien adoraba la biología?
Biology le gusta to Alejandro, not to Marta
Alejandro likes Biology, not Marta

(3) New/Heavy
¿Qué le compraste a tu hermana?
What did you buy for your sister?

a. Le compré la camisa roja con el logo de los Rolling Stones a mi hermana (Direct-Indirect [Beginning])
I bought the red shirt with the Rolling Stones logo for my sister
b. Le compré a mi hermana la camisa roja con el logo de los Rolling Stones (Indirect-Direct-[End])
I bought for my sister the red shirt with the Rolling Stones logo

Cross-script “false friends” and the bilingual lexicon: Evidence from Japanese EFL learners
Seth Goss  Poster  21-May

*Research on the organization of the bilingual mental lexicon has pointed toward a shared store, allowing for a given word to be activated simultaneously in both languages (e.g. Dijkstra & Van Heuven, 2002). Early studies focused on
alphabetic languages, but more recently, bilingual lexicon models have been tested with non-alphabetic languages like Korean and Japanese (Kim & Davis, 2003; Nakayama et al., 2011). Results confirm that even when presented in differing scripts, translation cognates in one language prime equivalents in the other. The current study used a masked priming paradigm with the aims of first reproducing findings on Japanese-English cognate translation pairs, and second strengthening shared-lexicon models by showing an inhibitory effect in “false friend” prime-target pairs. A sample J-E false-friend is the English word ‘mine’ being (mis)read as /mi.ne/, adhering to the Japanese CVCV syllable structure. I predicted that: 1) Translation cognates will speed lexical decisions compared to other primes, 2) False friend primes will slow decision times compared to both cognate and unrelated primes, 3) False friend primes will yield lower accuracy than both cognate and unrelated primes.

Twenty-four Japanese university students with an average TOEIC score of 570 (SD=178) participated in this study. Targets were 48 frequency-controlled English words that are pronounceable syllabically as Japanese (take, mine, tone). Three types of Japanese syllabic-script katakana primes were used: 1) Cognate primes which were correct transliterations of the English target, 2) False-friend Test primes, 3) Unrelated word primes. An additional 48 English words not adhering orthographically to the CVCV structure of Japanese (e.g. king) were included as fillers, and were only primed by cognates (i.e. type (1) primes). 96 English-based nonwords were added as ‘No’ responses, yielding a total of 192 trials, from which three counterbalanced lists were created. A sample trial is shown in Figure 1.

Results showed that Cognate primes yielded significantly shorter decision times than both the Test and Unrelated prime conditions (Tables 1 & 2). Reaction times for Test and Unrelated conditions, however, did not differ, indicating that the predicted interference from Test primes was not present above the slowdown observed for Unrelated primes. Yet, when accuracy by prime type was examined, Test primes resulted in a significant drop in lexical decision accuracy compared to Cognate primes. Moreover, no difference was found in accuracy between Cognate and Unrelated primes, suggesting that in fact false-friend primes caused interference at the level of language selection.

To conclude, the present cross-script investigation first replicated previous findings by showing that Japanese katakana primes sped up decision times on alphabetic English cognate targets. The second prediction, however, was not borne out in that false-friend Test primes did not slow decision times relative to completely unrelated primes. Yet, accuracy fell significantly in the false-friend condition only, suggesting that the rapid activation of the prime’s phonological code (i.e. Japanese) caused participants to wrongly select the target word’s language, which resulted in an increase in incorrect rejections of English targets."

Bilingual and monolingual children’s different reliance on pragmatic and object-inherent adjective learning cues leads to similar adjective learning outcomes: A combined behavioral and neurophysiological approach
Agnes Groba, Annick De Houwer, Hellmuth Obrig and Sonja Rossi  Poster 21-May

"Bilingually and monolingually developing children differ in their adherence to word learning cues such as pragmatic deixis (Brojde et al., 2012) and object familiarity (Davidson et al., 1997) when learning novel nouns. Their fine-tuned adaptations to a bilingual or monolingual language learning environment tend to be more pronounced in challenging tasks (Yow & Markman, 2011). The learning of adjectives is known to be particularly challenging, but it has rarely been investigated in bilingual children (but Yoshida et al., 2011). Among others, adjectives’ specific difficulty relates to their frequent syntactic ambiguity in the input (Sandhofer et al., 2000) and to their demanding syntactic processing in attributive constructions (Fernald et al., 2010). Non-syntactic cues can help children to overcome these difficulties: For example, a descriptive hand gesture, that is, a pragmatic cue highlighting an object's property, can facilitate children’s novel adjective learning (O’Neill et al., 2002). Object familiarity is another supporting factor, because children will reject a novel word as referring to an object whose name they already know and search for an alternative referent instead, e.g., the unknown object’s property (Markman & Wachtel, 1988). This has been described as an effect of the Mutual Exclusivity Constraint (MEC). As bilingual and monolingual children differ in their sensitivity to pragmatic and object-inherent cues when learning novel nouns (see above), we expected similar differences for novel adjective learning.

In the present study we compared 58 bilingual (Spanish-German cases of Bilingual First Language Acquisition; De Houwer, 2009) and 57 German monolingual 3- and 5-year-olds’ adherence to pragmatic and object-inherent cues supporting the learning of novel adjectives. We also investigated children’s comprehension of real adjectives to shed
light on their learning outcome. In addition to behavioral methods, we used a neuroimaging method (Near-Infrared Spectroscopy, NIRS) with the 5-year-olds.

No differences emerged between bilingual and monolingual children’s behavior at either age when a novel adjective's property interpretation was supported by a descriptive gesture (the pragmatic cue). However, NIRS data disclosed a higher activation in 5-year-old bilingual than monolingual children across a right temporal cerebral region that has been shown to be relevant for gesture integration (Hubbard et al., 2012). When a novel adjective's property interpretation was indicated by an object's familiarity, that is, the MEC cue, both the 5-year-olds' behavioral and neurophysiological results supported a weaker adherence to the MEC cue in bilinguals than monolinguals. Levels of real adjective comprehension were similar for bilingual and monolingual children at both ages. This first study to look at the neuronal underpinnings of the adjective acquisition process in addition to behavioral measures found indications for a stronger reliance on pragmatic cues in bilingual children's adjective learning. In contrast, monolingual children attended more strongly to object-inherent cues. Despite these differences in learning styles, we were able to show that bilingual and monolingual children reach similar levels of comprehension of real adjectives. Implications are discussed.

**Processing of code-switched sentences by bilingual children: online and offline measures**

Megan Gross, Milijana Buac, Eva Lopez and Margarita Kaushanskaya  
Paper Session 1

"Code-switching, the alternation of languages within a conversation, sentence or phrase, is often viewed as a sign of sophistication in bilingual language use (1). However, switching languages during production has also been associated with costs to the speed and accuracy of lexical retrieval in both adults (2) and children (3). It is less clear whether processing code-switched input yields similar costs to comprehension, as recent studies (4-6) have yielded conflicting results. Furthermore, previous work on code-switching has not examined sentence processing in the auditory modality. Thus, even if parents are often advised to avoid code-switching around their children for fear of causing confusion, there is a lack of empirical evidence to support or refute this view. The current study examined on-line auditory processing and offline comprehension of code-switched sentences by typically-developing Spanish-English bilingual children.

Participants (see Table 1) included 27 simultaneous bilingual children exposed to both languages before age two (Mage=9.38, SD=1.52), 10 sequential bilinguals exposed to English after age two (Mage=9.98, SD=1.01), and 12 sequential bilinguals exposed to Spanish after age two (Mage=8.71, SD=1.04). All three groups had nonverbal intelligence scores within normal limits. The auditory moving window paradigm (7) was used to measure on-line sentence processing. The sentences were divided into three segments, and children pressed a button to advance after listening to each one. The language of the third segment was manipulated to create four types of sentences: English-only, Spanish-only, English-to-Spanish code-switching, and Spanish-to-English code-switching (see Table 2). The dependent variable was the Response Time from the completion of the third segment to the key press. In addition, after the third segment, the children responded yes or no to a question about the sentence as a measure of offline comprehension.

Non-parametric Related Samples Wilcoxon Signed Rank tests were used to compare processing times for single-language vs. code-switched sentences for each language within each group to assess patterns of processing costs (see Figure 1). The simultaneous bilingual group exhibited no significant costs in English or Spanish (ps>.23). The Spanish-L1 sequential bilinguals showed marginal costs for processing code-switches from English into Spanish (p=.059) but showed no significant costs for switches from Spanish into English (p=.139). The English-L1 sequential bilinguals showed significant costs for processing code-switches from Spanish into English (p=.019) but no costs for switches from English into Spanish (p=.239). However, none of the groups showed offline comprehension costs; they responded as accurately to questions following code-switched sentences as to questions following single-language sentences (ps>.16).

These results suggest that on-line processing costs associated with listening to code-switched sentences vary depending on children’s acquisition history, with sequential bilinguals more likely to show costs when processing switches into their first language. However, the absence of costs in offline comprehension suggests that code-switching may not have a negative impact on children’s ultimate ability to access the meaning of the sentence."
Bilingualism and language contact scenarios in Latin America

Pedro Guijarro-Fuentes, M. Carmen Parafita Couto, Virginia Gathercole, Paz Gonzalez, Joyce Bruhn de Garavito, Alma Ramirez, Elisabeth Mayer, Liliana Sánchez, Martin Kohlberger and Antje Muntendam

Thematic session  Session 41

"Multidirectional language contact is not described at length in Latin America. However, it probably epitomizes the most common type of contact in the world, where a colonial past, fast socioeconomic change, and society-wide multilingualism have led to equally intense linguistic change. Latin America continues to provide the geopolitical frame for language contact between the official languages of the nation-states and the native languages of the embedded ethnic groups (Gómez Rendón 2008). Hence, the present thematic session will show appealing cases of multiple contact between highly diverse languages in different geographical locations. Specifically, the goal is to determine what happens – sociologically, linguistically, and psychologically – when more than one language is in regular use in a bi- or multilingual community. How do speakers handle these languages simultaneously, and what influence does this language contact have on the languages involved and, ultimately, in the bilingual minds? Languages spoken by bi and/or multilinguals are often altered such that ensuing changes differ from the results of internal (and to certain degree external) processes of change within monolingual speech communities. Thus, it will be attempted to clarify which language internal or external factors (e.g., specific structural features, language dominance and language proximity) constrain the linguistic results of contact. A significant challenge to answering these types of questions for contact linguists is that we are stymied by a paucity of relevant data. Primary data is difficult to find and contact language corpora are generally not freely open or accessible to researchers. This thematic session reflects our attempt to make language contact data and facts available to the scrutiny of other researchers. Hence, focusing on different language contact scenarios in Latin America (Spanish-Amerindian language contact or contact between Amerindian languages where Spanish plays a minimal role), the four talks that encompass this workshop, will (a) discuss undescribed linguistic variations and changes appearing in bilingual minds involving language contact (e.g. post-nasal voicing and predicative nominalizations in Shiwiar-Kichwa bilingualism in north-western Amazonia; the mutual influence of Quechua-Spanish language contact in Peru, Bolivia and Ecuador on the syntax, morphology and prosody of information structure; and clitics in monolingual Andean Spanish as well as in Quechua-Spanish and Nahuatl-Spanish bilinguals), and (b) provide a clear overview of different sociological, psychological, sociolinguistic, and linguistic aspects of language contact and bilingualism in Latin America.

The workshop consists of four oral presentations, which will last for twenty minutes each (15 minutes presentation, 5 minutes questions). The workshop will be opened by a five minute introduction by the session chairs, and closed by a twenty five minute discussion lead by the invited discussants (Prof. Virginia M. Gathercole and Dr. Paz González). The role of extra-linguistics factors, such as intensity of contact, language attitudes, and rates of bilingualism on the stratification of contact features will be highlighted. The summary discussion will lead the audience into time for questions to be addressed to anyone on the panel (the chairs, paper presenters, and discussants alike)."

Using syntactic priming to identify cross-language constraints in bilingual language processing

Jason Gullifer, Judith Kroll, Paola Dussias, Christian Navarro-Torres and Grant Berry Poster 22-May

"Bilinguals momentarily co-activate both languages in parallel when reading or speaking in one language. Parallel activation occurs at multiple levels of representation, e.g., at the word level and the syntactic level. The orthography, phonology, and semantics of words in the unintended language become active even when the words are processed within a unilingual sentence context. Word recognition models assume that both languages share a single, interactive lexicon1. An open question is how and when the intended language is selected during reading.

Choice of syntactic structure is also primed across languages, suggesting that syntax (i.e., the verb and argument structure) is activated without specification of language, compatible with parallel activation2. The cross-language syntactic priming (CLSP) effect is reduced when structures do not share word order across the two languages, suggesting that co-activation at the syntactic level is modulated by language-specific information3. The novel question addressed here is whether language-specific syntactic information modulates co-activation during word recognition. Theoretically, if argument structure is specified in a language-specific manner (i.e., non-overlapping word-order), the recognition of an argument noun may also become language-selective."
We conducted two experiments on proficient L1 Spanish – L2 English bilinguals (see Figure 1) to first determine whether structures that are predicted by CLSP studies to be language specific reduce language co-activation at the word-level, and then to confirm the language specificity of the chosen structures. In Experiment 1, bilinguals named cognate, homograph, and matched control words embedded in Spanish sentences containing active, passive, and prepositional object structures (PO). Cognates and homographs provide reliable indices of co-activation and are sensitive to contextual features of sentences4. Active and passive structures share word-order in English and Spanish, and exhibit CLSP between Spanish and English2, suggesting that they are language non-specific structures. PO structures optionally differ in word-order across English and Spanish and can therefore be considered language-specific (see Figure 2), but propensity for CLSP has not yet been tested for PO sentences in Spanish and English. If language-specific structures provide bilinguals with a means to attenuate the unintended language, cognate and homograph effects should be reduced or eliminated within PO sentences compared to those within active and passive sentences. In Experiment 2, bilinguals completed a CLSP task. If active and passive structures are language non-specific structures for Spanish-English bilinguals, there should be significant priming for these structures. If dative structures are represented in a language-specific manner, then they should not exhibit priming between English and Spanish.

Data from Experiment 1 showed cognate facilitation and homograph inhibition effects, indicative of parallel activation of the L2 during native language reading. The homograph effect depended on L1 fluency: homograph effects were reduced with increasing fluency, indicating that fluency in the intended language reduces competition from the unintended language. Neither cognate nor homograph effects depended on type of syntactic structure, indicating that syntax does not modulate cross-language co-activation. Results of the priming study are forthcoming and will be discussed in regard to accounts of syntactic storage.

Puerto Rican bilinguals’ judgments of Spanish-English codeswitches involving the auxiliary phrase

Rosa Guzzardo Tamargo and Melissa Mercado Caraballo Poster 21-May

"Spanish-English codeswitching by bilinguals living in the United States has been investigated in order to determine the codeswitching patterns followed by these bilinguals in production. Researchers have found that codeswitches at certain points in a sentence, such as between the subject and the predicate and between an article and a noun, are more likely than codeswitches at others, such as between a verb and a negative particle or between a verb and a pronoun. (e.g., Lipski, 1978, 1985; Pfaff, 1979; Poplack, 1980; Timm, 1975). A specific type of switch, that between an auxiliary and a participle, has been studied by several researchers more recently (Dussias, 2003; Giancaspro, 2013; Guzzardo Tamargo, 2012, 2013). They have examined processing costs and judgments associated with this type of switch. Taken together, these studies compare switches between the auxiliary estar/be and its present participle to switches between the auxiliary haber/have and its past participle. Overall, the results of these studies have shown that Spanish-English bilinguals judge estar/be+participle switches more preferably than haber/have+participle switches. Moreover, the participants display less processing costs when reading estar+participle switches than haber+participle switches.

The present study furthers the examination of the auxiliary+participle switch site in a different community of bilingual codeswitchers. In this case, the judgments of Spanish-English bilinguals living in Puerto Rico are examined. Undergraduate and graduate students from the University of Puerto Rico-Río Piedras took part in the study. They completed two tasks. In one task, participants read codeswitched sentences on a computer screen. In the other task, participants listened to codeswitched sentences previously recorded by a fluent bilingual codeswitcher. After reading or listening to each sentence, participants performed an acceptability judgment on a 4-point Likert scale, where 1 stood for the least acceptable switches and 4 stood for the most acceptable switches.

The experimental stimuli included four conditions. Conditions 1 and 2 comprised sentences that began in Spanish and switched to English, while Conditions 3 and 4 involved sentences that began in English and switched to Spanish. In all instances, the switch occurred between the auxiliary and the participle. Two types of auxiliary+participle switches were included: estar/be+participle switches (Conditions 1 and 3) and haber/have+participle switches (Conditions 2 and 4). An example of each condition is displayed below.
Condition 1: Los estudiantes dijeron que los profesores están walking down the hall.
Condition 2: Los estudiantes dijeron que los profesores han walked down the hall.
Condition 3: The students said that the professors are caminando por el pasillo.
Condition 4: The students said that the professors have caminado por el pasillo.

The analysis includes several comparisons. First, participants' judgments for the oral and the written codeswitched sentences are compared. In addition, their judgments for both types of auxiliary+participle switches are compared. Moreover, their judgments of both switching directions are compared. The results displayed by the Puerto Rican bilinguals are discussed in light of previous codeswitching studies on bilinguals living in the United States."

*The role of sociolinguistic factors in multilingual literacy achievement among adolescent immigrant students*

Orly Haim  

"Although studies report on the impact of sociolinguistic factors on literacy achievement, in second language (Cummins, 2000; Schnepf, 2007), little research has thoroughly examined the effect of the social and linguistic characteristics on literacy achievement among trilingual immigrant students. The purpose of the current study is twofold. Firstly, it investigates the contribution of students' socio-demographic (SES, parental education, gender, arrival age) and linguistic variables (exposure as measured by age at onset and current language use, home languages, perceived multilingual functioning) to the prediction of literacy achievement in second and third language. Secondly, it examines differences in students' literacy achievement and self-assessment in first (L1), second (L2) and third (L3) language as a function of arrival age, gender and languages spoken at home.

The sample included 274 eleventh grade Russian (L1) speaking immigrants, studying Hebrew (L2) and English (L3). The participants were divided into three groups by arrival age: 0-6: 94 (36.4%); 7-9: 101 (39.2%); and 10-12: 62 (24.7 %). Questionnaires were administered to collect information about participants' sociolinguistic variables. The instruments for assessing AP included a writing task in L1, AP tests in L2 and L3 consisting reading comprehension and writing tasks, and ‘can-do’ questionnaires.

Multiple regression analyses showed that (earlier) arrival age in Israel and parental education, especially maternal education, are significant predictors of literacy achievement (reading comprehension and writing) in both L2 and L3. Literacy achievement in L2 was better predicted by gender while L3 was more associated with higher SES. Regarding the linguistic variables, the strongest predictor of literacy achievement in both L2 and L3 was exposure as measured by age at onset of learning the language and current language use. However, perceived multilingual functioning significantly predicted only L3 reading comprehension and the L3 total test score. The variable home languages did not predict achievement in either language.

Examination of students' achievement on the L2 and L3 tests by arrival age indicated a decline in literacy achievement in both languages with increasing arrival age in Israel. In particular, ages of arrival 9-10 (7 years of residency in Israel) and 10-11 (6 years of residency in Israel) appeared to be particularly salient arrival ages from the point of view of L2 and L3 literacy attainment. Comparison of test results between males and females showed that females performed significantly better on the L1 writing task and all L2 subtests. On the L3 test, boys and girls scored equally well. Finally, significant differences were found in the multivariate analyses when comparing among participants who reported they were exposed to only Russian (L1), those exposed to Russian (L1) and Hebrew (L2), and students who reported they spoke Russian (L1), Hebrew (L2) and another language (L3) at home. Participants who were exposed to Russian and Hebrew scored significantly higher on the L2 and L3 tests than those who used either only Russian or three languages at home.

The results highlight the crucial role of the sociolinguistic variables in explaining achievements in L2 as compared to L3 among trilingual immigrant students."

*Cumulative exposure and grammatical proficiency*

Gisela Håkansson  

"Recent research on SLA has problematized the importance of age of onset as the major predictor for success and it has been claimed that amount of experience is at least as influential (e.g. Gathercole et al 2013, Kinsella & Singleton 2014, Muñoz 2014, Ortega 2014, Unsworth et al. 2014). Measuring exposure to the target language has the advantage that it takes individual variation into account, something that is often missed in work on the age of onset (e.g. the critical period hypothesis, Lenneberg 1976), where the age is seen as an absolute variable. However, age of onset and hours of
exposure are often confounded, since an early onset generally implies more experience, measured by higher cumulative exposure.

The present study reports on cumulative exposure in a study of L2 learners of Swedish. Exposure to Swedish was assessed by questionnaires, where the learners estimated their experience of Swedish from birth to the present situation. Thirty-nine students, aged 16-20 years, completed the questionnaires. This was done with the help of the parents. Language proficiency was measured by a test, which focused on structures from the highest grammar stage for Swedish according to Processability Theory (PT, Pienemann 1998). In order to get data from this stage, subject and object relative clauses with and without sentence adverbials were elicited in a preference task (Novogrodsky & Friedmann 2006). The results demonstrated large individual differences in number of hours of exposure. Learners reported between one hour and fifteen hours Swedish exposure per day. The results also showed a relationship between amount of hours and language proficiency. Almost all learners that had attained the highest stage in the PT hierarchy (i.e. they were able to produce relative clauses with the target placement of sentence adverbial) had a cumulative exposure of over 10 000 hours (18 learners out of 21). Of the remaining 18 learners, that were not able to produce the target subordinate clause word order, 16 had less than 10 000 hours of exposure.

The results show that it is possible to estimate hours of exposure in retrospect, from childhood to adolescence. Furthermore, they demonstrate that number of hours of exposure differs between learners with the same number of years in the target country, due to individual differences in life style such as early kindergarten start, Swedish-speaking friends, hobbies, etc. Finally, the results suggest that number of hours of exposure can predict language proficiency in terms of grammatical development.

Ethnography of Language Policy in Europe: Understanding how different actors make their own language policy

Christine Hélot, Eloise Ebersold, Annie Flore Made, Yan Zhen Chen, Tatjana Leichsering and Ofelia Garcia

Thematic session Session 31

"This thematic session will include four papers analysing language education policy (LEP) enacted in three European countries (France, Luxembourg and Germany) and in four different contexts: the family, a day care centre for under 3, two primary schools and a foreign language classroom at secondary level.

Despite an important body of LEP documents published by European institutions in the past 15 years, which insist on plurilingualism as a central element of European identity, implementing plurilingual approaches in practice in educational settings remains a challenge. Notions such as ‘plurilingual repertoire’ and ‘plurilingual competence’ are difficult to translate into practice in classrooms where a monolingual ideology still prevails, and where the languages spoken by an increasing number of learners suffer from lack of legitimation. While these European policy documents have served the didactics of European foreign/second languages, they have not improved the status of minority migrant languages, and have not challenged unequal relationships of power between different languages in schools.

These issues will be contextualised in four case studies looking at language policy in practice, i.e.; analysing the way different actors (parents, educators, teachers) in individual or professional contexts make their own language policy in their everyday social practices (Menken and Garcia, 2010), how they manage language choices that answer their own engagement with multilingualism and how they are constrained by overt or covert top down policies.

The four case studies are based on longitudinal research projects using an ethnographic approach (McCarty, 2011) which aims are:

- to analyse the different processes of LEP, their creation, their interpretation and appropriation,
- to comprehend the interactions between bottom-up and top-down policy layers, and
- to uncover the underlying ideological issues and implications of the various language policy choices as well as their sometimes unintended consequences.

The presentations will contribute multiple insights into the constraints and possibilities (Hélot and O’Laoire, 2011) facing the different actors in the four settings, illustrating the power of an on going monoglossic ideology that perpetuates language inequality and purity. For example, even in a multilingual country like Luxembourg, language transmission in the family is constrained by the traditional language choices of the multilingual education system. In early childhood education and in primary schools in France and Germany, bilingual education supports dominant languages but does not cater for the needs of multilingual families and their children. And when local actors engage into
new models of multilingual education that promote social justice their sustainability remains very fragile. What a paradox as well that in a Chinese as a foreign language class where both teacher and students are proficient plurilinguals the teaching approach remains monolingual!

We hope the research presented in this thematic session will illustrate how language policies are made by parents, teachers, educators (and children) who, in their everyday practices are elaborating new forms of language education where the notion of plurilingualism is no longer a slogan but a reality.

The influence of amount of input in bilingual acquisition of plural markings in Fering, a dialect of North Frisian
Alison Eisel Hendricks  Paper Session 69

Introduction. Research on child language acquisition has consistently shown that the amount of language input influences the speed of acquisition (David & Li, 2008; Gathercole, 1997). Due to social factors, such as language shift and language revitalization, there is a range of language input available to children in minority language communities. Investigating bilingual acquisition in these communities can shed light on the influence of the amount of input on language acquisition (Gathercole & Thomas, 2009; Thomas & Gathercole, 2007; Thomas, Williams, Jones, Davies & Binks, 2013). The current study examines how school-age bilinguals with different amounts of exposure acquire plural markings in Fering, a dialect of the minority language North Frisian spoken on Föhr in northern Germany.

Experimental Study. In Fering plural is marked on regular nouns by adding a suffix (either –en or –er) on the noun stem. A corpus study shows that –en plural marking is more frequent, accounting for 53% of words, while 35% of nouns take the –er plural marking.

Method. Thirty-two elementary school students (22 high-input and 10 middle-input) and 13 adult native speakers completed a plural marking elicitation task. A sub-set of questions from the Utrecht Bilingualism Exposure Calculator were administered to determine the quantity of language input children receive (Unsworth, 2011). Questions asked who the child had contact with, and how often each of the child’s speech partners used German and Fering. From this questionnaire, bilinguals were separated into two Home-Language groups. Students in the high-input group received more than 75% Fering input at home, while the middle-input group received between 25% and 75% Fering input at home. Students in the middle-input group were most often from families where one parent spoken Fering with the child and the other parent spoke German with the child. In the elicitation task, participants were presented with two sets of images (FIG-1) and asked to say which was circled, which elicited plural markings.

Results While the high-input students were not significantly less accurate than the adults in plural markings (p = .207), the middle-input students were significantly less accurate than their high-input peers (p < .001) (Table-1). The middle-input students also used the more frequent –en plural marking more often than the high-input students (p = .046) (FIG-2). This suggests that they may be using the –en plural marking as a default plural strategy, and have not yet had enough input to fully acquire plural markings in Fering.

Conclusion. Overall, the results show that acquisition of plural markings depends on the amount of input children receive and that children with less input may rely on a default plural strategy. Within minority language communities, even input from one parent at home may not be sufficient for acquisition of certain morphological features. Thus, the results complement recent research on Welsh demonstrating that the amount of input is particularly important for acquisition of minority languages. The results highlight the importance of considering the amount of language input when investigating bilingual language acquisition.

Who is the Spanish for? : What Lowe’s bilingual policy tells us about language commodification
Elizabeth Hepford  Poster  22-May

"Research has shown that in pursuit of profit businesses, may incorporate multilingual macro policies to create niche markets (Heller, 2010), increase efficiency (Duchene, 2009) or appeal to the buyer’s identity (Sighn et al, 2008). This study analyzes the commodification of Spanish by Lowe’s Home Improvement Inc. in the form of bilingual signage policy. The bilingual policy was adopted nationwide in 2005 in reaction to an increase in Hispanic home ownership (Lowe’s Company, Inc., 2005). However, as research in linguistic landscapes has shown, various factors can affect compliance to such macro policy, including power relations between groups (Ben-Rafael et al, 2006) and the population of the area (Backhaus, 2006)."
Data was collected from two Lowe’s Home Improvement stores in the Northeastern United States using linguistic landscape techniques. “Store A” is located in a primarily Caucasian neighborhood while “Store B” is in an ethnically diverse neighborhood. The initial analysis was modeled after Cenoz & Gorter (2006) in that every package (n=443) and sign (n=126) in a small area (the paint department) at one store was analyzed for non-compliance to Lowe’s macro policy. The results reveal that none of the categories were completely compliant. However, packaging, which is chosen at a higher position in the corporation’s hierarchy, was considerably more compliant. Since signage revealed lower levels of bilingualism than intended by the policy, additional data was collected by photographing the signage in the main aisles of both stores (n=233/240). The coding schema, based on Ben-Rafael (2006), includes different levels of bilingualism (see Chart 1), and intended audience (see Chart 2), location and type of product (Chart 3) and saliency. The results show that both stores included more bilingual signs in the categories of paint, tools and professional services. In contrast, items that cost less than $100 and items located near the cashier were bilingual less often in both stores. While non-compliant, these signs reflect Lowe’s goal of providing bilingual information to help customers make purchasing decisions. While professional services need detailed information, chewing gum does not.

The levels of bilingualism also differed depending on the store location. Promotions for commercial business owners, do-it-yourself maintenance, appliances and signs for employees were bilingual more often at the Store B. Meanwhile, advertisements directed to contracting services were bilingual more often at Store A. Since neither store was completely compliant with the macro policy in any area, the results suggest that local managers are making decisions about which signs should be bilingual based on their beliefs of how Spanish will affect the customer’s decision to purchase the product. This study indicates that linguistic landscapes are not only a reflection of the population of an area, but also a useful tool in examining commodification of multilingualism.

“Bilingualism is a matter of degree”: A symposium in honor of Elizabeth Bates

Arturo Hernandez, Ping Li, Jyotsna Vaid, Brian MacWhinney and Benjamin D. Zinszer Thematic session Session 43

"Elizabeth Ann Bates, the highly recognized developmental cognitive neuroscientist, was perhaps best known for her work with cross-linguistic aphasia and the effects of focal lesions on language development. Bates was also known for her seminal contribution to the study of cognitive and brain bases of bilingualism. A bilingual herself, she often marveled at the way in which bilinguals effortlessly moved from one language to the other. Several studies that Bates spearheaded demonstrate that language processing strategies shift over time, even in late learners of a language. Bates’s views on language and brain plasticity are especially resonant with phenomena seen in the field of bilingualism, and with contemporary approaches to the study of these phenomena.

This symposium features four diverse strands of work on bilingualism that extend the themes and perspectives initiated by Elizabeth Bates in important ways. The first presentation will consider how semantic representations in one language are affected by representations from a second language. This work demonstrates neuroplasticity of the adult brain as a result of second language experience, an idea that Bates championed even before the current boom in neuroimaging of bilingualism. The second will consider extensions of the Competition Model of Bates and MacWhinney to predict instances of code switching as observed in two separate code-switching corpora, one focused on bilingual children and the other on adults. The third presentation examines longterm cognitive repercussions of informal translation experience, comparing language processing in bilinguals with this experience (“language brokers”) with those without early translation experience (“nonbrokers”). This work draws attention to an important source of variability in early language experience in bilinguals and aligns with Bates’s work showing individual differences in language development even in single language users. The final presentation considers how the bilingual brain adapts during phonological and word learning in a second language. Taken together this symposium will reveal the flexibility that characterizes mental and neurocognitive processing and representation of two or more languages."

Tiouij Internet:: The Impact of Social Networks in the Conservation of Nahuatl
Luz Hernandez, Ana Iraheta and Florencio Bonifacio Poster 21-May

"In the Mexican community of San Miguel Tzinacapan, located in the northern mountains of Puebla, young people tend to communicate more in Nahuatl than in Spanish. This tendency to use their mother tongue results from linguistic and socio cultural practices and positive language attitudes within the community. One linguistic practice is informal
writing in the social media. Young speakers utilize Nahuatl on social networks. Considering this practice, we argue that social networks are a tool that contributes to the use and conservation of Nahuatl in this community. This article investigates this phenomenon from the psycho sociolinguistic perspective (Hernandez Castillo, 2007) and netnography methodology. (Kozinets, 2006, 2010).

Most previous studies on language contact in the north of Puebla agree that despite the fact that the Nahuatl speakers of this region have been in contact with Spanish for over 400 years, factors such as language attitudes, identity and community have kept Nahuatl alive and, in fact, the predominant language (Hernández Castillo, 2000, 2007; Flores Farfán, 1999, 2005, 2007, Klee and Lynch, 2009). However, these studies have not investigated the impact of social networks as a factor that contributes to the preservation of an endangered language that is in contact with an official language. This study is a contribution to the field of preservation of indigenous languages. In this sense, it would address the important concern: “The principal challenge to the world’s linguistic diversity is the rapid decline in the number of younger speakers.” according to the project Recovering Voices of the Smithsonian National Museum of History (2014). Through three interviews with speakers of Nahuatl from San Miguel Tzinacapan who live in Minnesota, we found that they actively use social networks. Facebook is one of the means used by the youth of that town to communicate with their peers both within the town and from abroad.

Using netnography methodology to collect data and qualitative analysis to observe social interactions on the social network it is found that the use of written Nahuatl is favored, while the writing also reflects contact with Spanish. Paradoxically, therefore, in the town of San Miguel Tzinacapan, an effective way to preserve and revitalize Nahuatl in the younger generation is through the use of a globalizing technology. Such technologies have traditionally contributed to the colonization of the cultural imaginary. This study finds that young people in this village have unwittingly embarked on a project of linguistic decolonization.

**To spell appartment, bilinguals rely on shared-language orthographic storage**

Huong Hoang, Elena Nicoladis and Chris Westbury  Poster  21-May

"Some models of bilingual orthographic lexical representation assume separate stores for each language (e.g., Pavlenko, 2009). In contrast, the BIA+ model assumes that, if a bilingual’s two languages share the same alphabet, orthographically similar words will activate across languages (Dijkstra & van Heuven, 2002). Most of the research testing lexical organization has tested word recognition. The purpose of the present study was to test whether cross-language orthographic similarity affects bilinguals’ spelling accuracy and reaction time.

Twenty-four first language English adults who had attended a French immersion program for at least four years in their childhood participated in this study. Seventeen English monolingual adults also participated, serving as a comparison group. The bilinguals were asked to spell French words and English words in two different language sessions, so as to create a monolingual mode as possible in the testing. The two language sessions were done on different days, with native-language experimenters. The order of the two language sessions was counterbalanced.

We focused on words in which word-internal consonants (m, n, p, or t) were doubled in one language since the pronunciation of many French and English words is not affected by double vs. single versions of these consonants. The participants listened to words pronounced over headphones and were asked to type them as quickly and as accurately as possible. The words were in one of four categories: 1) with a doublet in French and a singlet in English (1E2F; e.g., appartement vs. apartment), 2) with a doublet in English and a singlet in French (2E1F; e.g., matière vs. matter), 3) with a doublet in both languages (2E2F; e.g., commerce), or 4) with a singlet in both languages (1E1F; e.g., moment).

We analyzed the accuracy (i.e., correctly produced double or single form of the target consonants) as well as typing latency. We analyzed latencies at three positions: before, during, and after the point at which the word differed in the two languages, or before, during, and after the doubled letter when they did not differ.

The results showed that in English the bilinguals were significantly more likely to type double consonants in 1E2F words and single consonants in 2E1F words than English monolinguals. In French, the bilinguals were more likely to type double consonants for 2E1F words than for 1E1F and more likely to type single consonants for 1E2F words than for 2E2F words. In terms of latency, in English, the bilinguals were significantly slower than monolinguals both prior to and during the target position for words that are inconsistent between French and English in precisely those positions. This effect
was always less in the third position, after the cross-language inconsistency has been passed. This same pattern was not observed in French, perhaps because the typing time overall was slower in French.

These results suggest bilinguals’ orthographic storage is shared across languages when there is a high degree of orthographic similarity in the words (Dijkstra & van Heuven, 2002)."

**Language Boundaries in America: Is the ‘Monolingual Status Quo’ Changing?**
Brooke Hoffman  
Paper Session 10

"On Sunday, February 2, 2014, an advertisement entitled “It’s Beautiful” debuted during Super Bowl XLVIII, which was watched by 111.5 million people in the United States (Nielson, 2014). The Super Bowl, which takes place in the ‘outer sphere’ (Urciuoli, 1996) of public life, represents the quintessential American pastime of playing and watching football. Sponsored by Coca-Cola, the ad portrayed people of various ethnicities and was accompanied by a soundtrack of “America the Beautiful” sung in 9 languages, including English, Spanish, Tagalog, Mandarin, Hindi, Hebrew, Keres, Senegalese-French, and Arabic.

The online response to the advertisement was notable, with some praising Coca-Cola’s presentation of the ethnic and linguistic diversity in the United States, and others attacking the advertisement as unpatriotic. Using critical discourse analysis, I analyzed data from online sources directly referencing the ad, including #BoycottCoke and #SpeakAmerican tweets as well as trending articles, blogs, memes, and videos, which were transcribed. I analyzed the nomination, predication, and argumentation strategies employed by those supporting and those opposing the advertisement, finding that the argument schemes represented in the online debate included the topoi of authority or law, unity, diversity, culture, foundation or history, reality, triviality, and inconsistency or futility. This research provides an analysis of the language debate in the United States at a particular period of time while highlighting the role that various forms of media play in the current ‘argument culture’ (Tannen, 1998) affecting this debate.

Drawing on Alba’s (2005) discussion of boundaries, I explain how the online debate surrounding the multilingual advertisement indicates both the blurring and brightening of boundaries in the United States. While finding considerable evidence that the ‘monolingual status quo’ (Pavlenko, 2014) is changing in the United States, I acknowledge that the advertisement and ensuing online dialogue may represent banal rather than critical forms of multiculturalism (Thomas, 2008). In light of the findings, attendees will be encouraged to reflect on the implications for researchers, educators, and multilinguals in the United States.

**Focus in the Hungarian of Late and Early Hungarian/English Bilinguals**
Bradley Hoot  
Paper Session 17

"Problem: The Interface Hypothesis (hereafter, IH; Sorace & Filiaci 2006; Sorace 2011) claims that constructions that involve an external interface between syntax and other cognitive domains—including the syntax-discourse interface—are especially vulnerable to residual optionality or instability in bilingual grammars. However, the evidence is mixed (see Montrul 2011; White 2011 for an overview), and more research is needed to elucidate which interface properties are vulnerable and in what way. The present work contributes to this debate by testing the IH using experimental evidence of focus, a syntax-discourse interface phenomenon, in bilingual Hungarian.

Property: Focus in Hungarian involves the interface of syntax, prosody, and discourse context. Constituents in focus (i) move leftward to FocP, triggering inversion of the verb and its accompanying verb modifier (VM), (ii) receive main sentence stress, and (iii) are interpreted exhaustively (É. Kiss 1998, 2002; Horvath 2005; Szendrői 2003). Compare a neutral sentence (1) to one with focus (2).

Focus realization is conditioned by discourse context (Horvath 2005; Kenesei, Vago & Fenyesi 1998) and so pertains to an external interface (Slabakova 2011; Tsoulas & Gil 2011; pace Sorace 2011), making it an ideal test of the IH.

Hypothesis: The IH predicts that bilinguals will exhibit optionality or instability in both the realization and interpretation of focus, but not in ‘core syntax.’

Method: An aural contextualized acceptability judgment task was conducted, consisting of three experiments. The first tested the realization of wh-questions, as a ‘core syntax’ baseline of comparison. The second tested the prosodic and syntactic realization of focus—in a context requiring focus, participants judged three possible structures (well-
formed, prosodically ill-formed, and syntactically ill-formed. The third tested interpretation of focus—the context gave a sentence with focus, and participants judged a reply indicating whether that focus was interpreted exhaustively (following the design of Onea 2009).

Participants: Two groups of Hungarian/English bilinguals: (i) simultaneous or early sequential bilinguals who learned both English and Hungarian before age 7, and (ii) late sequential bilinguals whose native language is Hungarian and who immigrated to the US or Canada after age 20.

Results: Preliminary analysis of results from 11 early and 19 late bilinguals (data collection ongoing) indicate that the hypothesis is partially supported. For focus interpretation, both groups behave like each other and like the monolinguals reported in Onea (2009), in that they do not always interpret focus exhaustively, contrary to the theoretical literature. Both groups similarly behave exactly like monolinguals regarding wh-questions. For the realization of focus, late bilinguals rate structures like (2) highly while rating deviations from this structure lower, just like monolinguals. Early bilinguals, however, do not give consistently different ratings to the three structures tested, potentially indicating optionality in their judgments of focus realization. For focus interpretation, then, the expected optionality is not observed, while for focus realization it is observed, but only in one of the two groups. This indicates that, while the IH is partially supported, it may need to be revised regarding which interface properties are vulnerable and for which bilinguals.

Aging and bilingual processing: Age-related differences in verbal and nonverbal cognitive performance between early and late bilinguals and monolinguals.

Nienke Houtzager, Simone Sprenger, Wander Lowie and Kees de Bot Paper Session 13

"Evidence suggests that bilingualism can affect verbal and nonverbal cognitive performance across the lifespan. In verbal tasks bilinguals are usually outperformed by monolinguals, but in nonverbal cognitive tasks depending on executive control bilinguals often outperform monolinguals. Elderly speakers are associated with both reduced lexical access and a decrease in executive control. This leads to interactions between bilingualism and aging.

Our study investigates effects of bilingualism on linguistic performance and on executive control functions. Because of expected interactions between bilingualism and aging, we compare the performance of middle-aged and elderly participants. We also investigate the Interaction Hypothesis (Bialystok, 2009), which proposes that bilinguals’ conflict between competing language systems results in both a reduction of lexical access and a boost of executive control functions playing a part in language processing. Additionally, we aim to investigate whether a potential bilingual cognitive advantage extends to bilinguals who acquired proficiency in their second language (L2) after puberty as well.

Linguistic and general cognitive performance are tested in an experiment involving 52 German functional monolinguals, 52 Dutch/Frisian early bilinguals, and 52 Dutch/German late bilinguals, equally divided over two age-groups, i.e. of 35-56 and 65-85 years old. All participants perform a verbal fluency task testing controlled, rapid language production, a cued task switching test and a working memory test. What this study adds to earlier research in this field is that its design enables us to analyse the interaction between performance on verbal and nonverbal cognitive tasks, in groups of participants speaking highly similar languages.

The results of the nonverbal cognitive tasks confirm earlier findings in which early bilinguals outperformed monolinguals, and we also found a bilingual advantage for the late bilingual group. There was an age-related increase both in overall reaction times, indicating lower processing speed in the elderly, and in the size of the switch and the mix effect. However, both bilingual groups were less affected by an age-related increase in switching costs than the monolinguals, suggesting an attenuation by bilingualism of the age-related decrease of the efficiency of executive control functions.

Unlike what was found in earlier studies, in the verbal task early bilinguals were not outperformed by the monolinguals. In the phonological verbal fluency task, early bilinguals even scored higher than the monolinguals. We also found significant correlations between results on the verbal and nonverbal tasks, suggesting that similar mechanisms are responsible for bilingual effects on nonverbal and verbal cognitive functioning.

Finally, this paper will have a special focus on the performance of the late bilingual group. Since this group showed more diversity in language background and L2 proficiency than the other groups, we logged details concerning their language background in a questionnaire and tested their L2 proficiency in a word recognition test. We will here
present the outcomes of analyses within this late bilingual group of the effect of the variables L2 proficiency, age of onset of bilingualism and duration of bilingualism on the efficiency of executive control.

**Code-Switching in Singaporean English-Mandarin 5-6 year-olds Reveals Grammatical Interaction**

Carissa Kang, Wei Quin Yow, Nan Li and Barbara Lust  
Paper Session 1

"It is often proposed that children’s code-switching (CS) or code-mixing (CM) – using two or more languages within a single conversation (Lanza, 1992; Myers-Scotton, 1993) – differs qualitatively from adults’, where adults differentiate between two systems while children do not (Gardner-Chloros, 2009). Here, we analyze a new child corpus in Singapore, a highly multilingual community with high amounts of CS/CM (David, 2008), to investigate this issue.

Child CS/CM data was collected through audio and video naturalistic recordings in a bilingual Singapore kindergarten, where lessons are taught in English and Mandarin daily. We analyzed six sessions (ranging from 6 – 30 minutes; approximately 1502 utterances over 120 minutes) of children’s natural interactions over a five-day period during meal and playtimes, with 4-8 children involved in a session. Transcripts were first transcribed in Singapore, then reliability checked in the U.S. We analyzed 13 children’s utterances (age range 5;10 - 6;7y). Average CS/CM was 32.2% of utterances per child (SD = 19.5%). Each utterance was analyzed for whether or not CS/CM appeared and the nature of use of both languages within the utterance, including structures like “Determiner (Det) + Noun (N)” constructions and subject/object ellipsis.

Earlier study of adult CS in Singapore (Ong and Zhang (2012) found Det+Noun (N) structures revealed preference for using the Mandarin determiner over the English (e.g., 三农 (sān; three) 个 (gè; Classifier (Cl) questions). Within 137 minutes, 15 of 22 Mandarin-English adult bilinguals produced 67 occurrences of “Mandarin Det + English N” in code-mixed utterances. The authors argued that because Chinese demonstratives/numerals serve multiple functions denoting definiteness/indefiniteness, they reflect greater representational and cognitive economy.

A similar preference for a “Mandarin Det + English N” pattern was found here, with 74 occurrences in 7 out of 13 children’s utterances. However, unlike adults, children omitted plural inflections on English nouns in 17.6% of their code-mixed “Mandarin Det + English N” utterances (e.g., 两个 (liǎng; two) 兵 (bīng; soldier(s); see Table 1). Further analyses revealed that the same children correctly applied plural inflections during English-only utterances (see Table 2). The syntactic context of the Mandarin DET perhaps facilitates omission of English inflection during code-switched cases, since Mandarin does not have plural inflections on N.

Similar language interactions occurred in other CS/CM structures like N ellipsis (allowed in Mandarin but not English; see Table 3), which occurred more frequently in English code-mixed utterances compared to English-only utterances.

These results suggest that although child and adult CS/CM differ in some ways, bilingual children display creative grammatical interaction between their differentiated languages. These results are in line with CS/CM as ‘language interaction’ (Gardner-Chloros, 2009). CS/CM reflects a facilitative process enabling children to employ resources from both languages to communicate efficiently. Children do not differ qualitatively from adults in their CS/CM but may reveal heightened ‘sensitivity’ to syntactic context and more creative grammatical interaction between systems – factors that are characteristic of language development."

**Sentence repetition tasks for bilinguals with German as the majority language: language assessment and linguistic investigation**

Cornelia Hamann, Julia Lomako, Julia Held, Irina Lapenko, Katrin Lindner, Lina Abed Ibrahim, Tatjana Lein, Hilal San, Solveig Chilla, Monika Rothweiler and Theo Marinis  
Thematic session  
Session 60

"Sentence repetition tasks (SRTs) offer high sensitivity and specificity for the identification of Specific Language Impairment (SLI) in monolingual children, Conti-Ramsden et al. (2001). Recently they have also been used for identification of SLI in bilingual children even though external factors can influence performance, Marinis&Armon-Lotem (in press), COST Action IS0804. This session presents new results from German SRTs administered to bilingual children corroborating their discriminative power for assessing bilinguals. Several different SRTs for German are explored, all following Marinis et al. (2011). Two different aspects of SRTs are in the focus: exploring the relation to working memory involved in SRTs and tapping into syntactic competence in that only structures that can be parsed will be easy to repeat.
Talk 1 investigates successive bilingual Russian/German four-year-old children whose exposure to German started at age three. SRTs administered in both languages identified a group of children as being at risk for SLI by a characteristic error pattern: more difficulties in longer sentences, regardless of structure. Talk 2 compares older monolingual and bilingual children with and without SLI with Arabic, Portuguese and Turkish as L1. Results show that monolingual and bilingual SLI children can be clearly distinguished from the typical groups in that they have significantly less correct repetitions. Bilingual children with SLI pattern more with monolingual SLIs than with bilingual TDs.

However, this session also points out that well-controlled SRTs not only are good candidates for identifying SLI in bilinguals but can provide highly sensitive tools for linguistic investigation. SRTs can be used as an elicitation method that clearly abstracts away from discourse conditions and does not easily allow avoidance of a structure. High error rates in a particular structure can be taken to indicate that this structure is computationally complex and/or hard to process and minimal pairs, structures of the same length only varying in functional material and structure, can be compared (Marinis 2011). This property of SRTs is exploited in talk 3 in order to investigate object relative clauses, which are notoriously avoided and replaced by passives in elicited production. It turns out that monolingual and bilingual children have almost no difficulty repeating long passives whereas object relatives show high error rates. This finding corroborates recent theoretical claims about the proper definition of syntactic intervention (Belletti&Rizzi in press, Rizzi 2013).

The session is structured as follows:

5’ Introduction – Cornelia Hamann
20’+10’ Talk 1 - Using Sentence Repetition for Identification of Russian-German bilingual children at risk for SLI (Julia Lomako, Julia Held, Irina Lapenko, Katrin Lindner and Natalia Gagarina)
20’+10’ Talk 2 - Sentence repetition in the majority language German: Which error types and structures can identify bilingual children with SLI? (Lina Abed-Ibrahim, Tatjana Lein, Hilal San, Cornelia Hamann, Soveig Chilla and Monika Rothweiler)
20’+10’ Talk 3 - Relative Clauses and Passives: What sentence repetition tasks across acquisition modes can reveal about linguistic theory. (Cornelia Hamann, Lina Abed-Ibrahim, Solveig Chilla and Natalia Gagarina)
25’ Summary and Discussion – Theo Marinis

Transfer of L1 visual word recognition strategies during early stages of L2 learning
Tal Norman, Tamar Degani and Orna Peleg Poster 21-May
The present study examined visual word recognition processes in Hebrew (a Semitic language) among beginning learners whose first language (L1) was either Semitic (Arabic) or Indo-European (e.g., English). To examine if learners, like native Hebrew speakers, exhibit morphological sensitivity to root and word-pattern morphemes, learners made an off-line graded lexical decision task on unfamiliar letter strings. Critically, these letter strings were manipulated to include or exclude familiar Hebrew morphemes. The results demonstrate differential morphological sensitivity as a function of participants’ language background. In particular, Indo-European-L1 learners exhibited increased sensitivity to word-pattern familiarity, with little effect of root familiarity. In contrast, Semitic-L1 learners exhibited non-additive sensitivity to both morphemes. Specifically, letter strings with a familiar root and a familiar pattern were the most likely to be judged as real words by this L1-Semitic group, whereas strings with a familiar root in the absence of a word pattern were the most likely to lead to a non-word decision. These findings show that both groups of learners activate their morphological knowledge in Hebrew in order to process unfamiliar Hebrew words. Critically, the findings further demonstrate transfer of L1 word recognition processes during the initial stages of L2 learning.

The impact of outgroup learners and speakers on a language revival dynamic
Tadhg Ó Hifearnáin Paper Session 10
This paper draws on qualitative fieldwork and a sociolinguistic survey conducted in the Isle of Man in the autumn/winter of 2013-2014 among 110 adult speakers and learners of Manx Gaelic and focusses on data from those who have no ancestral background or family history in this quasi-independent island in the Irish Sea. Language maintenance and revival models have largely been theoretically set in the context of ethnolinguistic reassertion, classically Joshua Fishman’s X-men becoming once again speakers of X-ish after a period of unstable diglossia,
bilingualism and language replacement. Although Manx did lose its last reputed traditional native speakers some forty years ago, language activists have learnt, spoken and developed the language since the late 1800s. Now during its revival phase, the language has more fluent speakers than it had at any time in the last century and has a certain degree of institutionalization and state support, through schooling, including Manx-medium education as well as increasing visibility in the public space. However, in addition to the near-total displacement of the language by English in the 20th century, significant immigration from outside the Isle of Man means that half the island population is now not of Manx origin. Foreign-born people and island-born children of parents who have no ancestral connection to the Manx population during its Gaelic period make up a considerable portion of Manx learners and some of the influential fluent speakers. This presentation will examine if acquisition of a personal Manx Gaelic identity is a motivating factor for learning and speaking Manx in this cohort or whether this has been submerged by a wider association of learning the local minority language with reasons other than ethnocultural revival, such as an affiliation with the locality, folklore and music, or simply as a past-time that is independent of any revivalist implications. Differences between speakers of Manx origin and newcomers to the island are revealed in their expression of varying degrees of cultural affinity to the Isle of Man’s Gaelic past and in their target trajectory of involvement in the expansion of Manx. The presentation will conclude by analyzing the shared and contrasting linguistic ideologies of Manx-born and recent immigrant speakers and learners of Manx and whether these present long-term implications for the continued language regeneration and revival.

**Becoming bilingual through immersion schooling: Cognitive development and literacy acquisition of L2 learners in an immersion school environment**

Laura Birke Hansen, Pedro Macizo, Manuel Carreiras, Luis J. Fuentes, David Saldaña, Jon Andoni Duñabeitia and M. Teresa Bajo

This research investigates the cognitive and linguistic performance of native Spanish speaking children aged 7 through 14 enrolled in an English immersion program. Foreign language immersion programs are on the rise everywhere around the globe, rendering questions regarding their cognitive, linguistic and academic outcomes highly topical. Previous research comes from a longer-standing tradition of educational research (for review: Bournot-Trites & Tellowitz, 2002, Genesee & Jared, 2008), and a newer, cognitive-linguistic line of research (e.g., Bialystok, Peets & Moreno, 2014, Hermanto, Moreno & Bialystok, 2012, Nicolay & Poncelet, 2013). An integrated perspective linking findings from both levels together has been missing thus far. Here we adopt a cognitive components approach, with assessment stretching from basic cognitive processes to complex literacy skills. At the focus of our research are Working Memory and text-level Reading Comprehension, both of which are key to academic attainment and knowledge acquisition.

Experiment 1 centers on Working Memory development. Participants were 152 children aged 7-14 (76 immersion bilinguals, 76 controls). Measures of verbal Working Memory performance depend on executive control and verbal processing speed, but commonly used tasks differ in the degree in which they draw on each one of these aspects. Results revealed an intricate pattern of costs and benefits: Relatively slowed verbal processing in immersion bilinguals compared to monolingual children (assessed as automated naming), was paired with enhanced performance in Working Memory updating (N-back score). No between-group differences were observed for Reading Span, a more balanced measure of executive and language-based processing. This pattern of results is largely in line with research on the cognitive consequences of early bilingualism (for reviews, see Adesope, Lavin, Thompson & Ungerleider, 2010, Bialystok & Craik, 2010).

Experiment 2 aimed to assess the effect of immersion schooling on text-level Reading Comprehension, a complex literacy skill, and its underlying components in 144 children aged 7 to 14 (72 immersion bilinguals, 72 controls). There were no between-group differences regarding vocabulary and Reading Span. Immersion bilinguals showed a relative deficit on component factors including verbal processing speed, reading fluency, phonological, and morphological knowledge, but outperformed their monolingual age peers on others, such as Listening Comprehension and text-level interference. No differences were observed for Reading Comprehension, suggesting that benefits and costs at the component level factor each other out on the level of complex skill.

Overall, the results of experiments 1 and 2 suggests that children who are in the process of becoming bilingual via attendance of an immersion program may differ from their monolingual age peers on the level of cognitive processing even when no discrepancies are observed in overt task performance. The detection of these differences depends on the
focus and selectivity of the task at hand. Monolinguals and immersion students both showed selective advantages and disadvantages which, however, appeared to even each other out on the complex skill level. These findings extend previous research on foreign language immersion, and are relevant on the theoretical and practical level."

**Vocabulary Knowledge in French-English Simultaneous Bilinguals**

Alice Hovsepian and Elin Thordardottir

"Vocabulary is a critical aspect of language and literacy development in bilingual children (Hammer Lawrence, & Miccio, 2007); however, the picture of bilingual vocabulary acquisition at different stages of development is far from clear. Numerous studies have focused on vocabulary composition in young monolingual and bilingual children, but that information is missing on older children who are at various stages of acquiring a language.

In this study, using a novel approach, the language sample data from the same participants in a previous study by Elin Thordardottir (2011) are examined in more depth to depict the vocabulary composition of the bilinguals with the ultimate goal of developing normative data. Furthermore, the use of semantic fields, especially superordinate words, is investigated as an indicator of deep vocabulary knowledge. The semantic field denotes the network of sense relations, which bind lexical items together (Crystal, 1987). The use of sense relations is argued to be essential in the use of written languages (Vygotsky, 1962) and is associated with academic performance (Snow, 1990).

Participants were 48, 5-year-old (M age = 58 months, SD = 3.76; Range = 53 – 69) French-English simultaneous bilingual children, who ranged widely in their amount of English vs. French language exposure over their lifetime, but were matched on nonverbal cognition and maternal education. In addition, both languages of these bilinguals had majority status with no specific socioeconomic status associated with speakers of one or the other language.

The English language samples were analyzed for word groups (Noun, Verb, Adjective, Adverb, Determiner, Pronoun, Preposition, Conjunction, Question Word, Negation Word, and Interjection) as a measure of vocabulary composition. The number of word types in each particular word group was plotted as a function of percentage of English language exposure.

Regression analysis showed a significant positive association between number of types in each word group and language exposure, with r2 ranging between .204 – .066, except for Determiner and Conjunction, which showed an increase as a function of exposure, but this increment was not significant. In addition, Interjection showed a negative but non-significant association. All word groups were present across the English exposure range, while showing increase in number with increase in English exposure; however, the relative percentage of each word group out of the total word types remained constant across language exposure continuum. Results also showed a pattern of increased, but non-significant, use of superordinate terms and semantic fields with increased exposure. Analysis of the French samples is in progress.

The results of this study provide theoretical insight into the nature of vocabulary acquisition in terms of the relationship between environmental versus innate factors and the acquisition of various word groups, especially content words versus function words. The normative data on the acquisition of word classes as well as the differential pattern of relationship between different word classes and language exposure provide practical guidelines in intervention planning and educational decision making."

**Integrated bilingual grammatical architecture: Syntactic development in Optimality Theory**

Lisa Hsin and Geraldine Legendre

"It is generally agreed upon today that bilingual children are able to differentiate their two languages as early as the babbling stage, but that the child is able to make such a distinction does not entail that the grammar does in the same categorical way. The most prominent proposals focusing on cross-linguistic influences in bilingual grammatical development target the interfaces between syntax and other modules of grammar (cf. Sorace, 2011), and as such (intentionally or not) they sidestep the issue of whether and how core syntax may be shared across a bilingual’s two languages. This study explores facilitatory and interfering cross-linguistic influences in a phenomenon representative of such sharing, examining developmental data both from corpora and from experimental elicitation and supplying a formal account of each. The proposal is spelled out with a view toward developing a broader, theoretically rich explanation for cross-linguistic influences touching all syntactic phenomena, and beyond acquisition into adult
Early child bilingualism meets heritage languages: understanding the connection

Aafke Hulk, Suzanne Aalberse, Brechje van Osch, Petra Sleeman, Carmen Silva-Corvalan, Tanja Kupisch, Jason Rothman and David Miller

Until recently, linguists working on early child bilingualism mainly looked at the early (2L1) language development of children growing up bilingually from birth or shortly afterwards. Linguists studying heritage speakers, on the other hand, mainly looked at young adults’ competence in their home (heritage) language. In this workshop we will bring together linguists from both fields to find out how to make the connection between the two.

Heritage speakers are adult child bilinguals

“A language qualifies as a heritage language if it is a language spoken at home or otherwise readily available to young children, and crucially this language is not the dominant language of the larger (national) society” (Rothman 2009:156). Heritage languages are thus learned early in life, either simultaneously with the dominant language or prior to the acquisition of the dominant language of the country.

Comparing similarities and differences. Differences between ECB and HLS include the reported outcome of bilingual acquisition. Whereas ECB often report complete acquisition of the home language, HLS report on incomplete acquisition or attrition. The identification of vulnerable domains in ECB and HLS however partly overlaps. For example both report interface effects (L2, cf. Sorace 2004, 2011, 2012; Tsimpli et al. 2004; and Tsimpli & Sorace 2006, HL cf. Laleko (2010), Montrul & Polinsky (2011), and Tsimpli (2012), but again there is a gap. Another interesting difference is the role of dominance which is crucial in HLS, but less so in ECB (Kupisch 2013) and cross-linguistic influence between the two languages of the bilingual speakers, which is at the heart of many debates in ECB (Hulk & Mueller 2000, Mueller and Hulk 2001 among many others), but seems to be quasi-absent in HLS.

Sources of deviation. The question is why reported outcomes differ in ECB and in HLS although we are dealing with similar groups. One possible explanation for the discrepancies between findings is timing. Because ECB is concerned with the early stages and HLS with the later stages of bilingualism, they catch different parts of the development. Part of the language that were acquired can get lost later in time (Polinsky 2011). A second possibility is that the context in which the research was carried out affects the outcome. Contextual factors that might play a role in success are a positive versus negative attitudes towards bilingualism in society (cf. Kupisch 2013: 206, Benmamoun et al. 2013), dense...
difficulties with animacy and attraction effects as well as the problems found in the production tasks were overcome. In fact, results indicated that Basque/Spanish bilinguals showed gender attraction effects with both masculine and feminine terms of gender. Participants completed a picture selection task, a fill-in the gap task and an oral elicitation task. Items were designed in terms of gender-matched (masculine-masculine; feminine-feminine) and gender-mismatched (masculine-feminine; feminine-masculine) conditions as well as animate, inanimate and body parts contexts. Our findings revealed that Basque/Spanish bilinguals as well as the L1 Spanish learners showed both animacy and gender attraction effects in the three proficiency groups, in contrast to native speakers of English. Strong animacy effects were found mainly in oral production tasks whereas attraction effects were found in both comprehension and production tasks. In fact, results indicated that Basque/Spanish bilinguals showed gender attraction effects with both animate and inanimate nouns, indicating transfer from the grammatical gender of the Spanish equivalent noun. Both difficulties with animacy and attraction effects as well as the problems found in the production tasks were overcome.

Conceptualization in Pakistani Bilinguals: A Cognitive Approach
Katsiaryna Hurbik Paper Session 55
The paper is devoted to the representation of conceptual changes among Pakistani Urdu and English bilinguals. The aim is to analyze how Urdu as L1 influences cognition of basic concepts in English as L2. The research is based on qualitative analysis of casual discourse as well as quantitative analysis of a questionnaire containing only few verbal items. The sample was collected by stratifying the participants into age groups of 18-25, 26-35, 36-45, 46-55 and 56-65 year old females and males of Lahore and Faisalabad. The examples of the casual discourse were taken both from Urdu and English. Combined levels of triangulation on the individual and interactive levels ensure validity and reliability of the research. The results revealed that not only Urdu as L1 has contributed to the change in conceptualization in English as L2, but English has modified cognition and perception of certain concepts in Urdu as well.

‘Baby is cry in she his mum arms’: The acquisition of the English gender feature in foreign language classroom settings
Ainara Imaz Agirre and Maria Del Pilar García Mayo Paper Session 54
"The present study examines the acquisition of gender agreement with third person singular possessive adjectives (his/her) by Basque/Spanish learners of English as a third language (L3). Previous research on this topic with Spanish/Catalan learners of English (Muñoz 1991, 1994) and French learners of English (White et al. 2007) has shown that learners have problems establishing this type of agreement (*She saw his son, intended: She saw her son). Within current generative research on feature availability in second language (L2) acquisition, computational (White et al. 2004) and representational (Hawkins & Hattori 2006) accounts posit different explanations for the acquisition of uninterpretable features, whereas interpretable features have been claimed to be acquirable (Sagarra & Herschensohn 2011; 2013). In her Feature Reassembly Hypothesis (FRH), Lardiere (2008, 2009) argues that not all interpretable features are acquirable in all configurations as they are also subject to reassembly constraints (see also Guijarro-Fuentes, 2012). The three languages in this study, Spanish, Basque and English, display an interesting combination as they have different ways of expressing gender and possession: Spanish has uninterpretable gender agreement whereas gender is interpretable in Basque and in English. As for possessive agreement, Basque pronouns do not show gender agreement but they agree in number with the possessor. In Spanish, the possessive agrees with the possessee in number whereas in English the third person singular possessive pronoun agrees with the possessor in gender.

A total of 211 participants took part in this study: 117 L3 English Basque/Spanish bilinguals, 70 L2 English L1 Spanish speakers and 24 native speakers of English. The participants in the two non-native groups were divided into three subgroups according to their proficiency level: elementary, intermediate and advanced. A battery of tasks targeted at eliciting third person singular possessive adjectives was designed with the goal of the difficulties of these learners. Participants completed a picture selection task, a fill-in the gap task and an oral elicitation task. Items were designed in terms of gender-matched (masculine-masculine; feminine-feminine) and gender-mismatched (masculine-feminine; feminine-masculine) conditions as well as animate, inanimate and body parts contexts.

Our findings revealed that Basque/Spanish bilinguals as well as the L1 Spanish learners showed both animacy and gender attraction effects in the three proficiency groups, in contrast to native speakers of English. Strong animacy effects were found mainly in oral production tasks whereas attraction effects were found in both comprehension and production tasks. In fact, results indicated that Basque/Spanish bilinguals showed gender attraction effects with both animate and inanimate nouns, indicating transfer from the grammatical gender of the Spanish equivalent noun. Both difficulties with animacy and attraction effects as well as the problems found in the production tasks were overcome.
with increasing proficiency, although even advanced Basque/Spanish bilinguals showed persistent agreement errors (above 10%). Our data seem to support the FRH as the participants’ interlanguage showed persistent mapping difficulties across proficiency groups.

"They call us names, they call us Russians!". Nationality and conceptual non-equivalence

Ludmila Isurin Paper Session 24

"Establishing an official identity via state certification of collective identities is hardly a new concept (Kertzer & Arel, 2002). In the USSR, a century of very specific and deliberate social engineering of particular ethnic denominations, and consequently social structures, resulted in a different perception of ethnicity at both popular and state levels than in the US (Anderson & Silver, 1990). Russian immigration in the US is predominantly Jewish; however it is often perceived as Russian, which clashes with the immigrant’s self-perception and their identity negotiation. The paper takes an interdisciplinary approach to the study of identity and nationality in immigrants and, in particular, the intertwined issue of ethnicity and nationality as it is perceived and negotiated by Russian immigrants in the US. The narrow focus of this paper is to look at a conceptual non-equivalence of the term “nationality” within the framework of conceptual transfer and conceptual non-equivalence (Wierzbicka, 1997). The paper starts with the dictionary definitions of the key terms, such as nationality, ethnicity, and race in Russian and English and then draws on the data gathered in two separate studies. One was an observational study solicited by the US Federal Government and conducted during the decennial 2010 US census among Russian immigrants with limited English proficiency (Russian immigrants n=67; English speakers n=37); another was part of a larger empirical project on Russian immigration in the US (n=50) and targeted issues of identity and the way Russian immigrants want to be perceived by Americans (survey and interview served as elicitation techniques). The data were analyzed quantitatively and qualitatively; numerical results are further illustrated by narrative excerpts. The observed and reported confusion caused by the race question and the immigrants' need to report Jewish or Russian ethnicity in the first study as well as immigrants’ emotional reaction to the generalized term “Russian” in the second study provide evidence of conceptual non-equivalence between Russian words such as race and nationality and their English counterparts. The concepts that provided a strong base for immigrants’ identity formation in their native country got transferred into the host country where they had lost their original meaning. Ironically, the host society identifying those immigrants along the same line of nationality applies a different meaning to the word, thus creating much disconnect among Russian immigrants who might have come from Russia but are not Russian nationals and in most cases are not ethnic Russians. The findings show how the term “nationality” is negotiated by immigrants at the official level during the census enumeration, and how Russian immigrants want to be viewed by Americans in everyday life. The combined findings from both studies contribute to a complex issue of identity negotiation in immigrants.

Rethinking Some Issues in L1 Attrition: A Case Study of L1 Spanish in Contact with Brazilian Portuguese

Michael Iverson Paper Session 28

"Recent proposals have claimed that attrition is due to reduced L1 use (Schmid 2007), cross-linguistic influence (Paradis 2004), or a general effect of bilingualism (Sorace 2011), and that it is a problem of linguistic performance, not competence (representations). The present study is a case study which challenges the notions that attrition does not affect underlying linguistic representation and that bilingualism is a necessary precursor.

The case study subject (the attriter) was raised as a Chilean Spanish monolingual. At 23 he moved to Brazil, and has resided there for 30 years. During this time he has not left Brazil, has lived in a Brazilian Portuguese (BP)-speaking community, and has had minimal contact with Spanish. Because Spanish and BP are mutually intelligible, he has not attempted to learn BP, and denies any ability to speak it. When interacting in Spanish (with the researchers and their associates), his speech is not modified in any discernible way compared to observed interactions with native BP speakers, including his family. From these observations we conclude that he is not bilingual in the classical sense.

Production data (in Spanish) and experimental data (in both languages) were collected from the attriter. Here, we consider two properties: phonetically null inanimate accusative objects and word order. In Spanish, only indefinite objects can be dropped, constrained by subjacency (island) effects. In BP, they can be dropped regardless of definiteness or syntactic environment. In Spanish, verb-subject order is preferred with unaccusatives and in
.
Specific language impairment (SLI) affects approximately 7% of school-aged children (Tomblin, Records, Buckwalter, Zhang, Smith, & O’Brien, 1997), and 7% of children who are culturally and linguistically diverse (CLD) have SLI. Children from CLD backgrounds include those learning English as a second language, and those exposed to other varieties of English at home. The numbers of children from CLD backgrounds entering U.S. schools are steadily on the rise. In New York City, 47.6% of children speak a language other than English at home (U.S. Census Bureau, 2000). In the borough of Queens, 56.4% of those aged 5 and over speak another language, and nearly half of Queens residents (48%, or 1,065,630) are foreign born (U.S. Census Bureau, 2000; 2010). Consequently, many children of immigrant parents enter schools when they are in the early stages of learning English, and others speak non-mainstream dialects of English at home.

Grammatical deficits are a primary characteristic of children with SLI. English-speaking children with SLI frequently produce bare stem verbs in instances where tense marking is required. However, the same pattern is observed in several varieties of non-mainstream English usage, including several West Indian English dialects. Given the link between SLI and later reading problems (Bishop & Snowling, 2004), timely and accurate language screening procedures are essential for ensuring academic success for all children. Yet because of the overlap in grammatical patterns, verifying typical language development in CLD children can be problematic.

An innovative aspect of the current screening was the inclusion of dynamic assessment (DA) procedure. Though not yet widely implemented in clinical practice, DA strategies have been proposed as viable alternatives for testing children from CLD backgrounds (Peña, Gillam, Malek, Ruiz-Felter, Resendiz, & Fiestas, 2006; Patterson, Rodriguez, & Dale, 2013; Peña, Iglesias, & Lidz, 2001). Sixty-four first grade children participated in the language screening. Home languages included Haitian Creole, Spanish, Jamaican Patois, Punjabi, Tagalog, Dutch, Guyanese English, and Twee. The screening incorporated (a) a brief teach-retest procedure for using English past tense morphology using non-words (teaching phase) followed by elicitation of regular past morphology using real English verbs (testing), (b) an oral narrative retell task based on the wordless picture book Frog, Where Are You? (Mayer, 1969) implementing a modified scoring procedure to measure verb diversity (Furey & Watkins, 2002); and, (c) a sentence repetition task using the Sentence Recall Subtest of the Clinical Evaluation of Language Fundamentals (CELF-4). The screening results were compared to the Teacher Behavioral Checklist that was typically used to refer students suspected of having language learning difficulties.

Preliminary results were promising. Scores for children who passed or failed the screening differed significantly (p < .01) on each of the measures. Moreover, the screening did not result in over-referrals for speech-language evaluations, despite the fact that many children who were speakers of West Indian dialects used bare stem verb substitutions in their narrative samples. Specificity was .92; sensitivity was .75. Further testing with a larger sample is needed to provide independent validation of the reference standard and screening test.

Language provision and uptake: the dominance of Hindi in Singapore.

Ritu Jain

“Singapore’s relatively recent second language policy amendments have led to expanded Indian language options in response to citizen demands. However, contrary to policy goals, the availability of the heritage language options has not translated into uptake among the linguistically heterogeneous Indians. The resultant gap between provision and response offers an opportunity to study the ideological intersection between top-down policy and bottom-up practices among minority communities. Further, this confluence of provision, implementation and practices allows a review of language attitude towards Hindi, the fourth most commonly spoken language of the world (The World Factbook), and yet, rarely investigated.

In comparison to the previous option of three official languages (Mandarin, Malay, and Tamil), policy changes now offer Indian students five additional languages (Hindi, Punjabi, Gujarati, Bengali, and Urdu) to choose from as the mandatory ‘second language’ at school. Ongoing research highlights that even though six Indian languages are institutionally available, an overwhelming majority of the more recent transnational Indians are opting for Hindi. While pragmatic ideologies contribute to the popularity of Hindi, interview data also suggests that the language decisions are
part of an “ideological struggle” (Curdt-Christiansen & Hancock, 2014) involving sentimental beliefs, cultural goals and perceptions of identity.

The justifications offered by respondents for bypassing one’s heritage language (e.g. Bengali, Punjabi) and another high status language (Mandarin) for Hindi highlights a complicated negotiation of multiplex identities. Perceived as the ‘national language’ of India, Hindi is not only associated with instrumental advantages but also allows the performance of a collective national identity that Mandarin does not. Data suggest that the language policy, intended to encourage bilingualism and heritage language maintenance, is not only being exploited for multilingual aspirations but also leading to the promotion of Hindi as a lingua franca of the connected minorities.

Theoretically, this study challenges essentialist policies premised on homogenous speech communities and static heritage identities. It also suggests that institutional provision of heritage languages may not translate to uptake, much less maintenance. In fact, the study shows, it is often the very consumers for whom the policy is designed, who contribute to reproducing the language dominance that the policy aims to address."

Prime Type and Automatic Processing in Hindi-English Successive Bilingual Adults
Tithi Jain and Prema Rao Poster 23-May

"Priming is an implicit memory effect in which exposure to one stimulus influences response to another stimulus. Masked priming (Forster and Davis, 1984) is a paradigm wherein the participant is consciously unaware of the stimulus presented whereas an automatic processing is defined as the activation of a sequence of nodes that “nearly always becomes active in response to a particular input configuration,” and that “is activated automatically without the necessity for active control or attention by the subject” (Schneider and Shiffrin, 1977).

There has been much debate among the researchers on the effective prime type for lexical access in bilinguals. Aparicio, 2012 concluded that repetition priming gives more significant responses in both, behavioral and evoked potentials measures compared to translation priming in successive bilinguals. The present study aims at investigating the automatic processing in Hindi-English (L1-L2) successive bilingual adults using masked translation and masked repetition priming. The participants included 20 successive bilingual female adults in the age range of 20 and 30 years. The Language Experience and Proficiency Questionnaire (Ramya & Goswami, 2009) was administered on the selected participants to determine their proficiency in both the languages. DMDX software (Forster & Forster, 2003) was used to program the stimuli. The participants were divided into 2 groups and were exposed to two stimulus conditions-masked translation priming and masked repetition priming for semantic categorization task. This task involved categorization of living and non-living items by the participants. The study employed a counterbalanced design and the stimuli were presented orthographically in both the languages on a 14” laptop screen. The reaction time (RT) and the accuracy of responses for stimuli were measured for L1 to L2 w.r.t translation priming and repetition priming. Appropriate statistical analyses were employed and the results indicated better reaction time and high accuracy measures in masked repetition priming compared to masked translation priming. Further, the statistical analysis was carried out for comparison of performance of participants within group, across priming type with language proficiency as a covariate. The speed and accuracy trade-off within translational and repetition priming was also analyzed. The influence of prime-type for automatic semantic processing in L1 & L2 in Hindi-English successive bilinguals is discussed."

Identity Shift and Language Learning: A Case Study of Chinese Immigrants
Jialei Jiang Poster 21-May

"This study will examine how Chinese immigrants deal with the issue of identity shift and language learning after they come to the United States. It employs an interview-based qualitative method and provides an ethnographic analysis of three Chinese immigrants. My interest in this study stems from Chinese immigrants’ lingua-cultural dilemmas in the USA. Chinese immigrants “have long been faced with the language choice dilemma of how to switch to English and still preserve their HL [heritage language] in the USA” (Zhang & Slaughter-Defoe, 2009, p. 77). On one hand, they are in dire need of acquiring their second language, i.e., English, in order to adapt to the English speaking environment. On the other hand, learning their heritage language, i.e., Chinese, strengthens their membership in extended families and ethnic communities. Therefore, as Chinese immigrants switch between two different languages and cultures, they are faced with this lingua-cultural dilemma. Based on the poststructuralist linguistic framework that construes identity as
negotiated in social relations and as something that changes over time and space (Norton, 1995 & 2008; Lave & Wenger, 1991; Wenger 1999), this paper investigates how different social factors and relationships change learners’ identity. The research is situated in a context in which Chinese students whose first language is Chinese have immigrated to the U.S. in their childhood or adolescence. They have received the beginning level of elementary English education in China. After coming to the U.S., these Chinese students are immersed in the target language environment and continue to receive formal education in American English. This research will be subsumed under the category of qualitative research, which complements quantitative research for exploring identity, since identity is multifaceted and changing (Atkinson, 2011, p. 82). The significance of the research is that by comparing the ways in which Chinese immigrants negotiate meaning before and after coming to the U.S., I am capable of gaining deeper insight into the issue of identity shift and how it affects heritage and second language learning. Additionally, while there has been no small amount of identity research revolving around classroom-based learning, it will also be intriguing to examine informal learning outside classrooms. The research questions are the following: (a) Have Chinese immigrants experienced an identity shift after coming to the United States? If so, will the identity shift bring about waning motivation in their first language and enhanced investment in their second language? (b) What social and contextual factors have led to the changes of Chinese immigrants’ investment in first and second language, respectively? (c) What influences have formal and informal language learning had on their acquisition of first and second language, respectively? The research findings reveal that the Chinese immigrants have experienced different degrees of identity shifts, which are closely related to the change of their performance in the first language (L1) and second language (L2). Based on these findings, this study recommends that instructors provide linguistic and cultural resources that facilitate balanced identity shifts for Chinese immigrants.

Interactions between Working Memory and Cross-linguistic Influence

Linye Jing, Lu Cao, Jing Zhang and Liang Tao  Poster  21-May

"A large body of research in bilingualism and second language acquisition (SLA) has attested the effects working memory (WM) disposes on SLA: efficient processing (Andersson, 2010; Rai et. al., 2011), enhanced comprehension (Fontes and Schwartz, 2011), rates of acquisition and levels of ultimate attainment (Skehan, 1998). Some research also indicated that WM is one major component of language aptitude (e.g. Miyake & Friedman, 1998). Intriguingly, the effects of WM align with the possible effects L2 learners’ first language (L1) can exert on their L2 acquisition (Ringbom, 2007). However, the question whether WMC and CLI interplay with each other, has not received much attention in the field until very recently (e.g. Trude & Tokowicz, 2010).

The current study explores whether and how WMC and CLI interplay to influence the processing, retention, and production of second language (L2) among learners of Chinese as a second language. Our specific research questions are: a) Whether individual differences of WMC affect the amount of L1 influence on their Chinese comprehension and production. b) Whether syntactical similarities and difference between Chinese and English have effects on the amount of Chinese input that can be retained and processed in L2 learner’s WM.

Two digit span tasks in English and Chinese (Ch-Dspan and En-Dspan) and an operational span (Ospan) tasks are used to measure the storage and executive control functions of WMC. An elicited imitation (EI) task is conducted to assess the amount of L2 input the learners can retain and produce in immediate recall. A translation task (TR) immediately follows the EI task is used to measure the conceptualization process of L2 input. Both the EI and TR tasks include 3 types of sentences with different levels of syntactical congruency, in order to measure the effects of cross-linguistic similarity and difference.

The preliminary results showed significant correlation between EI and the two digit span tasks among learners with lower proficiency level. On the other hand, TR and Ospan are found to be significantly correlated among learners with higher proficiency. These two findings indicate that cross-linguistic similarity and storage components of WM play a more crucial role at earlier stages of acquisition, whereas the executive control component is more powerful in the later stages. Also, the executive control affects the conceptualization of input, which is pivotal for learners to transform the information into their own production."
Multilingual repertoires at school: patterns of language choice during group work
Kathelijne Jordens Paper Session 8

"A vast majority of Dutch-medium Flemish schools stick to a ‘Dutch-only policy’ at school, even when the school population is multilingual (Agirdag, 2010). Education is strongly imbued with a monolingual habitus (Gogolin, 1997), banning home languages (and heritage languages in particular) from the classroom and even the playground. School teams enforce a Dutch-only policy mainly in order to diminish the achievement gap between native speakers of Dutch and ethnic minority pupils (e.g., Turkish-speaking pupils). The latter are believed to need as much Dutch language practice as possible: every minute counts.

However, code-switching has been found to have a beneficial effect on task performance in the classroom as well as in more informal conversations (Reyes, 2004; Gort, 2012). Tolerating the use of pupils’ full linguistic repertoire might be valuable both at the cognitive level and at the socio-emotional level.

In this multiple case study, we explore what happens when multilingual pupils are encouraged to use their full linguistic repertoire during task performance. The main question we address in this paper is: which language patterns do bilingual (Turkish-Dutch) children exhibit during group work and which factors determine the language choice of bilingual children?

Data were collected in two primary schools: School 1 had a population of 50% monolingual native Dutch-speaking children and 50% Turkish-Dutch bilingual pupils. School 2 had a population of 99% Turkish-Dutch bilinguals. In various sessions spread over one and a half year we observed a group of four bilingual Turkish-Dutch pupils (aged 9-11) in each school, while they performed different tasks.

All performances were videotaped and transcribed verbatim: a corpus was built up consisting of more than ten thousand ‘conversational turns’ (Ellis, 1994). Each conversational turn was coded for language (Turkish, Dutch, other, mix) and for task-relatedness (used for on-task or off-task purposes, i.e., related or unrelated to the contents of the task) as adapted from Villamil & de Guerrero (1996). Based on this coding, we investigated which languages the pupils made use of, how much of each language they used, and how many code-switches they made. Furthermore, we explored the relationship between language choice and task-relatedness and differences between the two groups of four children as well as individual differences in language patterns used. We also compared the observed patterns with the perceptions of the pupils, as voiced in interviews right after every task performance.

Preliminary results show that children make use of their multilingual repertoire in a very flexible way. Language choice appears to be linked to the attitudes of the children towards their repertoires: children who are more positive about their multilingual repertoire tend to use more Turkish during task performance, both in task-related and informal speech.

Differential Object Marking in L1 and L2 Argentine Spanish
Tiffany Judy and Jason Rothman Poster 23-May

"This study examines syntactically-constrained differential object marking (DOM; Aissen 2003; Heusinger & Kaiser 2003; Torrego 1998, 2002) in a novel population: adult near-native, naturalistic L1 Farsi speakers of L2 Spanish. The research questions ask, first, under what syntactic conditions do native Argentine Spanish speakers accept DOM and, second, do the L2 speakers perform like the controls? Importantly, since recent research has shown variation for DOM, specifically omission in contact situations (e.g. Luján & Parodi 1996; Montrul 2004; Sánchez 2003; Montrul & Bowles 2009) and extension in monolingual populations (Company 2001, 2002; Montrul 2013), dialect was controlled for with both the control (n=24) and experimental groups (n=8) speaking Argentine Spanish.

While both languages display DOM, Farsi marks all [+specific] direct objects (DO) (Ghomeshi 1997, 2008; Karimi 1990, 2003, 2005) while Spanish DOM depends on many factors (e.g. animacy and specificity of the DO, animacy and agentivity of the subject and verb type; see Guijarro-Fuentes 2012 for review). To isolate the effect of animacy and specificity of DOs ([+animate, +specific] DOs are marked), only animate subjects with stative and activity verbs were employed in the experimental task, a Grammaticality Judgment Correction Task (GJCT). The GJCT consisted of 48 DOM tokens (+58 fillers) divided into 4 token types with 12 tokens each: [+animate,+specific], [+animate,-specific], [-animate,+specific] and [-animate,-specific] (examples below). Half of each token type displayed DOM, while half did not.
Animacy is inherent to the DO, but specificity was reinforced by verbal morphology of the relative clause verb modifying the DO (indicative = specific, subjunctive = unspecific).

A Generalized Linear Mixed Models analysis of the control and experimental groups’ acceptance of the 4 token types showed a main effect for specificity, DOM and Speaker Type, but not animacy (nor verb type, proficiency, years of exposure, etc.). These findings differ from canonical DOM distribution, which is constrained by specificity and animacy. Thus, regarding the first research question, the results indicate that animacy does not play a statistically significant role in the acceptance of DOM. Additionally, post hoc tests specify an extension of DOM to inanimate DOs, an acceptance of unmarked specific DOs and an acceptance of unmarked animate DOs. The results regarding animacy echo previous findings in Mexican and River Plate dialects (Company 2001, 2002; Montrul 2013). Regarding the second research question, the main effect for Speaker Type indicates that the control and experimental groups performed differently.

L2 divergence is taken to be a product of the complexity of feature reassembly in adult L2 acquisition (Lardiere 2008, 2009) that is perhaps complicated by the L1 where DOM is less restricted and a change in Argentine Spanish DOM paradigm (Montrul 2013). The results support both factors as L1 Farsi speakers of L2 Spanish face a learning task where, assuming L1 transfer, they must restrict DOM distribution. Coupled with variation in native Argentine Spanish, one could account for the greater variation seen in the L2ers as a natural byproduct of learning task complexities and the general difficulty of feature reassembly described by Lardiere’s Feature Reassembly Hypothesis.

Monolingual Korean teachers’ perception of a bilingual English education policy: A conversation analytic study
Hanbyul Jung

"Despite rapid changes in the recent decade, South Korea has been a monolingual nation for centuries and consequently all medium of communication—in ordinary conversation and institutionally—has been and currently is Korean. Until recently, English was one the content subjects taught in schools for students of Grade 7 and higher. In recent years, however, there has been a vast increase in the interest and controversy on the need for a more bilingual-oriented English language education, resulting in implementation of government-mandated English-intensive workshops for K-12 English subject teachers in Korea, with the goal of enabling these teachers to conduct their classes in English. The subject of this current study is one of such intensive workshops, and using Conversation Analysis (CA), this presentation aims to illuminate the workshop participants’ (i.e., Korean English teachers) perspective and evaluation of such goals and policy.

The data was collected within a program evaluation context with eight groups of Korean teachers of English participating in a study-abroad teacher development program in the U.S. All interviews, each consisting of 4-6 participants, were conducted in Korean, and the protocol consisted of: (a) recruitment procedures, (b) needs, goals, and expectations, (c) whether such needs, goals, and expectations were met, and (d) suggestions for change. First, a content analysis of the transcribed and translated audio/video data revealed that the conveyed primary purpose of the teacher development workshops was to “consider Korean teachers as native speaker English teachers” (direct quote from participant talk) after completion of the workshop program, and thus mandated participants to use English-only during the entire duration—6 months—of the program. A detailed CA analysis of three specific segments from two different groups further revealed the various ways in which the participants displayed their understanding of and resistance towards the implemented policy: (a) considering the policy to be a laughable matter (Ex.1: “oh haha, really?”), (b) denying the implication of the policy by offering a contrastive statement (Ex.1:“oh, but we are not native speakers”), and (c) directly resisting the policy (Ex.2:“it doesn’t make sense”).

Analytic implications of this presentation are twofold: (a) methodological—a detailed CA analyses of participants’ interaction in the focus group interviews enable a deeper understanding of the participants’ responses to the focus group protocol, thus strengthening the evaluation results; and (b) policy-wise—the discrepancy between government-mandated on paper policy and the actual understanding and realization of on site policy indicates that the relationship between the policy makers and practitioners of English education in Korea is still in rudimentary stages, thus illuminating the gap that needs to be bridged, if bilingual education is indeed to be the direction of the English education in South Korea."
"While multilingual speakers worldwide agree that it is more challenging to learn a second-language in adulthood than in childhood, whether this is due to a neurobiological critical-period for L2-learning is controversial. To date, it is unresolved whether maturational limits on neuroplasticity impede ""native-like"" neurocognitive mechanisms underlying L2-processing, or whether factors such as proficiency or exposure (typically confounded with age-of-acquisition) have a greater impact on language-processing in the brain.

First-generation-immigrants who move to a new country in adulthood offer new light on this question, as they become highly-proficient in the late-acquired but predominantly-used L2, while experiencing attrition in their native-L1. Although there have been numerous behavioral studies of attrition, its neurocognitive correlates remain largely unexplored.

Using event-related-potentials, we examined L1-grammatical-processing in 24 ""attriters"" (Italian-English immigrants highly-proficient in English and reporting attrition in Italian), compared to 30 Italian native-speakers still residing in Italy. We investigated whether attriters differed from Italian-controls in their automatic detection and online repair/re-analysis of number-agreement violations (especially in cases where number-agreement is evaluated over a large distance in a sentence), and whether differences in processing strategies are modulated by Italian proficiency level.

Sentence stimuli were adapted from a study with Italian monolinguals by Molinaro, Vespignani, Zamparelli and Job (2011). Number agreement was manipulated between 3 sentence positions: subject-noun, verb and an adjective modifying the subject-noun. Four experimental conditions were compared: (1) Correct (xxx); (2) *Inconsistent verb (xyx); (3) *Inconsistent noun (xyy); (4) *Inconsistent modifier (xxy). On the verb, we expected morphosyntactic violation effects (LAN and/or P600) for conditions 2 (xyx) and 3 (xyy) where the verb disagreed with the subject-noun. On the modifier, we expected large violation-effects for condition 4 (xxy), the most severe number violation. For conditions 2 and 3, the previous study found that Italian native-speakers elicited a P600-effect for condition 2 (xyx) where the modifier disagreed with the verb but agreed with the subject-noun, but showed no effects in condition 3 (xxy) where the modifier agreed with the verb but mismatched with the subject-noun. This pattern suggested that readers automatically revised the ungrammatical sentence when encountering a mismatching verb, and assigned the number of the verb to the sentence before integrating the upcoming modifier, which was either congruent with the repair (xxy) or clashed with it (xyx).

Results from our Italian-controls replicated previous findings, both on the verb and modifier. On the verb, attriters showed similar violation-effects as Italian-controls (frontal, early P3a + posterior P600). On the modifier, attriters – like controls – showed a broadly-distributed negativity followed by a large P600 for the most salient violation (#4: xxy). In condition 2 (xyx), attriters showed a frontal-P3a (absent in controls) and a posterior-P600, while in the ""repair condition"" (

#3: xxy) where Italian-controls showed no effects, attriters elicited a large P600. Thus, attriters neither used the verb number (xxy) nor the noun (xyy) to revise the sentence by the time they arrived at the modifier. Interestingly, processing patterns were modulated by attriters' Italian proficiency, with lower-proficiency attriters deviating from Italian-controls.

This is the first study to investigate the potential breakdown in the automaticity of online revision/repair strategies in attriters’ grammar. Evidence of L1-attrition challenges the notion of a maturationally-privileged, hard-wired L1, and emphasizes the role of proficiency in determining the ""native-like-ness"" of processing patterns."

**The Role of L1 in L2 Processing of Morphosyntax**

Kalliopi Katsika, Shanley Allen, Holger Hopp, Tom Rankin, Ianthi Tsimpi, Maria Kaltsa, Theodoros Marinis, Melita Stavrou, Danijela Trenkic, Gavin Austin and Nattama Pongpairoj

"It has been widely attested that the L1 plays an important role in the comprehension and production of L2. The influence of the L1 on the L2 appears to be one of the main constraints for successful L2 learning both in the initial as well as in the final stages of learning. Although psycholinguistic research has provided plenty of evidence that L2 processing is constrained by lexical-semantic (such as plausibility and animacy), phonological, and morpholexical properties of the L1 (e.g. French-Mestre & Pynte, 1997; Marian & Spivey, 2003; Roberts, Gullberg & Indefrey, 2008), results regarding possible transfer of L1 morphosyntactic properties in L2 processing are far more limited and..."
inconclusive. Some studies show that certain L1 morphosyntactic properties are transferred during L2 processing, while other studies do not (see Clahsen & Felser, 2006; Roberts, 2013 for a review). In addition, things become even more complicated when it comes to language processing in bilingual children since most theories so far either make predictions regarding the real-time processing in bilingual adults or monolingual children (e.g. Clahsen & Felser, 2009).

This colloquium aims to shed further light on the issue of L1 effects in the processing of L2 morphosyntax. It brings together researchers who focus on language comprehension and production and draw data from a variety of on-line and off-line techniques such as eye tracking, self-paced reading, picture description, story recall, and elicited imitation tasks. Moreover, participant populations include monolingual and L2 / bilingual adults and children coming from a wide range of language contexts (German-English, Albanian-Greek, Thai-English). The objective of the colloquium is to add more evidence regarding the L1 influence in L2 processing of morphosyntax by answering questions such as:

- Which morphosyntactic properties, if any, are transferred from L1, and how are they licenced during L2 processing?
- What is the role of lexical co-activation in L2 processing of morphosyntax?
- To what extent do demanding or ambiguous stimuli affect L2 processing?
- Do highly proficient learners process L2 morphosyntax differently than less proficient ones?
- How do children process L2 morphosyntax? Do they employ the same parsing strategies as adults or not?

The colloquium will start with a short introduction to and summary of the themes of the colloquium by the chairs (5 minutes). This will be followed by four 20 minute presentations, each followed by a 5 minute discussion period. The colloquium will close with a 15 minute general discussion about issues and questions raised in the presentations, and ideas about future research in the field.

**Word Type Effects and Language Dominance in the Switch Cost Paradigm**
Stephanie A. Kazanas, Jeanette Altarriba and Michelle Mann-Saumier  
Paper Session 79

The current study examined the effects of word type and language in the switch cost paradigm. Results from two experiments indicate that these switches can inhibit performance on a lexical decision task (LDT). However, emotion word processing facilitated LDT performance and enhanced recall, relative to abstract and concrete word processing.

**Usage-based Contact Linguistics: The lexicon-grammar continuum in codeswitching and contact-induced change**
Nikolay Khakimov and Ad Backus  
Thematic session  
Sessions 3, 7

"This thematic session argues that language contact phenomena are usefuly studied from a usage-based perspective. Most explanations to date have considered functional, structural or processing-based aspects of language. While not without obvious merits, these different kinds of explanation generally do not share a common underlying view on linguistic competence and language use. The selling point of a usage-based approach is that it enables an integration of these diverse explanations, since it explicitly relates function (or ‘meaning’), structure (or ‘form’) and processing (or ‘use’) to each other.

A usage-based view on language regards lexicon and grammar as regions on a continuum that ranges from phonologically specific lexical items to phonologically schematic (or ‘empty’) syntactic constructions (Langacker 1987; Croft 2002; Tomasello 2003). Generalizations emerge at variable degrees of specificity: patterns co-exist in a speaker’s mental representation with stored exemplars of word strings that instantiate them. Further, while simple words and fully abstract patterns form the continuum’s poles, many constructions occupy in-between points, including multiword units, formulaic sequences, idioms, and partially schematic constructions.

Although work on multiword units, and partially and fully schematic constructions has contributed to the emergence and ongoing development of a coherent theory of language knowledge and use (Bybee 2010), overt links to fields that put language change center stage, including sociolinguistics and contact linguistics, are remarkably rare (Backus 2013).

The papers in this session approach issues related to the lexicon-grammar continuum by utilizing various kinds of data, including corpora of naturally occurring and elicited bilingual speech, and behavioral data. The contributions explore (i) the role of the entrenchment of linguistic units in accounting for their use in insertional code-mixing and borrowing them into the contact language, (ii) the effect of cross-linguistic similarity on code-mixing patterns and
transfer, and (iii) the relationship between lexical items and schematic constructions in bilingual speech.

Abstract syntactic constructions are examined from various perspectives: Papers 1 and 2 argue that intense activation of constructions from the languages in contact leads to an increase of shared constructions; Papers 2 and 3 examine the relationship between abstract constructions and specific lexical items and how this accounts for morphosyntactic change in long-standing contact situations; and Paper 4 investigates the influence of constructional similarity on code-mixing in bilingual acquisition.

Partially schematic constructions are the focus of Papers 5 and 6, which assert that if a construction is frequent in one language, it may easily be transferred to the other language, especially if these languages are closely related (cf. Paper 6).

Fully specific constructions are investigated in Paper 7, which shows that syntactic patterns observed in code-mixing depend on the entrenchment of multiword units, or lexical chunks, and the frequencies of their parts in the involved languages.

The aim of this thematic session is thus to present state of the art contact linguistic research that focuses empirically on issues relevant to the lexicon-grammar continuum and contributes to the development of a usage-based contact linguistic theory."

Bilingualism and Creativity
Anatoliy Kharkhurin, Patrick J. Cushen, Andrew F. Jarosz, Marta K. Mićlicki, Jennifer Wiley, Mark Leikin, Anna Woldo, Mariam Kostandyan, Yanina A. Ledovaya, Guillaume Fürst, François Grin and Enrica Piccardo
Thematic session Session 32

During the past few decades, research in the area of bilingual cognitive and linguistic development has made tremendous progress and provided evidence supporting the notion that speaking more than one language extends, rather than diminishes, an individual’s cognitive capacities (see Bialystok, 2005, for an overview). There is a strong argument in the literature that bilingual development may result in establishing specific architectures of the mind that are likely to promote later cognitive advantages. On the other side, according to the creative cognition approach (Ward, Smith, & Finke, 1999), creativity is considered a product of normative cognitive functioning. Therefore, increase in general cognitive functioning may facilitate an individual’s creative abilities. If bilingualism results in more elaborate cognitive structures and/or functioning, it may also facilitate creative functioning (Kharkhurin, 2012). Unfortunately, the relationship between bilingualism and creativity received little attention in the scientific community. In about 40 years, this theme had been explored in only 40 studies. Only recently, it was resuscitated and received systematic empirical investigation. The aim of this thematic session is to present the state of the art research in bilingual creativity, which perceives the relationship between these human endeavors from the cognitive, sociocultural, and legislative perspectives. The first three presentations discuss empirical findings of the studies in which bilingual children and college students were compared with their monolingual counterparts on various creativity tests. These studies revealed a tendency of bilinguals to score higher on divergent thinking traits such as fluency, elaboration, and flexibility. The explanations of these findings refer to bilinguals’ greater cognitive flexibility, inhibition abilities, metalinguistic awareness, and bicultural experiences. The discussion of these cognitive functions is addressed in the fourth presentation, which makes an attempt to establish a multivariate model of bilingual creativity. In addition, this presentation seeks implications to governmental policies, which emphasize the importance of promoting bilingualism and fostering creative abilities. The last presentation introduces the concept of plurilingualism, which reflects the linguistic and cultural diversity of the contemporary world.

Private Education as de facto language policy in South Korea Heejin Kim Poster 23-May

South Korea is well known for its distinctive, sometimes excessive, enthusiasm for education. This education fever is derived from South Koreans’ concern with the pursuit of education as a way of achieving socioeconomic status and power; and thus, competitions to score well on tests have been valorized in South Korea. In spite of South Korea’s linguistic homogeneity and isolation, English has been no exception to sustaining and deepening this education fever. Now that English has become the language of power and opportunity in South Korea, this paper aims to examine how education fever has empowered bottom-up de facto English language policy over top-down English language policy.
Accordingly, this paper reviews changes in recent English language education policy in South Korea referring to Cooper’s (1989) classification on functions of status and acquisition planning. Then, South Korea’s English language education policy is further analyzed through Kaplan and Baldauf’s (1997) framework “language-in-education planning (LiEP)” in order to shed light on inconsistencies in current policy and its actual implementation from the bottom. Among Kaplan and Baldauf’s (1997) six areas of language-in-education policy implementation, community policy and evaluation policy in particular call for attention in analyzing South Korea’s English language education policy. Examination on community policy indicates that South Korean parents, rather than the public education system, take the initiative in teaching English with the external help outside of the formal education, from which we can infer that micro language planning prevails despite declared language education policy. Moreover, since focus in evaluation policy and that in the current English language education curricula do not appear to match, parents and students commit to the resources outside of the public education system, which also contributes to shaping unplanned language policy. Based on this close look at community policy and evaluation policy in South Korea, this paper interprets private education in South Korea serving as bottom-up de facto policy, which exercises greater influence on how language policy is developed in practice than the top-down statement can. This interpretation is corroborated with data showing how a large amount of money is put in the private education section and how high students’ private education participation rate is. Also, this paper discusses what repercussions – social inequality and English education gap – this de facto policy has brought about in South Korea society. The final part of the study shows what kind of additional language policies have been announced by the South Korea Ministry of Education in an attempt to solve the social problems caused by de facto policy, only to fail because of de facto policy’s considerable clout. The paper suggests South Korean English language education policy makers to develop supplementary top-down policy that simultaneously considers improvement of public education and change of the assessment form for the sake of minimizing negative effects of de facto policy and offering an egalitarian opportunity to learn English to all the students.

#501 Exploring lexical access in Korean-English bilinguals

Sunhee Kim and Nan Jiang
Poster 23-May

"Lexical access for bilinguals is hypothesized to be either language selective or non-selective. The selective account maintains that bilinguals can selectively activate one of their languages while keeping the other deactivated, whereas the non-selective access hypothesis purports that both languages are automatically activated. These two major hypotheses are often tested experimentally with visual word recognition tasks. While many word recognition studies support the non-selectivity account (de Groot, Delmaar, Lupker 2000; Dijkstra, Hilberink-Schulpen, Van Heuven 2010), there is limited research on cross-language lexical access of different orthographies (see Moon & Jiang 2012).

The current study aims to explore the two main hypotheses and investigate whether Korean-English bilinguals activate Korean while performing a masked priming lexical decision task (LDT) entirely in English. There were 64 items total in the LDT task with primes and targets presented for 50 ms and 500 ms, respectively. The critical manipulation was the use of English word primes that were homophonic to the Korean translations of the targets. For example, the word ‘cow’ is ‘so’ in Korean (/so/, 소), which is similar to ‘sew’ in English (/sɔ/). By comparing reaction times on targets (e.g., ‘cow’) following primes homophonic to its Korean translation (‘sew’) and not (‘bot’), we can investigate whether Korean-English bilinguals’ L1 Korean is involved in a monolingual English task.

The results showed that the Korean-English bilinguals (n=12) were significantly faster at responding to targets in the translation than control condition, t (11) = -2.48, p = .03, but the native English speakers (n=13) showed no difference in RT between the two conditions, t (12) = .07, p = .94. Meanwhile, there were no significant differences in RTs between groups for translation (t (23) = -2.48, p = .03) and control conditions (t (22) = -2.48, p = .03) as well as overall accuracy (t (23) = -2.48, p = .03), which suggests the RT difference in the translation condition for the Korean-English bilingual group cannot be attributed to potential between-group processing disparities. The finding that Korean-English bilinguals are facilitated by their L1 endorsements the non-selectivity hypothesis and reveals dual activation of both L1 and L2 in a single language task. Participants’ language background questionnaires will be analyzed in-depth to investigate potential effects of age of acquisition (AoA), age of arrival to the United States, and English language proficiency in the data.

Additional participants for the Korean-English bilingual group will be recruited. Second language learners of Korean will also be tested to see if and to what degree non-selectivity exists in nonnative speakers."

Poster 23-May

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Additional participants for the Korean-English bilingual group will be recruited. Second language learners of Korean will also be tested to see if and to what degree non-selectivity exists in nonnative speakers."
Uncovering Montreal migrants’ language attitudes after the proposition of the Quebec Charter of Values
Ruth Kircher

Montreal is a multilingual city that is home not only to many francophones but also to comparatively large anglophone and allophone communities (Statistics Canada, 2011) – with ‘allophones’ being the term used in the Quebec context to describe those who have neither French nor English as their mother tongue. The presence of these allophones is a result of the fact that Montreal attracts the vast majority of the province’s migrants (Statistics Canada, 2011). These migrants constitute a highly heterogeneous group that comprises newcomers of different generations, individuals from diverse countries of origin and numerous ethnicities, and speakers of a variety of different mother tongues. Most of these migrants speak not only their heritage language(s) but also French and/or English (Pagé and Lamarre, 2010).

There is a paucity of research into the attitudes that Montreal’s migrants hold towards French compared to English. The only previous study known to the author showed that overall, the first- and second-generation migrants shared the same attitudinal trends as the non-migrants – most likely as a result of their shared, civic identity (author reference anonymised). However, these findings originate from 2007, a time where the Quebec government was strongly propagating a civic – rather than an ethnic – national identity. Then, in 2013, the provincial government proposed the Quebec Charter of Values, a bill putting forward the prohibition of religious symbols in the public sector. While the idea of the Charter was abandoned in 2014, its mere proposition caused much controversy and was seen by many migrants (as well as non-migrants) as an act of extreme ethnocentrism, sparking debates about the conceptualisation of belonging in Quebec.

This paper presents the findings of a new, ongoing study that investigates how the Charter has affected Montreal migrants’ social identities in relation to their city, their province and their country – thereby uncovering the resulting changes in their attitudes towards French (in its role as the official language of Quebec) compared to English (in its role as an important language of life in Montreal, as well as its role as the language of upward mobility in the rest of Canada). The study makes use of a questionnaire to elicit qualitative as well as quantitative data which allow for the comparison of first- and second-generation migrants’ language attitudes to those of non-migrants. Attitudes towards French and English are investigated in terms of the two main dimensions of language attitudes, that is, status and solidarity. So far, the questionnaire has been completed by over 500 participants who are not only of different migration and ethnic backgrounds but also of different genders, different ages, and different mother tongues. The findings provide an insight into the changing identity dynamics in a complex multilingual community in which languages appear to be intrinsically connected with social identities.

A constructional approach towards intransitive motion constructions in bilingual and monolingual speech.
Nikolas Koch and Till Woerfel

Recent research has shown that the acquisition of the basic locative constructions in German by children, who grow up bilingually with typologically different languages, is highly problematic (Bryant 2012). In this paper we examine whether the observed findings for locative motion are also to be found in the encoding of intransitive motion in German by German-Turkish bilinguals and German monolinguals within the framework of the Construction Grammar (Goldberg 1995, 2006).

We analyzed a corpus that consists of oral re-narrations of animated cartoons in German by bilingual German-Turkish speakers (n=23; range 9-16 years) and German monolinguals (n=12; range 9-17 years). Additionally, a lexical control task was carried out, testing the speakers’ motion verb lexicon.

Compared with German monolinguals, the results indicate two tendencies: First, Turkish-German bilinguals produce more intransitive motion constructions without any motion verb (see 1); second, they frequently use more constructions involving the verb gehen (‘to go’) (see 2).

Example (1) demonstrates that the motion verb (e.g. rennen ‘to run’) is missing; instead, an auxiliary verb (sein ‘to be’) is used in combination with a directional verb particle (hinterher ‘afterwards’). However, the meaning of the utterance involves motion. In (2) the specific motion verb (e.g. fallen ‘to fall’) is replaced by the more generic verb gehen (‘to go’). We argue that both examples can be explained within the theoretical framework of the Construction Grammar.
The semantics of any utterance like (1) is not primarily produced by the verb but by the construction itself. This aspect constitutes the basic idea of Construction Grammar by supposing constructions to be conventionalized form-meaning pairs which already carry semantic features. Since the semantic component Motion is already an inherent part of the intransitive motion construction, it is then not necessary to express this component in the verbal root.

Moreover, if the verb slot is occupied (see 2), Turkish-German bilinguals more frequently tend to use generic verbs. This is a phenomenon which has been observed in monolingual first language acquisition (Goldberg/Casenhiser/Sethuraman 2004) and in second language acquisition as well (Ellis/Ferreira-Junior 2009). Both studies indicate that the generic verb “to go” is highly frequent in the input and is treated as prototypical in the intransitive motion construction. However, more specific verbs (such as walk, move, run, drive) are more prototypical for this construction type, although more limited in their use compared with “to go”. A frequent use of a generic verb such as gehen or “to go” can be explained by its frequency and prototype. Our results demonstrate that monolinguals use more specific verbs and less generic verbs at the same age compared with bilingual speakers. Since the results of the lexical control tasks show that more specific motion verbs are available in the bilingual speakers’ lexicon, we suggest that the use of an auxiliary verb and a generic verb construction in the bilinguals’ online production is more economic in the sense of a lower processing cost.

Examples
1. und die ist halt hinterher (*gerannt) (AYLA, 14)
   and she be-PR.3SG only afterwards (*run.PST)
2. die bowling kugl is in die katze rein gegang (OZAN, 9)
   the bowling ball be.AUX into the cat inside go.PST

Attention networks’ functioning in emerging bilingual children: evidence from Polish-English migrant children living in the UK. Joanna Kolak, Zofia Wodniecka, Marta Białecka-Pikul and Ewa Haman Poster 23-May

"Some studies demonstrate that bilingual children outperform their monolingual peers in overall reaction time and accuracy in attention tasks (Yang and Lust, 2011; Bialystok, et al. 2012, Carlson et al., 2008), demonstrate a particular advantage in the ability to resolve conflict (Engel de Abreu et al., 2012) and benefit more from a spatial cue which helps to align attention more efficiently (Poarch and Van Hell, 2012).

The reported study is a part of a larger project aimed at obtaining a linguistic and cognitive profile of Polish-English bilinguals at the school entrance age. Here we focus on the comparison between the group of Polish migrant children living in the UK and their peers living in Poland on child friendly version of the Attention Network Test (Rueda, 2004). The task allows to evaluate the three separate attention networks’ processing efficiency (Fan et al., 2002) measuring conflict resolution, alertness and orienting of attention.

In the task, a stimuli (fish) appears in a horizontal line at the center of the laptop screen. The child’s task is to decide whether the fish in the middle is pointing to the right or to the left. For the flanker and cue condition manipulation and the attention networks subtraction, see Figure 1 in Examples. The task is divided into four blocks, 32 trials in each (50% incongruent). In between-group comparisons we compare: (a) conflict network (flanker effect) in reaction time and accuracy, (b) orienting network, (c) alerting network (d) mean reaction time and (e) accuracy.

Preliminary comparison of a group living in the UK (N=38) and Poland (N=39), matched for age and SES, reveals that monolingual group enjoys smaller flanker effect in accuracy than their bilingual counterparts (F(3,73)=6,33, p=.014, $\eta^2=.780$) and benefits more from the alerting cue (F(3,72)=4.71, p=.005, $\eta^2=.164$). Subsequent analyses will involve analyzing possible factors that might have contributed to the absence of the expected benefit in cognitive control in the migrant children group. In particular, factors such as experimental setting (home vs. school) will be taken into account in the follow up analyses. We hypothesize that children tested in home setting might be more sensitive to distraction and less goal-oriented, which might have confounded group differences reported so far. Moreover, the additional analyses will involve testing a relationship between the size of the flanker effect, the proficiency in both languages (as assessed by BPVS, Dunn et al, 2009; OTSR Haman et al, 2013) as well as the length of exposure to L2. A limited input in
both languages, and thus no sufficient training in using both languages, might be a factor driving the lack of the expected benefit in attention functioning of the emerging bilingual group.

*Whatdaya know?: Effects of previous exposure to a Sign Language on learning another one.*

Elena Koulidobrova and Jeffrey Palmer  
Paper Session 16

"Background: The vast majority of the studies in subsequent language acquisition (L2) is dedicated to learning of spoken/written languages by hearing individuals; however, this does not need to be so: acquisition of a sign language (SL) proceeds on par with acquisition of a spoken language, and that learning an additional language later in life is modality non-specific. Recent research compares learners of a SL as L1 to early and late learners of a spoken/written language as a L2, and native users of a spoken language to Deaf signers (Rosen 2004, Bochner et al. 2011, i.a.). We refer to this group as M2L2-ers (learning a 2nd Language in a 2nd Modality). This picture remains incomplete, however, until another type of population is examined, thus completing the paradigm—signers acquiring another language in the same modality: M1L2-ers. Few studies to date address this question in detail; thus far the focus has been either on contact-language effects (Quinto-Pozos 2008), supra-segmental phenomena (Fenlon et al. 2007), or phonological predictions along the lines of markedness (Chen Pichler 2009, 2010, Jacquez et al. 2014). We aim to contribute to this discussion. Specifically, we investigate deaf learners’ ability to recognize linguistic contrasts in American Sign Language (ASL) as M1L2.

Participants: 12 males (agemean 15;03) from United Arab Emirates, in their 2nd year of residence/attendance at American School for the Deaf (USA) and no previous exposure to ASL; 10 deaf, 2 hard of hearing. 10 have home-signing deaf family members and learned ambient SL (EmiratiSL/ArabicSL), in addition to written Arabic, in late childhood (agemean 6:01); 2 began learning both ASL and EmiratiSL concurrently.

Method: A paired-comparison discrimination task (ASL-DT, Bochner et al. 2011) was used. 48 minimal pairs containing contrasts in phonology (movement/handshape/orientation/location) and morpho-syntax (agreement, number-/classifier-incorporation) were presented in sentence contexts. Analysis per category was conducted and compared to the groups at various levels of ASL proficiency: beginners, intermediates, and native users (Bochner et al.).

Results: The mean proportion of correct answers was not due to chance (Ptwo-tailed=.059). M1L2-ers performed as beginners: they significantly underperformed the intermediate ASL group (ptwo-tailed =.11), and while they consistently scored 3-6% higher than M2L2 beginners, the difference regarding the proportion of correct answers between the M1L2-ers and the beginner ASL group was not significant (ptwo-tailed =.63). However, regarding error rates per type of question, M1L2-ers patterned differently. Results indicate that while for M2L2 group, the difficulty in discriminating ASL can be described along the hierarchy location>orientation>handshape>morphological changes>movement, this does not hold for the M1L2 group. For M1L2-ers in our study (including Subjects with no previous exposure), the difficulty progression is location>movement>handshape>orientation>morphological changes, which is more consistent with previously reported data on native Deaf ASL signers (Hildebrandt & Corina 2002). In contrast with controls, M1L2-ers treated many dialectal variations as meaningful contrasts.

Conclusion: Exposure to another SL boosts perception of categories which are otherwise difficult for SL2 learners. At the same time, signers are sensitive to dialectal phonological alternations with potential in resulting in a new meaning.

*The effects of long-term and short-term language experience on bilingual's Tip-Of-the-Tongue rate*

Hamutal Kreiner and Tamar Degani  
Poster 21-May

"One of the most frustrating difficulties bilinguals experience during production is the Tip-of-the-Tongue (TOT) state[1], which is a temporary difficulty in retrieving words in one of the languages they speak. TOT incidents are not confined to bilinguals, but bilinguals consistently exhibit higher TOT rates than monolinguals[2]. The research that investigated bilinguals' TOT has initially focused on general long-term differences in language experience between bilinguals and monolinguals[3]. However, many bilinguals shift flexibly from one language to another, and such brief language exposure may additionally affect bilinguals' TOT rates. Thus, the current study examined how TOT rate in bilinguals' second language (L2) is affected both by their long term language experience and by a brief and recent
experience with their L1. Critically, unlike previous studies, we examined the effect of short–term L1 exposure on TOT rates in L2 using a global, non-item-specific, manipulation.

To examine the effects of long-term bilingual experience we examined three groups of participants. Russian-Hebrew bilinguals who acquired Hebrew early (<5 years, n=24) or late (>11 years, n=24) were compared to Native Hebrew speakers (n=24). All participants performed a picture naming task in Hebrew using 91 line drawings depicting low to medium frequency objects. To examine the effect of brief and recent L1 exposure, participants watched a short 10-minute Russian clip before completing a second block of picture naming in Hebrew, using a different set of 91 comparable pictures. TOT rates were calculated as the proportion of items that participants reported as TOT (and were able to recognize later) out of the sum of all pictures they were able to name (i.e. excluding pictures they did not know at all).

The findings show an interaction between the effect of group and that of watching a Russian movie, exemplifying significant contribution for both long-term and short-term language experience. Specifically, before the movie, late bilinguals exhibited significantly higher TOT rates than monolinguals and early bilinguals, but early bilinguals did not differ significantly from native Hebrew speakers. Critically, following the Russian movie late and early bilinguals showed a relatively large increase in TOT rates (4.62% and 3.53%, respectively) compared to native Hebrew speakers (1.29%). These findings highlight the dynamic nature of the bilingual system in which both transient and sustained language factors operate to influence bilingual performance. They further reveal that such influence can occur even when the exposure to the non-target language did not involve production, and did not include exposure to the particular items to be named later, suggesting a global, non-item-specific, effect. We discuss these findings in terms of a theoretical framework where two mechanisms operate on different time-scales. At the long time-scale – semantic networks are incrementally updated and the strength of semantic links is affected by factors such as age, order of acquisition and critically relative frequency of use of the different languages[3]. At the short time-scale – both networks are activated simultaneously, but the balance of activation is dynamic and may change depending on transient context factors such as the task or the linguistic context.”

Investigating Perceived Oral Fluency Using Temporal Measurements in International Teaching Assistant Speech
Burcu Gokgoz Kurt Poster 22-May

International graduate teaching assistants (ITAs) are expected to communicate effectively with students who may or may not have prior exposure to non-native speech, and thus identifying the factors predicting perceived L2 English oral proficiency, especially by ‘inexperienced’ listeners is crucial for language assessment and ITA training. In determining the required level of L2 oral proficiency for ITAs, constructs of fluency, comprehensibility and accentedness are as crucial as the assessment method itself used by the evaluators. Among those, fluency is especially considered to be highly important for ‘perceived oral proficiency’ (Lennon, 1990). Therefore, using a combination of ‘independent’ measurements of listener judgments (perceived fluency) as well as ‘objective’ speech measurements (utterance fluency) is desirable for a closer examination of fluency as a component of L2 oral proficiency (Segalowitz, 2010, pp. 29-31). Perceptions by ‘inexperienced’ listeners are the key here because they both constitute the target audience for ITA speech, and were previously found to be ‘relatively reliable’ (Derwing et al. 2004; Rossiter, 2009). Additionally, the perceptions of L2 speech have also been shown to be affected by the presentation mode, specifically, the presence or absence of non-verbal information. It has been suggested that this kind of information (specifically gestures) is ‘redundant’ in communication (Krauss, Morrel-Samuels & Colasante, 1991, p. 752) while visual information has also been found to be especially helpful for listeners because it carries cues expressed in a number of ways such as body language, facial expressions or lip movements as well as other visual cues provided by context (Buck, 2001; Rubin, 1995). However, to the best of my knowledge, no studies have looked at the role of non-verbal information in the perception of L2 oral fluency.

Therefore, the present study examines (a) whether fluency ratings of ITA speech samples by American freshmen students are higher when there is accompanying visual information, (b) how fluency ratings of listeners correlate with the temporal measurements (speech rate, articulation rate, the mean length of runs, silent pausing), and (c) how ratings of fluency, comprehensibility and accentedness are related in the absence/presence of visual information.
To address these questions, American freshmen students (n=31) that were randomly assigned to audio-video and audio-only conditions rated five, two-minute speech samples for comprehensibility, accentedness and fluency using a 7-item scale. The acoustic analysis was carried out on Praat 5.3.4.47 using a script specifically designed to measure speech rate finding syllable nuclei with intensity (dB) (De Jong & Wempe, 2009).

Results show that ratings of L2 speech by the audio group raters were lower than ratings by the audio-video group raters, and of the fluency measurements investigated, speech rate, articulation rate and phonation-time ratio seemed to predict L2 fluency the best as rated by untrained listeners. The study also revealed that in the absence of visual information, listeners tend to judge L2 speech to be significantly less comprehensible, less fluent and more accented. Implications for high-stakes speaking assessments in terms of the use of visual information are discussed.

When Typological Advantages Disappear: The Case of Turkish – English Simultaneous Interpreters
Aysegul Kutlu, Laura Sabourin and Kumiko Murasugi  Poster  22-May

A question of interest in bilingualism research is whether the first and second languages involve one representation or separate representations for each language. Syntactic priming studies with bilinguals suggest that structural knowledge is shared between languages. The syntactic structure of a sentence in one language facilitates the comprehension or production of a similar sentence in the other language. The current study focuses on highly-proficient Turkish-English late bilinguals, specifically simultaneous interpretation students in Turkey.

Simultaneous interpreting is a cognitively demanding task in which the interpreter has to process two languages at once. The interpreter must comprehend and store in memory new speech input that is presented continuously. Earlier input must be reformulated mentally into the target language and then articulated quickly and concisely. Given the demands of simultaneous interpreting, the task would be more efficient if interpreters accessed a shared linguistic system.

In this study we investigate whether there is a ‘typological advantage’ with respect to sentence processing. Previous research supports this advantage. However, there is a greater syntactic priming effect in structurally similar languages than structurally different ones. We hypothesize that, due to their reliance on structures for simultaneous interpretation, translation-interpreting students will show syntactic priming effects within structurally different languages. But because of the structural differences between Turkish and English, even if they share structural knowledge of the two languages it is also possible that there would be no priming effect.

The stimuli consisted of Turkish and English sentences containing prepositional objects (PO) and double objects (DO). While English has two different syntactic structures for DO and PO sentences, Turkish has only one structure but two different word orders for PO and DO sentences. We tested participants using two different tests. In the within-language test, they heard two sentences consecutively, either in a match or mismatch condition in English or in Turkish, separately. Participants judged whether the sentences are the same. In the cross-language test, participants heard again two sentences that matched or mismatched. However, if the first sentence was in English the second sentence was its Turkish translation and vice versa. We asked participants whether the second sentence was the correct translation of the previous one.

Participants (n=39) were students of Turkish-English bilingual translation and interpreting in Turkey. The data shows that High proficient (n=11) Turkish-English bilinguals consider the PO and DO sentences the same (p=.154) both within- and cross-language. However, PO and DO sentences were significantly different for Mid (n=19) and Low (n=9) proficient students both within- and cross-language. It shows that Mid (p=.001) and Low (p<.001) proficient participants do not consider PO and DO sentences similar. This evidence suggests both cross-language and within-language syntactic priming for High proficient participants, while there was no priming effect observed for Mid and Low proficient ones. Further research will investigate whether typological advantages disappear with proficiency. If it disappears, what changes during sentence processing, do High proficient participants have a shared syntax, or do they process the differences faster in two languages?

Can heritage language vocabulary size be predicted by language exposure measures?
Francesca La Morgia and Jo Billington  Paper  Session 55

*Research on the linguistic development of bilingual children has been increasingly recognising the important role
of language exposure as a variable to understand variability in children’s performance. However, studies on the lexical development of toddlers have found variable degrees of correlation between the amount of language exposure and lexical as well as morpho-syntactic development (Pettenati et al. 2011; O’Toole, 2013; Barnes and Garcia, 2014).

This paper aims to investigate the relationship between input and vocabulary size in bilingual toddlers who were raised speaking Italian and English from birth. Since previous studies have left an open question concerning the importance of the quantity of input, this research also aims to disentangle different aspects of language exposure, by examining closely the routine of the child, and taking into account not only the number of hours of input, but also the number of speakers who interact with the child, the relationship with these speakers and the types of activities the child carries out in each language.

Thirty Italian-English bilingual families were recruited for this study. In each family at least one parent was a native speaker of Italian. All children lived in the UK and were exposed to both Italian and English from birth. Following the methodologies employed by the above cited studies, a questionnaire was used to assess language exposure, and the Italian and British English versions of the MacArthur-Bates Communicative Development Inventory (CDI) were employed to measure expressive vocabulary and grammar in both languages (Caselli, Pasqualetti and Stefanini, 2007; Meints and Woodford, 2011).

The results show that all children have a larger vocabulary in English. Those exposed to Italian over 50% of the time have a diverse vocabulary in this language, and this always corresponds to a higher number of function words and more advanced development of grammar, compared to the children who are exposed to Italian less than 50% of the time. The latter group shows not only a smaller vocabulary, but also lack of verbs, function words and complex utterances. However, children with a limited Italian vocabulary scored results within the norm when assessed on the basis of conceptual language scoring. Overall quantity of input did not show to be a significant predictor of vocabulary size; however, the results indicate that other factors such as the number of speakers the child hears, the presence of older siblings, the opportunities to use the language outside the home, and the variety of activities carried out in the language are factors that seem to relate to higher scores in expressive vocabulary and grammar. These results indicate that quantity of input is itself a valid measure, but cannot alone account for the uniqueness of a child’s linguistic experience and socialization in the heritage language.

**Russian elements as a part of the linguistic hybridity of the original language variety of Voga Germans in Argentina**

Anna Ladilova  
Paper Session 67

The Volga Germans in Argentina have a complex language contact situation, due to their double migration history. After leaving their German speaking homelands at the end of the 18th century, they stayed in Russia for a hundred years and then migrated to Argentina. Despite of living in isolated colonies for almost two centuries, they were able to maintain their original variety – the Volga German – until today. It has, however, changed due to the language contact with Russian and Spanish. The latter has an especially strong influence on the Volga German nowadays, due to the integration process, which took place since the 1950th. Russian has, however, only had a weak impact on it, because there was hardly any contact to the majority population in Russia. Nevertheless there can still be found Slavisms in Volga German nowadays. These are mostly lexical transferences, the great majority of which is not only adopted to, but also fused with the German and Spanish elements. The word "'Krautpirok'" – 'dough filled with cabbage', for example, is a compound made up of a German word "'Kraut'" – ‘cabbage’ and the Russian word "'пирог'" – ‘filled dough’. Therefore, it is sometimes hard or even impossible for the speakers to recognize the origin of the loans. The word "'Präinek'" - 'gingerbread', which comes from the Russian word "' пряник'", is, for example, taken for a word with German origin by the speakers, while the German word "'Klees'" – 'dumplings', coming from a German word "'Klöße'" is considered a typical Slavism. It becomes especially hard when it comes to the “translingual quasi-homophones” like in the case of "'sos'" – 'friend', the origin of which can be the Russian word "'сосед'" – ‘neighbor’, as well as the Spanish word "'socio'" – ‘business partner’. This linguistic hybridity also clearly reflects the cultural composition of the group and underlines the fact, that in order to survive in migration setting an adoption to the new environment is an indispensable part of the linguistic development.

The present talk will draw upon the results of a field study conducted in Argentina in order to discuss the linguistic hybridity of the German variety of the group in question. Special attention will be paid to the Russian elements, which
will be analyzed regarding their integration in to the linguistic variety in question and their use. Apart from that, the attitudes of the speakers towards these Russian elements will be discussed. This is an especially interesting issue due to the fact, that the Volga Germans in Argentina have very little knowledge about the migration phase in Russia. They often associate it with hard and painful experiences of their ancestors, but have barely any proof for this assumption. Nevertheless most of them identify themselves as Russians, since it is a common denomination for Volga Germans in Argentina nowadays. Moreover they accept the fact, that the migration phase in Russia has had an influence on their cultural formation, language being one of its key components."

*Variable trill production among Spanish-Creole English bilinguals in Panama*

Delano Sydney Lamy Poster 21-May

"Despite Flege’s (1995) claim in his Speech Learning Model (SLM) that early bilinguals tend to maintain their two sound systems separate, Author (2012) discovers when using variationist methods that early bilinguals do indeed show evidence of convergence, which occurs due to the equivalence classification discussed in the SLM. That is, bilinguals exhibit cross-language influence due to cognitively connecting similar sounds from their two languages (Flege, 1995). However, if the L2 sound does not have a corresponding similar L1 sound, it is acquired with native-like pronunciation (Flege, 1987) or shows native-like patterns of conditioning factors (Author, 2012). The present analysis seeks to further explore these claims by analyzing variable trill production patterns among the same bilinguals who exhibited convergence between similar sounds (cf. Author, 2012). That is, have these early bilinguals acquired native-like patterns of the trill, a Spanish sound that does not have an equivalent in (Creole) English?

The analysis includes sociolinguistic interviews with 16 Spanish-Creole English bilinguals. 718 tokens of the trill were extracted and submitted to acoustic analyses using Praat (Boersma & Weenink, 2014). Subsequently, multivariate analyses were carried out in Rbrul (Johnson, 2009) with three dependent variables: (i) normative/non-normative alternation, (ii) average number of occlusions, and (iii) mean trill duration.

The acoustic analysis reveals that the bilinguals have acquired all 8 trill variants of Panama City Spanish (PCS) that were discovered in a previous study on PCS monolinguals (cf. Author, in press). The most frequent variant is the normative trill, which was also the case for monolinguals; however, bilinguals interestingly exhibit a higher rate of normative variants. More crucially, the quantitative analyses show that bilinguals generally follow native-like patterns of conditioning factors. For example, for mean occlusions, the factor group preceding segment frontness is significant in both bilingual and monolingual speech. Furthermore, the order of effect of the conditioning factors is the same; mean occlusions increase as place of articulation of the preceding segment moves from posterior to anterior (bilinguals: -front 0.233, +front 0.149, zero -0.381; monolinguals: -front 0.361, +front 0.113, zero -0.474). However, bilinguals do exhibit certain patterns that are not apparent among monolinguals. The most interesting difference is the effect of token frequency; among monolinguals, token frequency has a significant effect on trill production in which innovative variants are favored in high-frequency words (+1, -0.034; p<0.05). This finding seems to indicate a lexically diffused sound change (cf. Bybee, 2001; Phillips, 2006). Among bilinguals, token frequency is not significant (p=0.31), indicating that bilinguals are not participating in this sound change. As noted above, bilinguals have a higher rate of normative trills.

These results suggest that bilinguals do indeed have native-like patterns of trill production; however, they also reveal differences, which are not necessarily due to English influence. These differences emerge possibly because bilinguals are resisting monolingual norms as a way to mark their Afro-Caribbean identity in a Mestizo-dominant culture. This study makes important contributions to literature concerned with bilingual speech production, variationist theory, sociophonetics, and usage-based models of phonology."

*The Language Background Questionnaire in the Canadian Context*

Myriam Lapierre, Laura Sabourin, Michèle Burkholder, Christie Brien and Jean-Christophe Leclerc Poster 23-May

"Language background questionnaires (LBQs) are a fundamental tool used in experimental studies targeting bilingual and multilingual populations. Their success depends on their ability to quickly and effectively assess complex and often-confounded variables, such as age of acquisition (AoA), manner of acquisition (MoA), language proficiency, language dominance and frequency of use. AoA, for example, has long been the interest of studies investigating the existence of a sensitive period for second language (L2) acquisition. Recent studies (e.g. Sabourin et al., 2014a) suggest
that when AoA is defined as the age at which an individual was first immersed in their L2, it is a contributing factor to bilingual lexical organization when L2 proficiency is controlled for.

In addition, new research (Sabourin et al., 2014b) suggests that MoA, a factor that has so far received little attention in the literature, also plays a crucial role in bilingual lexical organization; a more naturalistic MoA appears to facilitate integration of the two lexicons even for late bilinguals. Indeed, MoA is a particularly interesting variable to investigate in an officially bilingual country such as Canada. In many regions, native speakers of English acquire French as a L2 in “French Immersion programs”, and rarely use it outside of the classroom setting; however, native speakers of French often acquire English as a L2 in a much more naturalistic manner, as daily contact with English in the community and through media is inevitable.

Our goal was to develop a LBQ that assesses multiple factors that affect bilingual processing, such as age of first exposure, age of immersion, MoA and language proficiency levels, in order to successfully tease apart these variables. It consists of a two-part questionnaire that specifically targets information about immersion settings both inside and outside of the education system, as well as detailed information about language experience and self-reported language proficiency. While this LBQ has been specifically designed to assess bilingual and monolingual populations in Canada, we believe that it can be adapted to assess other populations as well.

We are currently in the process of testing the internal validity and reliability of our LBQ. To date, 82 participants have completed it as well as objective tests of L2 proficiency in both English and French (Brown, 1996; Tremblay, 2011). We will determine whether self-rated proficiency correlates with the results of the cloze tests, whether the questionnaire is able to successfully distinguish between formal and naturalistic MoAs, and whether it is able to correctly assign participants to groups based on AoA and other variables. Preliminary results are consistent with those of Marian et al. (2007), who have provided evidence that self-assessment is a reliable indicator of language proficiency.

We believe that this LBQ will enable us, as well as others, to effectively obtain complete information about participants’ language backgrounds and as such, it is a tool of interest to researchers investigating various aspects of bilingualism and multilingualism.

Korean-English Bilinguals Fail to Access Korean Animacy Constraints

Amy Lebkuecher and Barbara Malt

"While research on cross-linguistic influence has provided evidence for L2 influence on L1 syntax, it has not been clear how to interpret this influence. One possibility is that this influence reflects a temporary inability to access L1 syntactic representations due to cognitive load imposed by time pressure (a performance effect). Another possibility is that it reflects long-term changes to L1 syntactic representation as a result of exposure to L2. Two studies evaluated whether Korean-English bilingual use of the L1 animacy constraint on sentence subjects is susceptible to L2 influence and investigated under what conditions the L2 influence is present. The first study evaluated whether this L2 influence occurs only due to cognitive load under conditions of time pressure, or if it occurs regardless of cognitive load. Korean-English bilingual participants were asked to make grammaticality judgments for word strings in both English and Korean that varied in grammaticality. The subject nouns either obeyed the Korean constraint that sentence subjects must be animate or violated it in a way that is acceptable in English. In the condition with time pressure, Korean-English bilingual participants were asked to judge word strings as either “yes” grammatically acceptable or “no” grammatically unacceptable using key presses as quickly and accurately as possible. In the condition without time pressure, the participants were informed that there was no time limit for the task, and were asked to rate word strings for their degree of grammatical acceptability on a scale from 0 “not at all acceptable” to 100 “completely acceptable”. The results indicated that bilingual participants were not sensitive to the animacy manipulation in their grammaticality judgments although Korean monolinguals were, and this difference was present in conditions both with and without time pressure.

The second study evaluated whether or not Korean-English bilinguals could gain access to their L1 knowledge of Korean animacy constraints if presented with the fewest task demands possible, namely, a forced choice task where one sentence option obeyed the constraint and one didn’t. A different sample of Korean-English bilingual participants completed the task with a subset of the word strings from the first study. Word strings were organized into pairings such that one of the word strings was grammatical in Korean and the other was ungrammatical in Korean. Participants were presented with these pairings and asked to select which of the two word strings that they found to be more acceptable.
Results showed that Korean-English bilinguals did not reliably choose the sentence that observed the animacy constraint, indicating that they could not access the animacy constraint even under conditions with such minimal task demands. These findings indicate that L2 English influence on the L1 Korean animacy constraint is pervasive and represents an inability to access L1 grammatical information even in conditions with minimal cognitive demands. Together, these findings suggest that L2 influence on L1 syntax results in long-term changes to L1 grammatical representations and is not a temporary or performance-based effect.

**Metalinguistic reflection in written and spoken production in foreign language acquisition by unbalanced bilinguals: A usage-based approach**

Simone Lechner

"The area of lexis is perhaps the most widely researched domain in studies on cross-linguistic influence (CLI) (Poarch 2012: 1-17, Jarvis and Pavlenko 2010: 72-88). This applies both to the area of second as well as third or additional language acquisition (SLA and TLA respectively). Investigating lexical transfer in the context of L3/Ln on all levels of language proficiency is the norm in transfer studies (cf. Ringbom 2007). By contrast, studies that deal with code-switching (CS) are normally investigated in the context of bi- and multilingualism and sociolinguistic research. Regardless of the framework these studies choose to employ, they normally focus on bilingualism in naturalistic settings outside of language classrooms, where CS has clear communicative and social meaning (Myers-Scotton 1993, Auer 1998).

I argue that combining research from CLI and SLA frameworks and sociolinguistic frameworks in a usage-based approach provides new insights into mult-word insertions in the initial stages of foreign language acquisition of bilinguals in multilingual language classrooms. To this end, the present paper presents data from unbalanced bilinguals acquiring English as a foreign language, and explores how CS and direct insertions function as coping strategies with overt communicative functions.

The study presented here is based on oral and written English language data collected from bilingual Russian-German, Turkish-German, and Vietnamese-German children (n=120) and monolingually raised German children (n=40) acquiring English as a foreign language in schools in Germany. Informants were 12 and 16 years old at the time of testing, and distributed equally across these two age groups. Results show that informants choose to switch primarily from German, and overtly comment on their switching. In written speech, informants often mark direct insertions as incorrect in the given context by adding quotation marks or brackets (see example 1). In oral speech, they comment on their output directly, questioning both the validity of their output and the framework of foreign language use (see example 2).

(1) Rus.-Ger. 16-year-old:
They take the fish in a ""Eimer"
They take the fish in a “Eimer”.DAT.SG.MASC
""They put the fish into a ""bucket"""

(2) Tur.-Ger. 12-year-old:
Look everything? Geht das?
Look everything? Go-3.PRS.IND das.DET.N?
""Look everything? Is that possible here?"

In both cases, children showcase high levels of multilingual awareness which cannot be adequately explained by viewing these insertions as spontaneous coping mechanisms or forms of unconscious lexical transfer/CS. Rather, function, structure and processing need to be viewed as interconnected. Consequently, a usage-based framework offers more in-depth explanations to this phenomenon, as shown in previous research concerned with language use in migrant communities when investigating the use of the minority language and the language of environment (Backhus 2013).

**Early atypical development in bilingual speech: from phonetics to phonology**

Rhonwen Lewis, Robert Mayr, Lalage Sanders and Enlli Thomas

"Many researchers have examined early phonetic and phonological development in typically developing bilingual
children (Johnson & Lancaster, 1998; Kehoe, 2002; Keshavarz & Ingram, 2002). Others have sought to describe atypical phonological development in bilingual children by investigating the vocalisations of those identified with a phonological delay or disorder (Burrows & Goldstein, 2010; Holm & Dodd, 1999; Yavaş & Marecka, 2014). Due to a focus on children from clinical caseloads, research to date on atypical bilingual speech has been limited to those over 3;0, by which time a large amount of phonetic and phonological development has already taken place.

This study provides the first systematic account of early atypical phonetic and phonological development in a bilingual child. In order to capture typical phonological acquisition between 1;0 and 2;6, longitudinal data were collected from six children residing in a Welsh-English bilingual community. At eight-week intervals, child-parent interactions were video-recorded during play sessions. Close inspection of the data revealed that one child’s phonetic and phonological development differed from the others; this child, Simon, will be the focus of this paper.

Preliminary analysis of Simon’s vocalisations at three data points (ages 1;4, 2;1 and 2;5) indicated delayed speech as evidenced by a narrow consonant inventory and an overreliance on a small number of preferred sounds. Despite being comparable in both languages and seen to be developing over time, his phonetic abilities fell short of his typically developing bilingual peers. Characteristics indicative of disorder included extensive use of jargon, lack of creativity and a large degree of variability within his productions (see Table 1). A developmental mismatch with age-appropriate word combinations (e.g. hiya train at 2;1; lawr Mam (down Mum) at 2;5) in the presence of restricted phonetic and phonological skills and a limited lexicon provides further evidence for a disorder. Atypical aspects were observed in both languages which corresponds to evidence from studies of older bilinguals with a phonological disorder (Holm & Dodd, 1999).

The use of familiar articulatory routines in the production of novel words marks the emergence of a phonological system (Velleman & Vihman, 2002). In Simon, this process is only first observed at 2;1 in Welsh and 2;5 in English with the occurrence of ‘adapted’ templatic forms (see Table 2), and thus much later than in typically-developing bilinguals (Vihman, 2002). Research on older bilinguals with atypical development has found differentiated, yet non-autonomous, phonological systems (Holm & Dodd, 1999). The use of identical forms across Welsh and English despite disparate adult targets (see Table 2) could suggest a lack of differentiation and the use of words belonging to the non-target language could suggest cross-linguistic interaction. However, it may be the case that Simon’s phonological development is not yet advanced enough for differentiation to be observed.

This study has important implications for theory as well as clinical practice and raises interesting questions about the emergence and nature of phonological systems when children do not follow the expected trajectory within bilingual speech development.

Regulating the L1 after speaking the L2: A study of L2 learners

Rhonda Mcclain, Judith Kroll and Eleonora Rossi  Poster  21-May

“When proficient bilinguals prepare to speak the second language (L2), there is evidence for inhibition of the more dominant language (L1). Recent studies suggest that there may be multiple sources of inhibitory control to enable the weaker language to be spoken (e.g., Guo et al., 2011; Misra et al., 2012; Van Assche et al., 2013). Some inhibitory mechanisms may be local and short lived whereas others may extend more globally in time. Critically, the consequences of regulating the L1 to enable L2 speech may come to impose enduring changes to the L1 (e.g., Parker Jones et al., 2011). What is notable, is that even highly proficient bilinguals need to regulate the L1. The question we ask in the present study is how these demands are manifest for L2 learners who are arguably in a much more challenged position than proficient bilinguals with respect to controlling a highly dominant L1 when they have to speak a barely proficient L2 (e.g., Costa & Santesteban, 2004). Most past research on L2 learners has avoided speech production because the difficulty of speaking the L2 generates noisy data that are difficult to interpret. In the present study we took an approach from recent studies of proficient speakers that focuses on the consequences of speaking L2 for L1 (e.g., Misra et al., 2012). Because learners are highly skilled in producing L1, the focus on L1 enables a window into these regulatory mechanisms at even very early stages of L2 learning.

We examined L1 production in three groups of native-English speakers. Two groups were learning Spanish as an L2 and the third was monolingual. All groups named eight blocks of pictures. The first block was always in English. One group of learners then named a second block in Spanish. The other learners and monolinguals named this second block
in English. Pictures in Blocks 3-8 were named in English but included new items and repetitions from first two blocks. Both behavioral measures of time to produce the name of the picture and accuracy of naming and event related potentials (ERPs) were recorded to examine the process of speech planning.

The behavioral data (Figures 2a and 2b) showed an inhibitory consequence for learners when the L1 followed production of the L2. When pictures were named in L1 only, there was priming for repeated pictures. When the same pictures were repeated after speaking L2, there was no priming, suggesting the L1 was inhibited to enable L2 naming. Remarkably, when the same conditions were compared late in the experimental sequence, after many opportunities to recover from inhibition, the same pattern appeared, suggesting an extended inhibitory process. Unlike the findings for proficient bilinguals, the ERP record did not reveal this inhibitory effect. In addition, the learners who anticipated having to speak L2, were also slower to speak L1 from the start, although they were closely matched to the learners who spoke L1 only. We discuss the implications of these results for modeling inhibitory control in L2 learners."

Learning to speak and gesture in Spanish
Tasha Lewis and Elena Nicoladis

"Languages sometimes differ in the underlying conceptualization to talk about a particular semantic domain (Slobin, 1996). For example, when talking about the motion of a figure, speakers of verb-framed languages (e.g., Spanish) tend to emphasize the path of movement while speakers of satellite-framed languages (e.g., English) tend to emphasize the manner of movement while the path is often included in satellites to the verb (Talmy, 2000). In learning to speak a language that differs from the L1, learners may have to learn to think for speaking that language. L1 English speakers learning Spanish, for instance, need to learn that lexicalizing the manner of movement is optional in Spanish. After long exposure to L2, speakers show signs of thinking for speaking in their L2. Hohenstein et al. (2006) found that Spanish-English bilinguals with several years of exposure to their L2 used more manner verbs in English than in Spanish. In other words, these advanced bilinguals used English-like lexicalizations in English and Spanish-like lexicalizations in Spanish.

The present study investigates whether short-term intensive exposure to Spanish will result in changes in lexicalization patterns used by L1 English speakers. We asked speakers to watch a cartoon and retell the story before they left for a semester exchange program in Spain and then afterwards. Their lexicalization patterns were compared to those of two groups of advanced bilinguals: English-Spanish bilinguals and Spanish-English bilinguals. To test how they were conceptualizing the motion of the figure we observed their words and their gestures. Previous studies have shown that speakers of verb-framed and satellite-framed languages produce gestures that correspond with the language typology (Özyürek et al., 2005). That is, speakers of verb-framed languages tend to use more path gestures and speakers of satellite-framed languages tend to use more gestures conflating manner and path.

The results indicate that in speech, the advanced bilinguals showed differences in their two languages, with both types of bilinguals showing greater use of manner/path conflations in English than in Spanish. Nevertheless, both groups of bilinguals had a strong preference for lexicalizing path in the main verbs in both languages, with no difference between the languages. As for gestures, both groups showed a strong preference for using path gestures in both languages, corresponding to their preference in speech. We predict that the exchange students will show differences in their spoken lexicalizations of motion in Spanish before and after being abroad. Specifically, their lexicalization of the manner of motion in Spanish should become less often conflated with path. Furthermore, they might show a vast-majority preference for encoding path of motion before the exchange that decreases, as their Spanish vocabulary for motion verbs has increased. Their gestures may follow a similar pattern of change. These results would suggest that L2 learners come to think for speaking in their L2 with increased exposure to that L2. The initial strategies for speaking an L2 might include transfer from their L1 and reliance on the more basic components of movement like path (Cadierno & Ruiz, 2006; Soroli et al., 2012)."

Production of “new” and “similar” French vowels by female Mandarin-speaking learners in Canada
Lulu Li

"The current study sought to illuminate the role of typology in the acquisition of the French vowels /ø,i,y/ by Mandarin-speaking learners by addressing the two following research questions (RQ): 1) Will Mandarin-speaking L3
learners of French create new phonetic categories for ‘new’ (/ø/) and ‘similar’ (/i, y/) French vowels? 2) How will their L1 Mandarin and L2 English influence the production of French /i/, a vowel that exists in both their L1 and L2? As for RQ1, following Flege’s Speech Learning Model (SLM; 1987; 1995; inter alia), it was hypothesized that, in the case of /ø/, a new sound, Mandarin learners would be able to create a distinct phonetic category for production; for /i/ and /y/, the learners would use their existing L1-L2 or L1 phonetic categories respectively to produce these vowels. In terms of RQ2, based on previous L3 production studies, the main source of crosslinguistic influence was predicted to come from the previously acquired language that is typologically the most similar to the target language (Barkley, 2010; Wrembel, 2010; Llama, Cordoso & Collins, 2010) or the language in which the participants are the most proficient, usually their L1 (Listerri & Poch, 1987; Díaz Collazos & Pascual y Cabo, 2011; Wrembel, 2012). Since there has been insufficient research to predict which factor is more influential, two possible outcomes exist: i) typology would be more influential than linguistic competence, such that the learners’ L2 English would be favoured as the source language (SL); or ii) linguistic competence would override typology and the learners’ L1 Mandarin will be favoured as the SL. To test the hypotheses, 6 female Mandarin-speaking learners of French were recruited. At the time of the experience, they were 4th-year university students in a French program and had been living in Canada for an average of 10 years. The experimental task involved carrier-sentence reading in each of the three languages, which allowed for L1-L2-L3 acoustic comparison of the three target vowels. Participants’ readings were recorded digitally and target words were extracted. For each word, an acoustic analysis of the formant structure (F1, F2, F3) was performed using Praat and mean formant values were calculated for all participants in their three languages. The results revealed that i) all six participants succeeded in creating a distinct phonetic category for the new vowel /ø/ but failed to do so for similar vowels /i/ and /y/ – the first hypothesis was therefore supported; ii) their L1 Mandarin, despite being typologically distant from the target language, was the source language for crosslinguistic influence – the participants’ productions of /i/ in French and in English were variations of their /i/ in Mandarin. The results are compatible with those of Listerri & Poch (1987), Díaz Collazos & Pascual y Cabo (2011), and Wrembel (2012), which suggests that the participants’ linguistic proficiency in previously acquired languages is a more influential factor than typological distance in determining the source language for CLI, at least in the domain of phonetic production.

The creative, fluid and transgressive use of English in the linguistic landscape of Suzhou, China

Songqing Li

This article examines the use of English in the linguistic landscape of Suzhou, China. The observations of analysis not only challenge the narrative of Suzhou as a desperate consumer of linguistic modernity but also counter-narrate characterizations of Chinese as necessary subservient of the hegemony of English.

Bimodal bilingual code-blending characteristics

Diane Lillo-Martin, Deborah Chen Pichler and Ronice Quadros

"Bimodal bilinguals use a spoken language and a sign language. Like other bilinguals, their grammatical competence is not the sum of two monolingual grammars (Grosjean 1989); rather they can and do alternate between their two languages in multiple ways. However, bimodal bilinguals are unlike unimodal bilinguals in having the possibility for code-blending, simultaneous combination of speech and signs in natural and grammatical ways (Emmorey et al. 2008). Code-blending is a window onto the mental mechanisms for bilingualism, since it reveals patterns that would go unnoticed if we limited out observations to unimodal bilinguals. At the same time, the commonalities between code-blending and code-switching show us that the language architecture is constrained.

Our current investigation studies the code-blending of two bimodal bilingual children (one bilingual in English (Eng.) + American Sign Language (ASL), the other in Brazilian Portuguese + Brazilian Sign Language), ages 2;00-3;06, who are hearing children with Deaf parents, and their Deaf and hearing adult interlocutors. We coded two videotaped longitudinal spontaneous production sessions (speech target + sign target, ~45 minutes each) at 6-month intervals (see Table 1). We analyzed code-blending of both the children and the adults in terms of Content types, Timing, and Syntactic structures.

Our overarching generalization is that a code-blended utterance expresses one proposition. For both adults and children, sign and speech may contribute the same (Redundant) content (1), or Complementary parts of the message
(2), but we do not see (except in a few lexical choice errors) non-predicted Non-redundant bimodal utterances, where what is conveyed by the two modalities cannot be considered part of the same proposition. Occasionally the output in one modality uses more specific lexical choices, such as Eng. ‘he’ spoken simultaneously with ASL ‘BEAR’. Such cases indicate that lexical insertion works on an abstract propositional representation.

Given the one proposition generalization, we expect the timing of speech and sign to be coordinated, and this is mainly what we observe for both adults and children. Children are different from adults in two ways: their coordination is still developing, and they frequently use repetition (of sign or speech) (3) to repair ill-coordinated code-blends.

In terms of syntax, we observed the expected predominance of Congruent blends (1), where word order of simultaneous sign and speech matches, for both children and adults. In some cases, this leads to following an ungrammatical or non-preferred word order in one language or the other (4), but usually orders are chosen which are acceptable in both languages. We found a very small number of Non-congruent examples, all involving short sequences (5). We assume that late processes (such as linearization) may result in Non-congruent output, but this occurs only rarely (see also Donati & Branchini 2012).

All of the examples we analyzed were consistent with the ‘one proposition’ proposal. Furthermore, we can extend the analysis to ‘one computation’, in which the syntactic component operates on abstract elements, with the unique characteristics of code-blending due to the possibility of two simultaneous phonological components.

**Relative proficiency and executive function during trilingual language switching**

Jared Linck, Erica Michael, Ewa Golonka, John Schwieter, Gretchen Sunderman, Meg Kuyatt, Alison Tseng and Sarah Perret Poster 21-May

"Recent studies in bilingualism suggest that multiple executive functions (EFs) contribute to the cognitive control of language production. Although some studies have provided evidence that the cognitive demands on bilingual speakers change as proficiency in the second language (L2) increases, it is unclear how the contributions of various EFs to language control vary depending on the speaker’s unique proficiency profile. In order to examine the relationships between multiple EFs and language control at varying levels of proficiency, the current study included measures of working memory updating and inhibitory control. Participants were two groups of multilinguals with lower and higher proficiency in L2 and a third language (L3), thus allowing for proficiency comparisons both within and between individuals. Language control was assessed via a picture naming task that required frequent switching among three languages.

The less proficient multilingual group (N = 47) was comprised of university students who are native English speakers with intermediate proficiency in French (L2) and Spanish (L3). The more proficient multilingual group (N = 65) was comprised of native English speakers with advanced proficiency in at least two foreign languages covering a broad array of language families; these participants used their self-identified three most dominant languages during the speech production tasks (i.e., we use ‘L2’ and ‘L3’ to identify language dominance, not sequential order of acquisition). For each group, relative dominance of the participants’ three languages was assessed via a single-language speech production task completed in each language.

Data from the less proficient group indicated differential relationships with language switching for the two EFs: (1) Better inhibitory control was related to smaller costs for switching into the L1, suggesting that more efficient inhibitory control enables faster resolution of competition on switch trials. (2) In contrast, better working memory updating was related to larger costs for switching into the L1 as well as from the L1 into the L2; although this result may seem counterintuitive, we speculate that more efficient updating allows more lexical representations to remain active, thereby creating more competition during speech production.

Data collection for the more proficient group will be completed by October 2014. Analyses will examine whether the relationships found with the less proficient group are replicated when participants must switch among languages in which they are highly proficient and potentially more balanced than the less proficient group. We hypothesize that the more proficient group will show more pervasive effects of inhibitory control and working memory across all types of language switches (rather than just switches into or out of L1), as there is greater potential for cross-language competition during language selection when proficiency is more balanced across languages.
We discuss the implications of the results for theories of multilingual language control (e.g., the Inhibitory Control Model, Green, 1998; the Adaptive Control Hypothesis, Green & Abutalebi, 2013). In particular, we consider the relative contributions of inhibitory control and working memory, and the potentially changing role of these factors as a multilingual’s proficiency in their non-dominant language(s) increases."

Language switching constraints: more than syntax? Data from Media Lengua
John Lipski Paper Session 62

What do subject pronouns, interrogative words, and sentential negators have in common? In many studies of intra-sentential code-switching it has been claimed that switches immediately following these three categories are disallowed or very infrequent (e.g. Muysken 2000; Peñalosa 1980; Timm 1975). At the same time numerous apparent counter-example have been adduced e.g. Berk-Seligson 1986; Mahootian & Santorini 1996; Woolford 1983). Various explanations have been proposed for these putative restrictions, including government (DiSciullo, Muysken, & Singh 1986), the Functional Head Constraint (Belazi, Rubin, & Toribio 1994), prohibitions against switching closed-class items Azuma & Meijer 1997, Joshi 1985) or system morphemes (Myers-Scotton 1993), and Minimalist-based (lexical) feature mismatches (MacSwan 2000). Teasing apart the contributions of lexically-projected syntactic constraints as opposed to purely lexical issues (e.g. language-tagging) is complicated by the fact that substantially different morphosyntactic systems are often at stake: presence or absence of null subjects, clitics, verb raising, do-support. In order to probe more deeply into the possibly “special” status of these three categories a test case is presented, involving languages that not only share identical phrase structure and syntactic mechanisms while having non-cognate lexicons, but which also employ exactly the SAME system morphemes EXCEPT FOR pronouns, negators, and interrogative words. The languages are Quechua and Media Lengua (ML). ML is a stable Quechua-Spanish relexified language spoken in northern Ecuador and consisting of Quechua morphosyntax, including all affixes and syntactic structures, while all lexical roots are derived from Spanish (Gómez Rendón 2008; Muysken 1981, 1988, 1997; Shappeck 2011; Stewart 2011, 2013). Data were collected from trilingual speakers (Spanish, Quechua, ML), using utterances in Quechua, ML, and containing various mixtures of Quechua and ML. Participants carried out two tasks on randomized stimulus sets: speeded acceptability judgment and concurrent memory-loaded repetition, in which respondents repeated stimuli consisting of four random numbers followed by a test utterance. In the acceptability judgments there were no significant differences in the proportion of “no” responses among single-word switches of subject pronouns, negators, interrogative words, or items belonging to traditional lexical categories (nouns, verbs, adjectives). The data from the repetition experiment tell a different story: spontaneous language shifts occurred with 4% of the Quechua stimuli, 9% of the ML stimuli, and 30% of the mixed stimuli, showing a powerful main effect for category (p < .0001) for relevant substitutions (either the switched element or surrounding elements in order to achieve a monolingual string). A post-hoc Tukey HSD test reveals significant differences between lexical items and interrogatives (p = .03) and between lexical items and negators (p = .0005), but not between lexical items and subject pronouns (p = .99). Quechua, ML, and Spanish are null-subject languages in which overt pronouns are “strong” and may participate in code-switching (Jake 1994; Koronkiewicz 2012) just like other lexical categories. The fact that negative and interrogative elements show greater resistance to language-switching even in identical morphosyntactic frames suggests that logico-semantic factors also play a role, e.g. involving truth values, and suggesting avenues for future research on the factors responsible for language-switching constraints.

Cross-language activation is context-dependent: Cognate effects emerge in reading code-switched, but not single-language sentences Kaitlyn A. Litcofsky and Janet G. van Hell Poster 21-May

"A wealth of research has shown that cognates, words that share form and meaning across languages, are processed faster and better than non-cognates that share meaning, but not form, suggesting that bilinguals co-activate both languages even when performing only in one language (see Dijkstra, 2005; Van Hell & Tanner, 2012 for reviews). Recent studies examined to what extent sentence context can constrain the co-activation of languages, and provide a window into the interaction of bottom-up and top-down activation processes during comprehension (see Schwartz & Van Hell, 2012, for a review). Top-down effects of co-activation can stem from semantic constraint or experimental context and would be evidenced by finding that the cognate facilitation effect differs across different contexts. Finding a cognate facilitation effect regardless of the nature of the surrounding context would indicate that cognate facilitation is
driven by bottom-up processes of lexical activation. The current study examines the relative influence of bottom-up and top-down processes during bilingual language comprehension by studying the reading of cognates and noncognates in single-language and two-language sentences.

Nineteen high proficiency speakers of Spanish and English completed two self-paced sentence reading tasks: one presenting two-language (code-switched) sentences and one presenting one-language sentences. Code-switched sentences contained an intra-sentential code-switch where the sentence started in one language, switched into the other language, and remained in the switched language (see Table 1 for example sentences). Half these sentences switched from Spanish into English and half from English into Spanish. Presentation of code-switched sentences was blocked by direction of the codeswitch. Additionally, half contained a cognate and half a matched non-cognate in the pre-switch portion of the sentence. The one-language task was completed once in Spanish and once in English, with different sets of sentences and the order of the languages blocked and counterbalanced. Half the sentences contained a sentence-medial cognate and half a matched non-cognate. The two-language task always preceded the one-language task, and instructions explicitly emphasized that the one-language task dealt with only one language.

Because half the bilinguals were dominant in Spanish and half were dominant in English, the data (cognate and non-cognate reading times) are described in terms of dominant and weaker languages. Analyses show a strong cognate facilitation effect only in code-switched sentences that switched from the weaker language to the dominant language, but not vice versa. No cognate effects were found in the single-language sentences, in either language. An additional control experiment that included 44 participants who completed only the single-language task replicated the absence of a cognate effect in either language, suggesting that the lack of an effect is not due to limited power.

These results suggest that the code-switched sentence context boosted the activation of words from the non-target language allowing for stronger bottom-up cognate facilitation effects. In this particular experiment (where one-language sentences followed code-switched sentences and instructions emphasized that only one language was needed), a single-language context was a sufficiently strong top-down cue to constrain lexical activation to one language only."

Phonological transfer in Turkish heritage speakers acquiring English as an L3
Anika Lloyd-Smith, Henrik Gyllstad and Tanja Kupisch Paper Session 80

"Studies in the domain L3 acquisition have shown that the L2 can block L1 transfer (e.g., Bardel & Falk 2007). The L2 Status Factor attributes L2-transfer into L3 to the desire to suppress the L1 because the L1 is inherently ‘non-foreign’ (Williams & Hammarberg 1998: 323). In L3 phonology, too, there is some evidence suggesting that either both L1 and L2, or only the L2, can influence L3 production (Wrembel 2012). However, this research has so far mainly focused on sequential acquisition, where L1 was the native language with the highest proficiency and L2 was acquired at age 10 or even later (Wrembel et al. 2010). None of the extant studies systematically controlled for L1/L2 phonological proficiency and language exposure, thus leaving it as a theoretical possibility that L2-transfer can override L1-transfer, owing to a developmental shift in language proficiency. The present study, therefore, enquires into the relative role of proficiency and age of onset for L3 phonology by investigating L3 English in heritage speakers.

Specifically, we analyzed global foreign accent in Turkish, German and English in the speech of 20 adult heritage speakers of Turkish in Germany. These speakers had been exposed to Turkish from birth, while first intensive exposure (AoO) to German varied between birth and 9 years. English was acquired as a foreign language at school. Three separate accent rating studies were carried out. In the first and second experiment, the HSSs were rated by native speakers of German (n=15) when speaking German, and by native speakers of Turkish (n=15) when speaking Turkish. Ratings were based on naturalistic speech samples of 10 seconds, presented in randomized order, and mixed with samples from monolinguals and late L2ers. Results show perceived phonological proficiency to be independent of AoO in German. The HSSs’ speech was deemed either (i) native in German but foreign in Turkish (Group G), or (ii) native in Turkish but foreign in German (Group T), or (iii) native in both languages (Group B). HSSs were classified accordingly in the third experiment, where the HSSs’ English was judged. Fifteen seconds of speech from each HS were presented to native English teachers at English language schools (n=20), whose task was to judge foreign accent on a 7-point Likert scale, and to classify the speakers’ accent as German, Turkish, English or “other”.

The third experiment on the HSSs’ English accent showed speech samples of Group B to be considered overall most
native-like, and group T most foreign-sounding. Moreover, samples of Group G tended to be classified as German-sounding, while categorizations for Group B were most heterogeneous. Group T was mostly classified as “other”, suggesting that raters could have been unfamiliar with particular accents. Although all HSs attended German schools and were exposed to German-accented English, only some were identified as speakers of German, which provides reasons to question the role of input and excludes the possibility that transfer is systematically conditioned by typological proximity. Results generally indicate that L1 and L2 proficiency are crucial for phonological transfer into L3. Does Prior Experience in Informal Translation Differentially Affect Language Preference for Various Mental Activities? A Comparison of Language Brokers and Non-Brokers Belem Lopez, Jyotsna Vaid and Yinan Fan Poster 21-May

"Bilinguals in immigrant communities engage to varying degrees in informal translation, or “language brokering” on behalf of family members (see Morales & Hanson, 2005, for a review). Previous work has established that language brokering affects well-being, identity development, and self-efficacy (e.g., Dorner, Orellana, & Jiménez, 2008). Recently, it has also been shown that language brokering experience affects ambiguity monitoring, translation verification, category exemplar generation, and phrase plausibility judgments (López & Vaid, 2013, López, Vaid, & Chen, 2012; Vaid, Milliken, López, & Rao, 2011). These studies argue that words and phrases across the two languages are more readily accessible to bilinguals with prior informal translation experience than to those without such experience. One would expect that even when they are not actively engaged in translation brokers may be more likely to call upon both their languages when performing various activities than would non-brokers.

Previous research has established distinct language preferences among bilinguals associated with doing mental arithmetic, predicted by the language of early formal instruction, and that other language acquisitional variables may affect language preferences for thinking and dreaming (Vaid & Menon, 2000). However, this research did not differentiate brokers and non-brokers and did not specifically address the incidence of no language preference for an activity.

In the present study, we compared language preferences of brokers and non-brokers for expressing anger, expressing affection, praying, dreaming, thinking to oneself, doing mental arithmetic, telling jokes, and keeping a diary. Participants were to select if they typically used English, Spanish, or had no language preference when engaging in each activity. We tested the hypothesis that while each group would show language preferences, the relative incidence of “both languages” would be higher among brokers than non-brokers.

Two-hundred and nine Spanish-English bilinguals (n=108 brokers, n=97 non-brokers) completed a Language Background and Brokering questionnaire and language preference inventory. Broker status was based on a measure that took into account how often, with whom, and what contexts, informal translation occurred in bilinguals' childhood years up to the present. Those classified as brokers were found to report translating before the age of 10 frequently for parents and grandparents at home and elsewhere. Self-reported language proficiency scores indicated brokers and non-brokers were highly proficient and rated their English and Spanish about the same across both languages (Table 1).

For most of the activities, both groups tended to show a language preference, with non-brokers reporting a greater English preference than brokers (with the exception of praying, where it was the reverse). Supporting our hypothesis, analyses showed brokers were significantly more likely than non-brokers to report using both languages when engaging in each of the activities (Figure 1).

Brokering results in a greater use of both languages, not only for the purpose of translation but also in activities that do not involve other individuals (i.e. thinking to oneself, or dreaming). The present findings underscore the importance of recognizing that bilinguals do not constitute a homogeneous group and individual differences in the amount of language brokering is an important variable to consider."

*Exploring the relationship between preschool children’s language exposure and use at home and their bilingual language abilities* Lisa Lopez and Rica Ramirez Paper Session 69

*Both language usage theory (Tomasello, 2003) and eco-cultural theories of development (Weisner, 2002) emphasize language exposure and use as important home variables in the development of language among bilingual and monolingual language learners. Within the bilingual and multilingual population amount of exposure and use of each language is critical in the child’s development of measured proficiency for each language. Research conducted with bilingual learners in the United States has indicated that children need a minimum of 20% input in a language in order to
develop proficiency in that language (Pearson et al., 1998). While this amount of exposure may be normative in some parts of the world, bilingual children growing up in the U.S. may receive less than 20% input in their home language, when their home language is not English.

Children are primarily exposed to English at school, through television, with peers, and oftentimes within their community. Parents struggle to provide sufficient opportunities for their children to be exposed to the home language, in order to maintain bilingual status (Lopez & Tapanes, 2011). Many Latino children in the U.S. are sequential language learners and therefore this struggle to develop bilingually starts as early as preschool. Three- and four-year-old Latino children are therefore still developing proficiency in Spanish when beginning English language schooling in programs such as Head Start. Previous research with this population has identified a steep decline in Spanish language proficiency as children spend time in English schooling environments and are exposed to and use more English (Paez, Tabors, & Lopez, 2007). The present study investigates the language exposure and use in the children’s home as an indicator of growth in bilingual proficiency among a group of Latino preschool children attending Head Start programs.

In the present study, approximately 400 bilingual Latino children were studied longitudinally across three time points. Methodology included conducting parent interviews, classroom observations, teacher questionnaires, and individual child level assessments in English and Spanish using the PPVT/TVIP and subtests from the WJIII/Bateria 3. Preliminary longitudinal analysis using HLM indicates that children exposed to English at home and daycare at the start of the study had higher initial scores but a slower growth rate on the English language measures (receptive and expressive vocabulary and oral comprehension); whereas children who were exposed to and used Spanish regularly at home had a negative start but faster growth rate on the English expressive vocabulary measure. Additionally, children exposed to Spanish language and literacy at home performed better on all Spanish language measures and continued to develop their receptive and expressive vocabulary and oral comprehension throughout the study.

The current findings stress the importance of exposure and use of the home language in the continued development of that language, while aiding in the growth of the second language, as the children are exposed to and use that second language within school. Additional analysis focused on the role of exposure and use on the bilingual language development of Latino children in the U.S. will be presented."

**Age of Acquisition and Processing Biases: An Investigation of Relative Clause Attachment in Early and Late Bilinguals**

Luis Lopez, Shane Ebert, Jeanne Heil, Bryan Koronkiewicz, Sergio Ramos and Daniel Vergara  Poster  23-May

"Converging evidence from various linguistic subfields suggests that early and late bilinguals diverge in regard to an array of properties of the linguistic system (De Houwer, 1995; Schaerlaekens, 1998; Zentella, 1997; Harley & Wang, 1997). This project compares early and late bilinguals in regard to a phenomenon that has not been investigated in this context: relative clause attachment. The lack of comparison presents a gap in the literature: processing research has investigated the relative clause attachment biases of both early (e.g., Fernandez, 2003) and late (e.g., Dussias, 2003) bilinguals independently, but no comparison between early bilinguals and either monolinguals or late bilinguals has been made in regard to relative clause attachment. This study fills this gap by investigating the relative clause attachment preferences of highly proficient early and late Spanish/English bilinguals in both of their languages and as compared to monolingual speakers. All bilinguals were matched for proficiency and demographics: the only feature that differentiated both groups was the age of acquisition of the second language: AoA<6 for early bilinguals, AoA>10 for late bilinguals.

As part of ongoing research, 23 early bilinguals and 11 late bilinguals completed an offline interpretation task in which they saw 64 items of the type in (1) followed by a corresponding question (2) with a binary choice between the high attachment and low attachment answers. In the case of (1-2), participants with a high attachment bias would choose ‘The cubs’, and participants with a low attachment bias would choose ‘The coyotes’. All bilinguals completed the task in both languages, with half of the items in Spanish and half in English. A monolingual Spanish group (N = 19) and a monolingual English group (N = 26) also completed the task with all 64 items in their respective language. Analysis found that the monolingual groups had statistically different preferences, thus confirming findings in the previous literature (e.g., Cuetos & Mitchell, 1988). The late bilinguals also differed significantly between their two languages and did not differ from the monolinguals in Spanish or English, also confirming earlier findings (Jegerski, 2010). The early bilingual
group gave an unexpected result: although their attachment preferences did not differ significantly from monolinguals’, they did not differ between their two languages either: their preferences stood in a mid-point. These results suggest that there is a difference in processing between early and late bilinguals in regard to relative clause attachment. The late bilinguals maintained biases like monolingual speakers in both of their languages: Jegerski (2010) explained her similar results by linking processing and grammar directly: at high proficiency, the learners’ grammar was native-like, and consequently so was their processing. Adopting an approach in which grammar and processing are linked, the early bilinguals’ intermediate result suggests a convergence (Bullock and Toribio, 2004; Serratrice, Sorace, and Paoli, 2004) that blunts the edges that differentiate the two grammars. This mid-point convergence takes place among subjects who acquire their L2 before their L1 is mature, not among those who acquired their L2 when their L1 is fully formed.

Examples

(1) The wolves will attack [the cubs of [the coyotes]]j i [that sleep all day]j/j.
(2) Who sleeps all day? (The cubs; The coyotes)

Reading Outcomes in Children with Diverse Language Backgrounds
Gigi Luk, Laura Mesite, Sibylla Leon Guerrero and Joanna Christodoulou

"Previous research demonstrates cognitive and reading performance differences between monolingual or bilingual children, with group designations based on maximal language background differences. Findings usually suggest bilinguals having a smaller vocabulary in one of the two languages, higher executive function (EF) performance and mixed results in reading outcomes. However, few studies have collectively examined the interacting influence of language background and cognition on reading. To this end, the present empirical study examines whether organizing students into groups by diversity in home language backgrounds influences the relationships between English reading outcomes, English vocabulary and EF.

Ninety-four fourth grade children from a linguistically diverse school district in Massachusetts participated. All the children were educated in English. Parental reports of home language background were documented via a questionnaire. Students’ performances on reading (accuracy, fluency, rate and comprehension on GORT-5), English vocabulary (BVAT) and EF (Simon task and Trail Making task) were assessed in 1:1 sessions. Performance from the Simon task and Trail Making task, which require limited language processing, were linearly combined to represent a general EF factor. The first principal component extracted from the home language questionnaire represented children’s exposure to a non-English language at home via speaking, listening or media. Children were categorized based on this principal component into monolingual (n = 25), unbalanced (reported using more English than non-English language at home, n = 34) and balanced bilingual (reported more non-English usage at home but primarily English at school, n = 35) groups. The students in the three groups did not differ significantly in nonverbal reasoning (KBIT-2), age or gender.

Language status, EF and English vocabulary were entered in standardized least squares models predicting each of the GORT-5 reading outcomes (age-based standard scores). The predictors and interactions had significant contribution to all reading outcomes, Fs > 4.54, ps < .0003, R2 > 0.30. As expected, English vocabulary was a significant predictor for reading rate (b = 0.24, s.e. = 0.08, t = 2.99, p < .004), fluency (b = 0.22, s.e. = 0.07, t = 3.24, p < .002), accuracy (b = 0.21, s.e. = 0.07, t = 3.06, p < .004) and comprehension (b = 0.31, s.e. = 0.06, t = 5.38, p < .0001). In addition to English vocabulary, there was a three-way interaction between English vocabulary, EF and language status (b = 0.17, s.e. = 0.05, t = 3.23, p < .002). The three-way interaction revealed that both English vocabulary and EF had significant positive associations with comprehension in balanced bilinguals while English vocabulary, but not EF, was related to comprehension in unbalanced bilinguals and monolinguals.

The present study demonstrates differential relationships between language proficiency, EF and reading outcomes in children with diverse language backgrounds. While language proficiency is associated with reading outcomes in all children, balanced bilingual children also showed a positive relationship between EF and reading comprehension. Results suggest that language status moderates the relationship between English vocabulary, EF and reading comprehension. Educational implications of including home language backgrounds when evaluating reading outcomes are discussed."
"Bilingual children’s vocabulary acquisition is strongly influenced by variation in input quantity (e.g., Hammer et al., 2009; Pearson, et al., 1997). This relationship does not appear to be direct, however. Rather, threshold effects appear to exist (Gathercole, 2007). More specifically, in a study on bilingual preschooler vocabulary development Thordardottir (2011) observed that 40%-60% exposure was enough for children to attain comparable scores to monolingual peers on receptive vocabulary, whereas for productive vocabulary, the threshold was higher, at more than 60% (cf. Cattani et al., in press). In addition to variation in input quantity, variation in input quality – for example whether it is from native speakers – has also been shown to affect bilingual children’s vocabulary development (Place & Hoff, 2011). To date, few studies have examined both input quantity and quality in one study, however.

The present study addresses this gap by investigating the relationship between both quantity-oriented (current exposure at home and at daycare, cumulative length of exposure) and quality-oriented input factors (nativeness, richness, number of conversational partners) and the vocabulary development of multilingual children attending bilingual (English/Dutch) daycare in the Netherlands. More specifically, we asked whether the aforementioned findings concerning threshold effects were replicated in this population.

Receptive and productive data were collected using standardized vocabulary tests (PPVT, CELF) from 48 multilingual children aged 2;5-4;5 (M = 3;3, SD = .6). Information about amount and type of language exposure was obtained via an extensive parental questionnaire.

Preliminary findings from 18 children show the following. (i) All quantity-oriented and quality-oriented input factors were significantly positively related to children’s receptive and productive vocabulary scores, with the exception of amount of Dutch input at daycare and the scores on the Dutch tests. (ii) After controlling for all other quantity- and quality-oriented input factors (see above), current exposure at home/daycare was the only factor to remain significantly positively correlated with children’s English scores. (iii) The children who reach monolingual norms on the receptive task (PPVT) tend to be those around or above the 40% threshold (cf. Figures 1 and 2), and (iv) on the productive task (CELF), the children reaching monolingual norms are those around or above the 60% threshold (cf. Figures 3 and 4).

In short, then, these data are in line with previous findings concerning differential threshold effects in receptive vs. productive vocabulary development (Thordardottir, 2011; Unsworth, in press). It thus seems that after a certain level of input has been reached, additional input is no longer necessary to attain age-appropriate monolingual norms. Input at daycare may be less important for the majority language (Dutch) due to the availability of input from elsewhere, akin to previous findings on the differential impact of variation in input quantity at home on the majority vs. minority language (e.g., De Houwer, 2007) Furthermore, in the present sample, input quantity appears to be more important than input quality. Possible explanations for this finding will be explored. Furthermore, the analysis of the complete dataset will evaluate potential differences between bilingual (English/Dutch) and trilingual (English/Dutch plus additional home language) children."

New Directions in the Study of Bilingual Lexical Development: Commitment vs. Plasticity

Barbara Malt, Aneta Pavlenko, Scott Jarvis, Ping Li, Huichun Zhu, Jennifer Legault, Shin-Yi Fang, Shinmin Wang, Yu-Ju Lan, Gunnar Norrman and Emanuel Bylund

"L2 lexical learning and performance may rely on declarative memory (e.g., Ullman, 2001), implicating the importance of parameters such as frequency of exposure and retrieval (e.g., Paradis, 2009). Full consideration suggests, though, that a learner’s ability to use L2 words in a native-like way will depend on a larger constellation of factors. Success in initially linking word forms to meanings may reflect many aspects of learning conditions given that learning in general is affected by variables ranging from whether practice is massed or spaced (e.g., Seabrook et al., 2005) to whether the learner has an opportunity for active engagement and social interaction (e.g., Cornillie et al., 2012; Markant & Gureckis, 2014). The L2 learner also must face the fact that languages divide up conceptual domains in different ways. One manifestation is that the L1 and L2 may differ in how many distinctions they lexicalize within a domain – for instance, Dutch has a single word fles for containers that French divides between flacon (smaller ones) and bouteille (larger ones). Another is that even roughly equivalent words between languages are often used in subtly different ways
– for instance, in Spanish, a Coke bottle is botella but a baby bottle is mamadera, and a tennis ball is not bola but pelota. As a result, learners need to overcome a natural tendency to create one-to-one correspondences between L1 and L2 words to master new patterns of word use. They may even need a new appreciation for perceptual or conceptual distinctions in the stimulus space. Of course, learning L2 word forms and their uses also engages the phonological system in encoding and production, and L2 phonology is notoriously difficult after the first year of life (e.g., Werker & Lalonde, 1988). The possibility of age of acquisition effects cannot be ruled out once the many cognitive and linguistic processes that contribute to learning, retrieval, and use of words are recognized.

The talks in this session will address the two sides of attainment in L2 word learning and use. What factors work against native-like performance, leaving the learner with an L1 influence in L2 use or other residual effects of later learning? What conditions promote native-like performance? Pavlenko and Jarvis will explore the challenge of L2 color naming given an L1 system of naming that requires less attention to perceptual distinctions within a portion of the color spectrum. Malt and colleagues will examine to what extent there is plasticity in the word learning of late-immersed learners and how their progress relates to the semantic organization of L1 vs. L2. Legault and colleagues address different contexts for adult learning of novel word forms and show rapid neural changes in response to L2 training. Norrman and Bylund present evidence for limitations on the ability to achieve native-like performance in on-line lexical tasks when L2 exposure is not from birth, and they argue for an influence of early commitment of the phonological system. Together, these talks help delineate where plasticity remains and where L1 commitment makes L2 word learning difficult.

**Mobilization of Linguistic Resources and Science Learning among Young Latino Children in a Spanish/English Bilingual Inquiry Curriculum: The Role of Translanguaging Practices**

Carmen Martinez-Roldan  
Paper  
Session 5

"This empirical study (Erickson, 1986) examined the learning and use of language of a group of third-grade bilingual students who participated over a period of three months in a bilingual after-school program designed to support multiliteracies around scientific domains, specifically around the topic of ecosystems. As the students learned language through content they engaged in translanguaging practices (García, 2009); that is, combining different modes and media across social contexts in ways that challenge the ‘one language only’ or ‘one language at a time’ and additive ideologies of monolingual and traditional bilingual classrooms (García & Wei, 2014). However, García and Wei emphasize that a translanguaging approach in education “‘is not a substitute for bilingual education programs” (p. 48). Likewise, Moll (2011) cautions that to accrue the advantages of bilingualism and biliteracy teachers must provide an additive pedagogy, one that respects and fosters the dual development of language as assets for learning and that protects the minority language (p. 160). Given this debate, and framed by Critical Sociolinguistics perspectives on language learning (Blommaert, 2010) and scholarship on Cultural Historical Activity Theory, specifically on Expansive Learning (Engeström, 2001), the study examined the role of translanguaging practices in students’ language and content learning.

Within the theory of Expansive Learning, learning is not primarily described as a process of vertical improvement along some uniform scales of competence but as horizontal movement across different cultural contexts and standards of competence. As Engeström and colleagues assert, it is horizontal and dialogical learning that generates knowledge and transforms the activity by crossing boundaries between activity systems. Within this transformative process, internal contradictions are a driving force of change and development (Engeström & Sannino, 2010). Contradictions, as a guiding principle of empirical research, refers to the historically accumulating structural tensions within and between activity systems, for example the presence of competing language ideologies in the education of Latino students in the United States.

Data comes from 21 observation reports in which three teacher candidates working with 15 children documented and reflected on the children’s and their own learning on a weekly basis. It also comes from transcriptions of 21 audio recordings of 7 sessions and of debriefings with the teacher candidates after each session. The first layer of analysis involved an examination of language use and shifts of language, including translanguaging practices, especially as related to the learning of scientific concepts. A second layer of analysis involved an analysis of contradictions, manifested in tensions around the use of languages, technology, and the learning of science. Salient findings point to the role of
horizontal language and content learning as the children collaborated with each other and among the teacher candidates. Both languages supported students’ inquiries around habitats and ecosystems. However, an analysis of contradictions, reveal that translanguaging practices also served for both transgressing and stabilizing language hierarchies that privilege English. Adopting an advocacy stance on children’s linguistic rights (May, 2014) and on dual-language programs as an option for promoting these rights (Torres-Guzmán, 2007), this study highlights the need to address How do we support translanguaging practices while also giving students access to the versions of Spanish and English they may need to participate in home- and community-based discourse and in the most distant monolingual contexts of their countries of origin?

Predicting a language dominance switch in bilinguals using discriminant analysis

Jennifer M. Martin and Jeanette Altarriba  Poster  23-May

Bilinguals sometimes switch dominance to the majority language. Statistical discriminant analysis predicted current dominance in Spanish-English bilingual undergraduates in the U.S. The predictors age of acquisition (AoA) of English, AoA of Spanish, and years in U.S. schools contributed to well above chance prediction of current language dominance.

The impact of item structure on L2 phonological awareness

Katherine Martin and Alan Juffs  Poster  23-May

"Phonological awareness (PA), the ability to segment and manipulate speech sounds within a word, is a crucial skill for literacy development. Readers with greater phonological skills have better decoding, word recognition, and spelling skills (Bus & van Ijzendoorn, 1999; Goswami & Bryant, 1990). The crucial role of phonological skills in literacy has led to a large amount of research on PA. However, researchers have used a wide variety of tasks with relatively little standardization of task demands or item characteristics. For example, the CToPP (Wagner, Torgesen, & Rashotte, 1999) tests phoneme deletion at the beginning, end, or middle of a word, when phonemes occur alone or in a cluster. However, there are only 17 items scored only by raw accuracy, leaving little consideration of phoneme location or syllable structure. Although little research has investigated such linguistic details, McBride-Chang (1995) found significant effects of phoneme position and consonant clusters. Such factors should therefore be considered when selecting items, particularly in L2 research when participants have varying L1 phonotactic constraints that affect their L2 phonological abilities and may interact with item characteristics to influence performance.

This study investigated the impact of phonological unit and location on PA performance in L2 learners of English. Participants (N=173) came from three L1s: French (alphabet), Hebrew (consonant-based abjad), and Chinese (morphosyllabary). They completed a phonological oddity task in English. They heard three words, two of which shared a phonological unit, and had to identify which was different from the others. The shared unit was the first or second syllable; the onset, rime, body, coda; or initial, medial, or final phoneme. Both vowels and consonants were targeted at the medial position and eight items were used for each unit to provide reliable results.

Results for accuracy showed a main effect of L1, p<.001; a main effect of phonological unit, p<.001; and an interaction, p<.01. Medial phonemes were harder than all other units, ps<.001. Medial consonants were harder than medial vowels, although the size of the difference varied by L1, p<.001. Pairwise comparisons revealed that larger units (e.g., syllables) tended to have higher accuracy than smaller units (e.g., phonemes), and units at the beginning of a word (e.g., body) tended to have higher accuracy than units at the end of a word (e.g., coda). Rank ordering of accuracy by unit (see Table) revealed broad similarities across L1s, with some L1-specific patterns that may be understood in terms of L1 phonotactics and morphophonological structure.

The results demonstrate that linguistic structure (phonological unit, location) strongly influences performance on L2 phonological awareness tasks. They also underscore the need for additional work in this area, to clearly demarcate the when and how item structure impacts performance for participants with different L1s. Although the overall pattern of results was similar to work with native speakers (McBride-Chang, 1995), there were also clear differences across L1s that may be explained by the impact of L1 phonological experiences. Additional discussion will focus on these differences and will provide suggestions for future analyses to maximize item information."
L2 pronunciation training boosts the acquisition of L2 grammar among classroom learners
Ines Martin and Carrie Jackson  Poster  22-May

Previous studies on L2 pronunciation instruction have hypothesized that pronunciation training leads not only to gains in pronunciation accuracy, but can also boost grammar acquisition (Eskenazi, 1999; Hardison, 2004). To date, however, no study has specifically tested the hypothesis of whether pronunciation training can reinforce grammar instruction and the acquisition of L2 grammatical structures. In light of recent studies finding transfer-of-training effects from one morphosyntactic structure to another (Benati & Lee, 2008; Leeser & De Mil, 2013; White & De Mil, 2013), the present study asks whether such transfer-of-training effects also extend to connections between L2 pronunciation training and L2 grammar learning by investigating the acquisition of separable and inseparable prefix verbs in L2 German.

In German, separable prefix verbs consist of a separable prefix and a verb stem (e.g., aufhören ‘to stop’). In main clauses, these prefixes are separated from their word stem and are placed at the end of a sentence, while the finite part of the verb remains in second position (e.g., Ich höre mit dem Rauchen auf. ‘I stop smoking.’). The use of separable prefix verbs often causes problems for learners of German, particularly because many other German verbs contain a prefix but are not separated (e.g., bezahlen ‘to pay’, as in Ich bezahle die Pizza. ‘I pay for the pizza.’). Whether a verbal prefix is separable or inseparable can be identified based on word stress: separable prefix verbs receive word-initial stress, whereas inseparable prefix verbs are stressed on the second syllable (i.e., the verb stem).

American students enrolled in 2nd semester German classes (70 participants) completed a 30-minute computer-based grammar lesson on verb placement rules for separable and inseparable prefix verbs. Participants in the treatment group received pronunciation training on lexical stress prior to the grammar lesson on separable/inseparable prefix verbs, whereas the control group did not. Using a pre-, post-, delayed posttest design, students' command of separable and inseparable prefix verbs was tested prior to and after the grammar lesson using a perception task, in which participants listened to and identified whether trained and novel verbs contained a separable or inseparable prefix, and a written production task in which participants described pictures using separable/inseparable prefix verbs.

Preliminary results suggest that only the pronunciation treatment group made significant improvement after the grammar lesson in distinguishing separable from inseparable prefix verbs on the perception task. Additional analyses will investigate whether such benefits also extend to the production task. Finding that pronunciation training also leads to significant improvement in the production of grammatical word order with separable and inseparable prefix verbs in the sentence production task would support the hypothesis that pronunciation training can boost L2 acquisition across multiple linguistic domains (Eskenazi, 1999)."

Unpacking bilingual executive control: Speed of processing and language proficiency
Klara Marton, Mira Goral, Eve Higby, Jungmee Yoon, Loraine K. Obler and Luca CampanelliThematic session  Session 42

The literature on a bilingual advantage in executive function performance comprises contradictory data. We identified two shortcomings in previous studies. First, many studies have used traditional behavioral tests that do not allow for the assessment of specific cognitive skills. Second, relatively little attention has been paid to the predictive effects of language proficiency and dominance among bilingual participants on executive processing.

To determine the association between language dominance and proficiency and speed of processing we examined data from four different groups of bilinguals performing tasks that target specific executive skills. Four papers will be presented. The first paper reports on data from children; the remaining three papers include adult bilinguals of varying proficiency levels.

The first paper (Marton et al.) presents data from 46 typically developing children between the ages of 8 and 11 who varied in their language proficiency in a language other than English. All performed a battery of executive function (EF) tasks (Marton et al., 2014). With increased proficiency, performance accuracy increased and response times decreased in conditions that tapped implicit learning, performance monitoring, and resistance to interference. Highly proficient bilinguals did not show the interference cost that was evident among the low proficient and monolingual children.
The second paper (Goral et al.) employed the same EF battery and enrolled 80 young adults, 40 monolingual English-speaking and 40 highly proficient bilinguals (of varying languages). The results demonstrated that the bilinguals were overall faster than their monolingual peers. Two subsets of the participant groups, matched for performance speed in the baseline conditions, were then examined. A bilingual advantage in accuracy and/or response time on measures of switching and resistance to interference but not in performance monitoring was obtained.

The third paper (Higby & Obler) focused on 42 Portuguese-English adult bilinguals with varying levels of L2 (English) proficiency. The tasks included a modified flanker task, a switching task, and an L1 lexical retrieval task. Proficiency was assessed with subjective and objective measures. Higher proficiency correlated with better inhibitory control, but not with shifting abilities, though an overall speed of processing advantage on the switching task was exhibited by high proficiency bilinguals. L1 lexical retrieval speed was not associated with L2 proficiency.

The final paper (Yoon et al.) examined data from 40 Korean-English bilinguals performing a picture-naming test in a switching paradigm. Participants showed the expected switch cost effect, but it was associated with the structure of the task: a larger switch cost was found in a light- than a dense-switching conditions, and when switching to the language that appeared less frequently in a given list.

Taken together, we found a clear association between language proficiency and speed of processing in executive control tasks. This association can explain, in part, previous inconsistencies in studies that examined the bilingual advantage. Our discussion will also highlight the advantage of using experimental tests that allow us to assess individual cognitive abilities in bilinguals.”

*Heritage speakers and second language learners processing of non-adjacent noun-adjective agreement*

Damaris Mayans, Michael Johns, Ana de Prada Perez and Edith Kaan

"Previous research has attested that inflectional morphology causes persistent difficulties for both heritage speakers (HS) and second language (L2) learners6,7. In L2 learners, inflectional morphology is acquired late, and research with HS has shown that they are more accurate with determiner-noun agreement than with noun-adjective agreement5. Moreover, research with different populations has shown that adjacency of the adjective affects agreement processing in monolinguals1, L2 learners4, and HS2. Cognitive costs in processing have also been attested when bilingual speakers engage in code-switching3 (CS). As both non-adjacent dependencies and CS are attested to cause processing difficulties, this study aims to look at how these two factors interact and to determine the role of early bilingualism and CS experience in processing code-switched sentences with non-adjacent noun-adjective agreement.

Twelve high-intermediate to advanced L2 learners of Spanish and thirteen HS were recruited to participate in this study. The experimental task was a non-cumulative self-paced reading task where participants evaluated the grammaticality of sentences. Stimuli followed a 2x2x2 design, with sentences being presented either only in Spanish or with an intrasentential code-switch in English that separated the head noun (either masculine or feminine) from its adjective (which either matched or mismatched with the head noun). All trials were presented in a mixed-block design. We predicted that, overall, HS would read faster and prove more accurate than L2 learners in both switched and non-switched sentences. Since previous research has found that there is a preference for the default masculine gender in noun-adjective agreement7, we predicted that both groups would show less sensitivity to agreement errors with feminine noun/masculine adjective mismatch than masculine noun/feminine adjective mismatch in both switched and non-switched sentences showing preference for the masculine default. Additionally, we predicted that participants would be least sensitive to switched sentences with feminine noun/masculine adjective mismatch.

The four regions immediately following the switch and containing the critical adjective were analyzed using linear mixed-effects models. Our results indicated, contrary to our predictions, that overall there were no significant differences in reading time between HS and L2 learners nor between switched and non-switched sentences. There was a significant Gender by Match interaction, such that feminine nouns with masculine adjectives were read significantly faster than masculine nouns with feminine adjectives, lending support to the masculine default. For accuracy, again there were no significant differences between switched and non-switched sentences. HS were significantly more accurate than L2 learners, and both groups were more accurate with matched than mismatched items. An interesting numerical pattern did emerge, as well: HS displayed 100% accuracy with non-switched sentences with a feminine
noun/feminine adjective (matched) while L2 learners displayed their highest accuracy with code-switched sentences with a feminine noun/feminine adjective: 85%

The results of this study suggest that neither HS’ nor L2 learners’ processing seems to be disadvantaged by CS; these results, however, will be discussed in terms of processing costs in CS and global inhibition.”

Disentangling the effects of language contact and individual bilingualism: the case of monophthongs in Welsh and Welsh English

Robert Mayr, Morris Jonathan, Ineke Mennen and Daniel Williams

"Research has shown that bilinguals have differentiated, but non-autonomous sound systems, exhibiting cross-linguistic interactions (Mennen 2004; Paradis 2001). In bilingual communities, such interactions may lead to the emergence of contact varieties (Bullock & Gerfen, 2004; Heselwood & McChrystal, 1999). A particularly interesting sociolinguistic context exists in Wales where monolingual speakers of Welsh English, a contact variety that shares many accentual features with Welsh, live alongside bilingual speakers. While the English accents of the largely monolingual areas in South-East Wales are well documented (Mees & Collins 1999; Walters 2001), little is known about the varieties of English spoken in bilingual areas. Are they characterised by a greater degree of Welsh-language influence? If so, what is the extent of cross-linguistic convergence between Welsh and English in these communities, and does it differ depending on language dominance? With respect to English, do monolinguals and bilinguals from the same community have different accents?

In this paper, we seek to answer these questions on the basis of a systematic acoustic investigation of monophthongal vowels produced by Welsh-English bilinguals differing in language dominance, and English monolinguals from the same community. In so doing, we aim to disentangle the effects of long-term language contact and individual bilingualism.

All participants were male and attended the 6th form of a bilingual secondary school in West Wales, where students have the choice to study subjects in either Welsh or English. The participants were recorded in individual sessions producing Welsh and English monophthongs in a /hVd/ frame.

F1, F2 and vowel duration data from the English monolinguals’ English vowels and the Welsh-dominant bilinguals’ Welsh vowels were submitted to a cross-linguistic Linear Discriminant Analysis, which identified the acoustically closest Welsh vowel category for each English category. Subsequent statistical analyses revealed large-scale cross-linguistic convergence, with eight out of eleven vowel pairs showing no spectral or temporal differences. The remaining categories were found to be language-specific, however, and constitute cross-linguistically divergent patterns (cf. Figure 1 overleaf for details).

Subsequently, comparisons were carried out across the groups. The results revealed no difference between the Welsh-dominant bilinguals, the English-dominant bilinguals and the English monolinguals in the realisation of the English vowels, and no difference between the two sets of bilinguals in the realisation of the Welsh vowels. Overall, the study did not find any effect of linguistic experience. This is surprising considering virtually all previous studies on bilingual speech have found differences between monolinguals and bilinguals (e.g., Guion, 2003; Paradis, 2001), and between bilinguals who differ in their language dominance (e.g., Simonet, 2010).

What our study indicates then is that the effects of linguistic experience can be overridden under certain circumstances. We will argue that it is the participants’ peer group identity with highly homogeneous social practices and uniform values that is responsible for the observed patterns, with the varieties of Welsh and English used in the community functioning as important markers of regional and social identity.

Post-structural approaches to bilingualism: Dynamic bilingualism, language ideologies, and translingual pedagogies

Catherine Mazak, Ofelia García, Kate Seltzer and Nelson Flores

"The field of applied linguistics has been dominated by monolingual ideologies of language for most of its history. This ideology underpins the conceptualization of bilingualism as “two monolinguals in one body,” which has influenced both language and educational policy for much of the last century. However, post-structural approaches to bilingualism have been offering increasingly convincing evidence for a rejection of monolingual orientations in favor of translingual orientations (Canagarajah, 2013) or a translanguaging lens (García & Li, 2013) in studies of bilingualism. This lens sees bilinguals as having “one linguistic repertoire from which they select features strategically to communicate effectively”
This post-structural paradigm shift, also referred to as the “trans turn” in applied linguistics, has refocused research away from “homogeneity, stability, and boundedness as the starting assumptions” in favor of “mobility, mixing, political dynamics, and historical embedding” as “central concerns in the study of languages, language groups, and communication” (Blommaert & Rampton, 2011). As a result, the ideology of “one nation one language” has been critiqued as leading to monolingual ideologies of language and the “two solitudes” approach to bilingualism (Makoni & Pennycook, 2007; García and Li, 2013). In addition, increased attention has been placed on translingual practices (Canagarajah, 2013) and translanguaging (García & Li, 2013).

This thematic session brings together researchers who have been actively engaged in taking up these abstract theoretical notions and making them real in their pedagogies. Paper 1 uses evidence from a fifth grade and an eleventh grade classroom to “propose a shift in the way we do literacy with bilingual students” which taps into what they call the “translanguaging corriente,” or the ever-present flow of students’ dynamic bilingualism. Paper 2 looks at one international student’s journey through “el corriente” in a sociolinguistics course where “students are exposed to a critique of nation-state language ideologies and are exposed to alternative frameworks for understanding language and language learning.” Paper 3 bridges these two papers by examining the way that language ideologies play out in the everyday classroom practices of a psychology professor at a bilingual university who actively taps “el corriente.” Together, these papers offer a look at how post-structural approaches to bilingualism can influence both research in applied linguistics and practical classroom approaches.

Language use and ideology in Ozelonacaxtla, Puebla, Mexico
Rachel McGraw Paper Session 68

This study examines language ideology in the indigenous Totonac community of Ozelonacaxtla, Puebla, in east-central Mexico. Previous studies show that most Mexican indigenous communities are under socio-economic pressure to adopt Spanish (e.g., Beck & Lam 2008, Lam 2009, Lam 2012, Lastra 2001, McGraw 2009, Terborg et al. 2007). Curiously, the degree of language shift is not consistent across different communities despite the common external pressures (Cifuentes & Moctezuma 2006). Studying language ideologies – beliefs about language(s) – of the speakers themselves, is necessary to explain the varying degrees of language shift or maintenance observed (Allard & Landry 1992, Kroskrity 2005, Lambert et al. 1960, Woolard & Schieffelin 1994). This stance assumes that speakers are participants in, and contributors to, emergent language contact outcomes.

An ethnographic methodology is employed to gather 31 semi-structured interviews from bilingual speakers that target language ideologies. Responses are thematically coded and quantified. Bilingual community members are interviewed because they represent those at the fore of the emergent linguistic contact. Interview responses are triangulated with field notes and research in local archives. Results inform and empower language maintenance in Ozelonacaxtla and other communities facing similar minority language situations.

Results reveal that for the majority of the 1350 people of Ozelonacaxtla, Totonac is valued in both private and public life. Knowledge of Totonac is necessary for intergenerational communication within families and for the general functioning of daily life in the tight-knit community, even amongst children and young people. Although Spanish has a prestigious institutional role in church and schools, there is frequent contact with Spanish speakers, and approximately 55% of the population is at least somewhat bilingual (minimum three years of school), speaking and teaching Spanish to children outside of school is not a common practice as of yet. Totonac is the exclusive language in 75% of households, while it is used in conjunction with Spanish in an additional 21% of households, yielding a total of 96% total or partial household use of Totonac. The maintenance of Totonac in Ozelonacaxtla is in stark contrast to other Totonac communities who have almost entirely abandoned their language in part due to overwhelmingly negative ideologies towards Totonac (Beck & Lam 2008, Lam 2009, Lam 2012, McGraw 2009). Despite the fact that these different communities endure the same general social and economic discrimination, people in Ozelonacaxtla still see an important role for Totonac. The ideologies particular to each community, internal socio-psychological factors, interact uniquely with external pressures during emergent language use by speakers. Socio-economic factors that are traditionally cited as main contributors to language loss are not enough on their own to explain the data, demonstrating that current broad models of language shift lack predictive power.
The influence of bilingualism and socioeconomic status (SES) on language proficiency and verbal working memory

Natalia Meir and Sharon Armon-Lotem

Paper Session 56

"Introduction: The current study explores the influence of bilingualism and socio-economic status (SES) on the linguistic skills and verbal working memory of preschool children. In studies comparing children of low and mid-high SES, the terms “a child with low-SES” and “a child speaking a minority language” are often interchangeable not enabling differentiated evaluation of these two variables. The present study controls for this confluence, testing children born and residing in the same country and attending the same kindergartens, with all bilingual children speaking the same minority language (L1/Russian). Previous research indicates that children from disadvantaged backgrounds exhibit poorer linguistic skills (e.g., Qi, et al., 2006), and likewise, sequential bilingual children score significantly lower than their monolingual peers on standardized language tests (e.g., Restrepo, 1998). Yet, it has been reported that the child’s SES has no impact on digit recall (Engel et al., 2008) and non-word repetition performance (Chiat & Roy, 2007).

Method: 120 children with typical language development aged 5;7-6;7 were classify into four groups by language status (bilingual vs. monolingual) and SES (measured by mother’s education): 88 bilingual children (44 with low SES) and 32 monolingual children (16 with low SES). The four groups were matched on age and non-verbal IQ (Raven, 1998). The two bilingual groups had similar length of exposure to L2 (Table 1).

Tasks: Children’s language proficiency (LP) in L2/Hebrew was determined using the Goralnik Screening Test for Hebrew (Goralnik, 1995). Verbal working memory was measured by: (1) Forward Digit Span (FWD-S), (2) Shortened versions of the Hebrew non-word repetition (NWR) task (Armon-Lotem & Chiat, 2012) and (3) Hebrew sentence repetition (SR) task based on SRep-LITMUS (Marinis & Armon-Lotem, to appear). FWD-S, NWR and SR, all underpin verbal working memory, however, they differ, with FWD-S carrying the less demanding verbal load, whereas, SR involves the highest.

Results and Outcomes: Children’s performance on repetition tasks was analyzed using two-way Anovas to explore independent effects of language status (bilingual vs. monolingual) and SES (low SES vs. mid-high SES). Means, SDs and 2x2 Anovas’ results are presented in Table 2. No effect of bilingualism was associated with verbal working memory (FWD-S and NWR). Yet, bilingualism was associated with lower LP and lower performance on the SR task, which has the highest verbal load. SES was associated with lower LP and decreased verbal working memory capacity (FWD-S and SR).

Conclusions: The current study enabled us to tease apart the effects of bilingualism and SES. Our results conform to the recent study by Calvo and Bialystok (2014) showing that SES similarly affects bilingual and monolingual children and bilingualism has similar effect on children from low and high SES. The current study shows that NWR is independent of both bilingualism and SES effects. Moreover, while bilingual advantage was reported for executive functioning (e.g. Bloom et.al, 2014; Calvo and Bialystok, 2014), on tests of verbal working memory with lower linguistic load (e.g. FWD-S and NWR) bilingual children performed similarly to their monolinguals peers."

A core-peripheral approach to the grammatical constraints on Chinese-Japanese code switching

Hai Rong Meng

Paper Session 53

"In studies dedicated to grammatical constraints on intra-sentential code switching, the Matrix Language Frame model (Myers-Scotton, 1993, 2002) provides one of the most comprehensive theoretical frameworks for bilingual studies concerning diverse language pairs. However, so far few studies have been carried out on Chinese paired with Japanese. The present study attempts to clarify the grammatical constraints on Chinese-Japanese code switching in light of the Matrix Language Frame model.

The database consists of 30 hours transcriptions of audio-recorded spontaneous conversations between three Chinese-Japanese bilingual children and their parents respectively. It has been selected out of nearly 300 hours of recordings from the children’s age of two to five years old. Meanwhile diaries were kept as supplemental material for qualitative analysis.

Among the large quantity of code switching utterances in the present data, a ratio of 40.6% was found to involve the switching of particles, which attributes to the typological characteristics of the language pair of Chinese and Japanese. While particles, as functional categories, are assumed to play an essential role in designating the Matrix Language in bilingual clauses.
Lexical stress production and the role of the home language in Welsh monolinguals and Welsh-English bilinguals

Ineke Mennen, Robert Mayr and Jonathan Morris

"It is well known that languages influence each other in long-term contact situations. One such contact situation exists in Wales where monolingual and bilingual speakers live in the same community. The purpose of the research presented here is to determine (1) the extent of convergence between Welsh and Welsh-English accents, and (2) to what extent any variation can be explained by long-term language contact and individual bilingualism.

To this end, lexical stress data were collected from three sets of 16-18 year old male participants attending the same secondary school in Carmarthenshire where subjects are taught in either English or Welsh: (1) Welsh-dominant bilinguals (BIL_W-DOM), (2) English-dominant bilinguals (BIL_E-DOM), and (3) English monolinguals (MONO_E). Lexical stress was chosen for our investigation as Welsh is reported to have unusual stress cues; unlike most European languages it does not signal stress by longer vowels, higher fundamental frequency (F0), and higher amplitude on the stressed syllable. Instead, the immediately following consonant is lengthened, and the pitch change occurs in the following unstressed syllable (Williams, 1985; 1999).

Thirty participants were recorded in individual sessions producing Welsh and English words embedded in the carrier phrase “Say [target word] again” (English); or “Dyweda [target word] eto” (Welsh). Target words were pairs with the same or similar initial syllables in both English and Welsh, such as ‘gossip’/ˈgɒssp/ and ‘gosod’/ˈɡɔsɔd/ (‘set’). The participants’ productions were analysed in terms of their durations and F0 change (analysis of other cues is ongoing).

The effects of long-term language contact were established by comparisons of the stress cues in English produced by group MONO_E with those in Welsh produced by group BIL_W-DOM. Results indicate that stressed vowels were shorter, post-stress consonants and unstressed vowels longer, and F0 change was smaller in Welsh than in English. Unlike results for vowel realizations (Mayr, et al., submitted), this suggests that the sound systems of Welsh and English – at least as far as the investigated stress cues are concerned – have not converged in this community.

To determine the role of linguistic experience, we examined the production of lexical stress in all three groups of speakers: BIL_W-DOM, BIL_E-DOM, and MONO_E. The results revealed no difference among the three groups in the realization of the English durational cues, and no difference between the two sets of bilinguals in the Welsh durational cues. However, differences were found in F0 change in English between the English monolinguals and the two sets of bilinguals. Furthermore, the two sets of bilinguals also differed in F0. This suggests that linguistic experience has affected the stress cues differently: while there is evidence of an effect of linguistic experience on F0, no such effect was found for any of the durational cues (cf. Figure 1 and 2 overleaf for details).

It remains to be seen to what extent these accentual features are used in perception to establish whether an individual from this community has Welsh or English as their home language (490 words)."
**Constructing a Language Pipeline and Promoting Bilingualism in Wales**

Joyce Milambiling  
**Paper Session 71**

"Wales is engaged in a widespread campaign, supported by the Welsh Assembly, to revitalize the Welsh language, and the Welsh Government is systematically implementing the official “Welsh Language Strategy for 2012-2017”. The educational system and Welsh-medium instruction play a key role in this endeavor, and of particular interest is the unique “language pipeline” that has been created.

Welsh language policymakers, educators, and other stakeholders have joined forces in making Welsh-medium education increasingly available from the pre-K (nursery) level through higher education. This pathway provides instruction through the Welsh language and is an important tool for its preservation. These efforts are particularly crucial in the face of the spread of English throughout Wales, particularly in areas that have historically been Welsh-speaking. The recent, substantial commitment to Welsh-medium education by the government contributes to the language’s vitality. Provision of funding and other resources paves the way for Welsh speakers to develop proficiency in multiple registers of the language, including those of higher education and the workplace.

This case study documents the efforts by the Welsh government to actively promote the Welsh language through policies and practices in the educational and wider public spheres. A desired goal is to increase the chances of Welsh, a minority language, surviving well into the future. Of particular importance in ensuring that Welsh remains a living language are wider opportunities for students in Wales to receive a quality education at all levels through the medium of Welsh. While instruction in English is an essential element in the schools, lack of strategic efforts to make Welsh a vital part of the curriculum inevitably results in students whose language skills do not include the ability to fully communicate in both English and Welsh in their academic and professional careers.

The Coleg Cymraeg Cenedlaethol, referred to in English as the “Coleg,” is a key player in the development and maintenance of a language pipeline that has the potential to yield bilingual students proficient in Welsh. The Coleg is a unique planning and funding body established in 2011 that, in accordance with official language policy, supports the provision of Welsh-medium education throughout the higher education system. The Coleg is, in essence, a “virtual college” even though it also has branches in the Welsh universities.

This comprehensive examination of language policy in Wales, including but not limited to its effect on educational institutions, reveals not only the successes but also the challenges of working to ensure a permanent place for languages that might otherwise not continue to exist."

**Prosodic Development of Bilingual Children**

Peggy Mok, Virginia Yip, Joanne Jingwen Li, Donald White and Patrick Chu  
**Thematic session**  
**Session 51**

"The proposed thematic session focuses on the prosodic development of simultaneous bilingual children who acquired Cantonese and English which have divergent phonological patterns at various aspects. Segmental phonology has dominated bilingual acquisition studies for several decades. In recent years, bilingual acquisition of prosody has begun to attract more attention from researchers, but the focus is mainly on durational aspects of speech rhythm (e.g. Bunta & Ingram, 2007; Kehoe, Lleó & Rakow, 2011; Mok, 2011; Mok, 2013). As speech rhythm is descriptively elusive and involving prosodic characteristics like syllables, stress, tone and intonation, more detailed study of these prosodic aspects is needed to substantiate and extend findings on bilingual speech rhythm development. The proposed thematic session aims to bring together findings on these prosodic aspects of Cantonese-English bilingual children, with a view to achieving a more comprehensive understanding of bilingual prosodic development.

The two target languages, Cantonease and English, are rhythmically and typologically very different: Cantonese is a syllable-timed language which is tonal and isolating. It has a very simple syllable structure with no lexical stress and no phonological vowel reduction. In contrast, English is a stress-timed language with a complex syllable structure. It has variable lexical stress and frequent vowel reduction. There have been very few studies examining the phonological development of Cantonese–English bilingual children (e.g. Holm & Dodd, 1999), especially in the area of prosodic development. The combination of English lexical stress and Cantonese lexical tones is particularly worth investigating because the same acoustic correlate (pitch) is used for different linguistic purposes. In addition, phonological adaptation of the same English words in a Cantonese context (code-switched) and an English context vividly illustrates the precocious metalinguistic awareness of the bilingual children. The delayed acquisition of lexical tones and lexical stress
of the bilingual children compared to monolingual children is counterbalanced by the phonological adaptation of loanwords based on communication needs, an ability which is only available to bilinguals. Given the diverse phonological differences between the two languages, simultaneous acquisition of Cantonese and English can provide valuable insights into the interaction between the two languages in the bilingual mind. The language pair in the bilingual children presents a unique window through which differentiation and interaction can be viewed between Cantonese, a syllable-timed language with lexical tones and English, a stress-timed language with lexical stress.

The Cantonese-English simultaneous bilingual children in the proposed presentations were exposed regularly to Cantonese and English from birth. They grew up in a ‘one-parent-one-language’ environment, with one parent being a native Cantonese speaker and another parent a native British English speaker.

The proposed thematic session will include the following presentations:
1. A general introduction to bilingual prosodic development (10 minutes)
2. Acquisition of Cantonese lexical tones (20 minutes + 5 minutes Q&A)
3. Acquisition of English lexical stress (20 minutes + 5 minutes Q&A)
4. Phonological adaptation of code-switching (20 minutes + 5 minutes Q&A)
5. Commentaries by Marilyn Vihman, Nan Xu and Katherine Demuth (15 minutes)
6. Open discussion (20 minutes)

Cross-linguistic interaction in trilingual phonological development: The role of the input in the acquisition of the voicing contrast
Simona Montanari and Robert Mayr

"The acquisition of the voice onset time (VOT) contrasts is a challenging task for bilingual children since they need to learn to differentiate two sets of voice onset time (VOT) distributions, one in each language. Studies that have examined this issue have shown that the VOT patterns produced by bilingual children in each language influence each other, exhibiting cross-linguistic interactions (Fabiano-Smith & Bunta, 2012; Khattab, 2000). No previous study has, however, explored how children cope if the demands are even higher, i.e. where they have regular exposure to more than two languages.

This paper is the first to address this issue by acoustically investigating word-initial stops in two simultaneous trilingual sisters growing up in California, aged 6;8 and 8;1. The children hear Italian from their mother and in their Italian-medium school, English from their father, the school and the wider community, but Spanish only from their Mexican nanny. This study aims to answer the following questions: (1) Are stop categories differentiated across places of articulation and across the three languages? (2) Do the children’s voiceless and voiced stops conform to those produced by the main input provides? (3) Are there signs of interaction among the three phonological systems? (4) If so, can the interaction patterns be explained by input characteristics?

A total of 432 stop productions (144 in each language) were elicited from the children through a reading task. These productions were then analysed acoustically and compared to those of the main input providers.

The results revealed differentiated stop categories across places of articulation in each language, with longer VOT values for more posterior positions. The children also differentiated stop categories cross-linguistically, suggesting sophisticated acquisition patterns. Interestingly, the girls produced cross-linguistic differences even between Italian and Spanish stops, although the latter have identical properties in Italian- and Spanish-speaking adults (Bortoloni et al., 1995; Rosner et al., 2000). These results were interpreted as evidence that, although the girls have separate stop consonant systems in each language, they do not constitute autonomous entities but interact with each other.

For instance, while the children’s English stops were largely target-like, their Italian stops exhibited non-target-like realisations in the direction of English. On the other hand, their Spanish productions were largely unaffected by cross-linguistic interactions, with target-like voiceless stops, and voiced stops predominantly realised as spirants. We argue that these results can be explained by the characteristics of the input the children hear in each language. English is the majority language and the children hear it on a regular basis from multiple native speakers. In contrast, the girls are regularly exposed to non-native models in Italian via their peers at school who are L2 learners of Italian and regularly code-switch. Unlike English and Italian, the children only hear Spanish from a single monolingual, native-speaking source. This setting may facilitate the adoption of speaker-specific patterns, thereby inhibiting cross-linguistic
interactions. Overall, our results raise interesting questions about phonological development in multilingual settings and demonstrate that the number and type of input providers may crucially affect cross-linguistic interactions.

When does English print activate ASL signs in deaf sign-print bilinguals?

Jill Morford, Benjamin Anible, Judith Kroll, Corrine Occhino-Kehoe, Pilar Piñar and Erin Wilkinson

"Several recent studies have shown that lexical access is non-selective in deaf bilinguals who use a signed language for face-to-face communication and the written form of a spoken language for reading and writing. Specifically, deaf participants' judgements of semantic relationships of English and German words (Morford et al., 2011, 2014; Kubus et al., 2014) and judgements of picture-word relationships in Dutch (Ormel et al., 2012) are influenced by the phonological form of the written words' translations in the participants' dominant signed language. This study explores how soon after viewing written words the activation of a sign translation can be detected. Further, we investigate whether cross-language phonological priming effects are detected in sentences as well as single word tasks in order to determine whether lexical access is non-selective in semantically constraining contexts. In study 1, 53 deaf bilinguals and 43 hearing monolinguals decided whether 366 English word pairs were semantically related or unrelated. Word pairs were presented under short (300 ms) and long (750 ms) stimulus onset asynchrony (SOA) conditions. In study 2, 37 deaf bilinguals and 30 hearing monolinguals read 100 English sentences in a self-paced reading paradigm. Each sentence included primes and targets embedded in semantically plausible sentences. In both studies, prime and target words in English were selected such that their translations had at least two overlapping phonological parameters in ASL.

We replicated the finding that English words activate ASL phonological forms in the single-word processing task, but deaf bilinguals did not show evidence of activating ASL signs in the self-paced reading task. Within the single word judgement task, evidence for the activation of ASL signs was robust. At both short and long SOAs, participant responses were facilitated by the phonological similarity of the sign translations when the semantics of the English words was related (see Figure 1). Sign phonological similarity inhibited responses for semantically unrelated English words (see Figure 2). In both conditions, deaf bilinguals were faster to respond than English monolinguals. Results are discussed within the context of interactive models of bilingual lexical access."

Electrophysiological Examination of Individual Differences in Second Language Processing

Kara Morgan-Short, Darren Tanner, Mandy Faretta-Stutenberg, Karsten Steinhauer, Stefanie Nickels, Alison Gabriele, Robert Fiorentino, José Alemán Bañón, Lauren Covey and Amy Rossomondo

"The examination of second language (L2) processing through electrophysiological methods has contributed to our expanding understanding of the neurocognition of L2s in regard to age of acquisition, proficiency and first language (L1) transfer. These factors have been examined primarily through group-level analyses that average event-related potentials (ERPs) across participants. However, emerging research now shows that variability in L1 and in L2 processing may be obscured by examining only grand mean effects in ERP data (Tanner & van Hell, 2014; Tanner, McLaughlin, Herschensohn, & Osterhout, 2013). Thus, some researchers have begun to employ regression-based analyses to explore individual differences in L2 neurocognitive processing. Our thematic session brings together four talks focused on examining variability among L2 learners, the factors that account for such variability, and methodological and theoretical considerations regarding the analysis of such variability.

The first talks of the thematic session address conceptual and methodological issues related to examining individual variability in L2 processing. The first talk proposes reconceptualizing how electrophysiological data can indicate that L2 learners are processing data in a native-like manner by identifying (a) whether variation in L2 speakers exists along the same dimensions as in native speakers, and (b) whether the same linguistic factors engender or constrain variation similarly between learners and natives. A method for analyzing variation across individuals using data from the entire ERP epoch and structural equation modeling is also presented. The second talk also discusses emerging analytical methods that go beyond typical time window analysis for examining variation in L2 ERP data in light of results from several different groups of L2 learners. Variability within and across these data sets are shown to be associated with proficiency, first language transfer and mode of presentation."
The final talks in the session provide further empirical examination of linguistic and cognitive measures that account for L2 variability in the electrophysiological signal. The third talk presents results from a longitudinal study of L2 grammatical agreement that examines the influence of the presence or absence of a linguistic property in learners’ L1 as the starting point for L2 processing as well as how extra-linguistic, cognitive factors affect processing. Results suggest that the cognition involved in matrix reasoning is related to greater changes in the electrophysiological response over time. In a similar vein, the final talk examines L2 development of grammatical gender agreement longitudinally in learners who were exposed to different L2 contexts, i.e., study abroad and stay at home, and reports that learners’ working memory accounts for magnitude changes in the electrophysiological response to gender agreement for at home learners but not for study abroad learners, suggesting that individual differences may play different roles in different contexts.

In all, the thematic session will both provide an overview of emerging results related to individual differences in L2 processing as revealed by electrophysiology as well as address theoretical and methodological issues in the study of individual differences in L2 learning and processing thus providing a strong basis for future research that can account for L2 neurocognitive processing. (498 words)

Rap as a translanguaging space: Bilingual languaging in the domain of Irish Rap
Mairead Moriarty

"As much of the recent research on the Irish language would indicate, there has been a considerable decline in the number of speakers within the traditional heartlands of the language known as the Gaeltacht. However, the reduction with these Gaeltacht areas has been coupled with a growth of the use of the language outside of these areas. Therefore, at present the Irish language context is seeing a growth in users who can be considered non-traditional speakers. Perhaps the most interesting element of this transformation of users relates to the domains of popular in which the Irish language is gaining currency. To this end, the aim of this paper will explore the bilingual language practices that non-traditional speakers of Irish engage in the domain of Rap music. In drawing on theories and methodologies associated with the sociolinguistics of globalization I will identify Rap as a translanguaging space where innovative and creative bilingual language practices are observable. In particular, I will be adopting the theoretical lens of translanguaging space put forward by Wei (2011) where the transformative nature of bilingual language practices is observable. More specifically, I will be examining the practices of two non-traditional users of the Irish language in the domain of Rap. The first Rap artist I will examine is Bubbashakespeare, a L2 user of the Irish language who is overtly critical of the role of the government and the education system in the revitalization and maintenance of the Irish language. The second Rap artist I investigate is Tura Atura, a migrant from Zimbabwe whose acquisition and use of the Irish language can be linked to his own desire to be accepted as insider despite his migrant status. While both of these artists occupy a very different space in the topography of Irish speakers, they are contributing to a larger debate within current debates on who constitutes an Irish speaker? (cf. O’Rourke and Walsh, forthcoming). While the analysis of their Rap Lyrics, interviews with the artists and their audiences reveal that their impact is more on an ideology basis, the data would indicate some positive results for language practices and hence, for the future maintenance of the Irish language.

Does the immersion environment modulate inhibitory control in bilingual speech planning?
Mizuki Moriyasu, Noriko Hoshino and Judith Kroll

"When bilinguals plan to speak in one language, both languages are activated and the non-target language appears to be inhibited (e.g., Kroll et al., 2006). Past research suggests that language environment has an impact on the degree of non-target language inhibition. For example, Linck et al. (2009) showed that native speakers of English who were studying Spanish in a second language (L2) environment inhibited their first language (L1) English more strongly than those who were studying Spanish in an L1 environment. The present study addressed the question of whether the degree of inhibition of the L1 would be modulated by language environment for proficient bilinguals whose two languages were typologically distinctive.

Japanese-English bilinguals who were immersed in the L2 English environment (an immersed group) and those who were majoring in English in Japan (a non-immersed group) participated in the present study. The two groups were both dominant in their L1 Japanese and were matched on age, age of L2 acquisition, and verbal fluency in L1 and in L2.
In one condition (blocked naming), the bilinguals first named a set of pictures in one language and then named another set of pictures in the other language. The order of language of naming was counterbalanced across participants. In the other condition (mixed naming), the bilinguals named a new set of pictures in the language cued by the color of the picture frame. All the participants completed two blocks of blocked naming (one in each language), followed by a block of mixed naming. The three sets of pictures were matched and counterbalanced across participants.

L2 English naming was similar whether or not the bilinguals were immersed or whether naming in L1 followed naming in L2 or vice versa (Figure 1). However, language environment influenced L1 naming, such that the immersed group named pictures in the L1 much more slowly than the non-immersed group. Furthermore, and most surprising for these highly L1 dominant bilinguals, is the result that the advantage for L1 naming was absent when bilinguals spoke the L1 following the L2. For the immersed bilinguals, naming in L1 Japanese was actually significantly slower than naming in L2 English. In the comparison between blocked naming and mixed naming (Figure 2), both groups were much slower to name pictures in mixed than in blocked language lists. Taken together, these results suggest that even when two languages are typologically distinctive such as English and Japanese, there is a clear inhibitory effect for L1. Furthermore, the language of immersion modulates the degree of global inhibition of L1, which was reflected by the comparison between blocked naming in L1 and in L2. In contrast, the environment has little effect on the local inhibition of the L1, which was reflected by the comparison between blocked and mixed naming. The findings support recent neuroimaging results showing different patterns of neural activation for global and local inhibition (Guo et al., 2011). The implications of the results will be further discussed for the models of inhibitory control in bilingual production.

How trilinguals control language
Michela Mosca, Julia Festman and Harald Clahsen

"By investigating how trilinguals switch from one language to one of the other two, the present study aims at deepening our knowledge of the mechanisms that underpin words retrieval in a speaker of more than one language. According to the Language Specific Access hypothesis (e.g. Costa & Santesteban, 2004), trilinguals selectively access the mental lexicon of the target language they intend to use. The Inhibitory Control Model (Green, 1986, 1998) theory, by contrast, claims that language selection requires the inhibition of the non-targeted language(s). A valid technique to investigate trilinguals’ lexical access is the language switch paradigm in which participants are requested either to switch from one language to another (switch trial) or to remain within the same language (repetition trial). Relative to repetition trials, switch trials usually show higher response times (RT). This RT difference is known as “switch costs”. Higher switch costs for the more dominant language (“asymmetric costs”) is usually taken as evidence for an inhibitory mechanism (e.g. Meuter & Allport, 1999).

To test the two diverging hypotheses, in this study we measured switch costs during a picture naming task, involving switching between three languages (L1 Italian, L2 German, L3 English) of late unbalanced trilinguals (N=30, mean age: 28.8, L2 mean AoA: 16.6, L3 mean AoA: 10.4). Proficiency levels in each language were assessed through a Lexical-Semantic Fluency Test (L1 Verbal Fluency Score: 10/10; L2 Verbal Fluency Score: 7.2/10; L3 Verbal Fluency Score: 6.6/10). We measured the switch costs between the different language pairs (L1-L2, L1-L3, L2-L3). We also determined to what extent language proficiency modulates the switch costs.

Our study is the first one to measure switch costs in three languages simultaneously. Furthermore, compared to previous trilingual switch-cost experiments, we used a relatively large sets of experimental stimuli, few stimulus repetitions, and a relatively low total number of trials. Experimental stimuli were also carefully matched according to word frequency, word length, conceptual complexity, semantic category and cognate status. In addition, the design of the study allows us to properly assess the role of AoA, language proficiency, language typology and language status (native vs. non-native).

The results revealed an equal amount of switch costs between L1 and L2 and higher switch costs for the stronger language in both L1-L3 and L2-L3 language pairs. This contrast between symmetrical vs. asymmetrical switch costs is hard to explain in terms of the Language Specific Access hypothesis but is instead consistent with the Inhibitory Control Model, with an important extension, namely that not only language proficiency affects language control but also language typology and language status."
Bilingual cognate processing in Turkish and Dutch: the effect of stress position
Antje Muntendam, Remy van Rijswijk and Ton Dijkstra

This study examines the effect of stress position on bilingual cognate processing in Turkish and Dutch by heritage speakers of Turkish in the Netherlands. According to the BIA+ (Bilingual Interactive Activation+) model (Dijkstra & van Heuven, 2002), when reading a cognate, overlapping orthographic, phonological and semantic representations of the two languages are activated, often leading to faster responses to cognates than to non-cognates (i.e. a cognate facilitation effect). The BIA+ model is based mostly on studies in the visual domain. Although there have been some studies in the auditory domain (e.g. Woutersen, De Bot & Weltens, 1995), there have not been any studies on the effect of stress position on cognate processing.

Turkish and Dutch differ regarding stress position. In Turkish, stress location is predictable, and most words bear ultimate stress (Inkelas & Orgun, 2003). In Dutch, stress location is more variable and there is a tendency for stress on the first syllable (Van Donselaar, Koster & Cutler, 2005). In Turkish-Dutch cognates, stress position can be congruent in Turkish and Dutch (e.g. ultimate-ultimate (ULT-ULT) (1) or penultimate-penultimate (PEN-PEN) (2)), or incongruent (e.g. Turkish ultimate-Dutch penultimate (ULT-PEN) (3)).

Auditory lexical decision tasks were developed in Turkish and in Dutch to answer the following questions: (1) Is there evidence for a cognate effect in auditory word recognition in Turkish and Dutch?, and (2) What is the effect of stress position in the two languages on bilingual processing in Turkish and Dutch?

Twenty-one second-generation heritage speakers of Turkish participated in the Turkish task, and twenty participated in the Dutch task. The participants completed a sociolinguistic background questionnaire and language proficiency tests, which showed that for most participants Dutch was the dominant language. The materials for the lexical decision tasks consisted of two-syllable items in three stress conditions: ULT-ULT, PEN-PEN, and ULT-PEN. Each condition contained 30 cognates, 30 control words, and 60 non-words. In the selection of the materials, word frequency, semantic similarity and phonological similarity were considered. Reaction times and accuracy rates were measured.

The results revealed faster word processing in Dutch than in Turkish, indicating an effect of language dominance. For Turkish, a cognate inhibition effect was found in all conditions, and especially in PEN-PEN. This effect might be explained by the participants’ insecurity about the origin of the cognates. The delayed reaction times for PEN-PEN might be further explained by the atypical stress position of these words in Turkish. For Dutch (the participants’ dominant language), a cognate facilitation effect was found for ULT-ULT and ULT-PEN, but not for PEN-PEN. In ULT-ULT and ULT-PEN, the overlapping representations resulted in faster processing. The results for PEN-PEN, however, suggest that the co-activation of words with atypical stress position in Turkish delayed processing in Dutch. Together these findings suggest that the auditory presentation of cognates in Turkish or Dutch activates representations in both languages, but that the effect (facilitation or inhibition) depends on language dominance. Moreover, word recognition is affected by stress position. In all, this study provides more insight in word representation in bilinguals.

Examples
(1) Turkish baLON – Dutch BaLLON, ‘balloon’ (ULT-ULT)
(2) Turkish TEnis – Dutch TEennis, ‘tennis’ (PEN-PEN)
(3) Turkish moTOR – Dutch MOtor, ‘motor’ (ULT-PEN)

Directionality of the cross-linguistic influence: Referring choices of bilingual Ukrainian-English children
Roksolana Mykhaylyk and Elinor Ytterstad

Our findings suggest that the directionality of influence in the dual language acquisition depends on the developmental stage, language-specific means of syntax-pragmatics interaction, and extra-linguistic input-related factors. At early stages of development, the null-object language is likely to influence the overt-object language (as in Müller & Hulk 2001), especially under the condition of a limited exposure to the latter (Yip & Matthews 2000)

Latinos in New York vs. Barcelona: How different local constructions of race and different immigrant responses to dialectal variation
Michael Newman

Our findings suggest that the directionality of influence in the dual language acquisition depends on the developmental stage, language-specific means of syntax-pragmatics interaction, and extra-linguistic input-related factors. At early stages of development, the null-object language is likely to influence the overt-object language (as in Müller & Hulk 2001), especially under the condition of a limited exposure to the latter (Yip & Matthews 2000)
"Matched yearlong ethnographic studies of Generation 1, 1.5, and 2 Latino immigrants and autochthonous peers at diverse working-class secondary schools in NYC and Barcelona explore immigrants’ responses to host community dialectal variation.

In NYC Gen 1.5 and 2 immigrants adopt local expectations for English variation to index racial identities. Such associations were typically referred to as “sounding XX” or “talking like a XX person,” where XX refers to a racialized identity with Latinos constructed as a race. These expectations were sometimes policed by criticism of non-conformers through accusations of inauthenticity, i.e., wanting to be something they are not. There were, nevertheless, three asymmetries:

- Only Black, White, and Latino identities were indexed; Asians and other groups were dialectally invisible.
- “Sounding Black” corresponded to African American English and second-order indexed low socioeconomic status (SES); “sounding White” indexed high SES, but linguistically referenced stylized California features not White NYC vernacular. “Sounding Spanish” meant presence of selected Spanish substrate features without clear SES second-order indexicality.
- Policing focused on White targets using variants expected from Blacks (Cutler 2008) and Blacks and Latinos not using expected variants.

In Barcelona metalinguistic comments focused on:

- Native-like vs. L2 Catalan,
- SES differences in Peninsular Spanish, and
- Latin American vs. Peninsular Spanish.

Native-like Catalan was accorded highest status followed by Standard Peninsular Spanish, then low SES “Barriada” Spanish, and finally immigrant L2 and Latin American Spanish.

However, peer policing was reported only for older-arrived (Gen 1) Latinos targeting same cohort adoption of selected Peninsular Spanish forms (e.g., 2p pronouns). Targets were accused of betrayal of identity and culture, with Peninsular Spanish linked to often-derided Peninsular cultural practices.

Nevertheless, all but two Generation 1.5 and 2 immigrants used mostly or fully Peninsular phonology, although some retained home-country pronominal norms and lexical items mainly with other Latinos. Also, working-class identified autochthonous participants usually avoided Catalan in peer-to-peer communication and refused to use it in interviews, although no overt anti-Catalan policing was observed or recounted. Latinos similarly never used Catalan with peers, Gen 1.5 or 2 immigrants, but most had no trouble using it in interviews, teachers, and adult strangers.

Analysis shows strong but complex interactions between dialect and class and racial/ethnic identities at both sites. However, policing in NYC reflected preoccupation with an individual’s social identity whereas in Barcelona it protected group boundaries and cultural values. Crucially, policing flourished in NYC despite robust cross-racial socializing whereas in Barcelona it was limited to socially homogeneous Gen 1 Latinos and vanished with heterogeneous social networks characteristic of many Gen 1.5 and 2 immigrants. Latinos’ readiness to cross (Rampton 1995) into Catalan results from it not being constructed as betrayal unlike for autochthonous working class oriented youths.

In both sites, race and ethnicity show important interactions with SES and with dialectal variation. The sites differed, however, in construction of the meaning of racial/ethnic categories. In NYC these categories primarily instantiated individual identities as manifested through cultural traits (Kasinitz, et al 2008). In Barcelona, they constructed contested collective in-group/out-group boundaries.

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**A Quantitative Comparison of Transfer in Multilingual Learners: Written vs. Oral Production**

Hannah Neuser   Paper   Session 63

"Since Grosjean (1989) and Cook (1992), and more recently Ortega (2013), bilingual learners have received considerable attention as multicompetent language users in their own right. Furthermore, the past decade has seen a steep increase in research on third language acquisition and multilingualism, which centres specifically on the differences between second (SLA) and third language acquisition (TLA).

In this context, the role of previously learned language in TLA has been the focus of much research. A number of studies have shown that the source language of crosslinguistic influence and transfer can be related to factors such as proficiency, L2 status, recency, and psychotypology (Williams & Hammarberg, 1998; De Angelis & Selinker, 2001; Cenoz,
2003; Bohnacker, 2006). Most of these studies focused on one individual or a small group of participants and employed a qualitative approach using interviews and story retelling tasks. Furthermore, the majority of studies focus on oral production, with no mention of whether similar results may be obtained in writing.

Consequently, this study’s aim was to investigate whether transfer and the choice of source language in both speaking and writing can be studied from a quantitative perspective. It seeks to statistically investigate 1) How much of the variation in the choice of source language of transfer can be explained by the above-mentioned factors in oral production and 2) Whether the same factors are also essential determiners in written production.

The study was conducted in Luxembourg, where English is introduced as an L4, with students already speaking Luxembourgish, German and French. This particular linguistic context is an excellent environment for a quantitative study as it provides large samples of learners with high proficiency in both their L2 and L3. Furthermore, the order of acquisition of the above mentioned languages varies within the current sample, ensuring a clear distinction between L2 status and typology as determining factors.

Data were collected from high-school students aged 13-14 during their second year of English instruction. The study included 40 students for both the written and the spoken task, matched for age and levels of proficiency. The two groups of participants described the picture story “Frog, Where Are You?”, one group in written form and one orally. This task was chosen over free production and a picture naming task, as in a previous pilot study it generated the longest texts, as well as considerable amounts of transfer.

The results revealed some of the expected differences between spoken and written production. Furthermore, the study shows that quantitative methods can indeed be used to provide additional information about transfer in multilinguals and tend to confirm the results of previous qualitative studies. However, quantitative, statistical analysis may be more appropriate for spoken data than written. During the written tasks, students exhibited more controlled processes which are less determined by proficiency, L2 status, and recency. Rather, the source language of transfer in written production seems to be determined by conscious transfer strategies based on students’ crosslinguistic awareness and the markedness of the item transferred.

**Pinyin Inference Effects during Mandarin Word Recognition**

Janelle Ng, Lidia Suárez and Roodra Veera  
Paper Session 37

Pinyin is the Latin alphabetic representation of Chinese characters that assists Mandarin-language learners in pronunciation (e.g., Chung, 2003). However, studies (e.g., Bassetti, 2006) have shown that pinyin might interfere with learning. For example, the pinyin for the word 班 is ban, pronounced as /pan/ and not /ban/. Thus, pinyin may confuse English speakers learning Mandarin, as pinyin might activate first language letter-to-sound conversions that would interfere with the encoding of Mandarin pronunciation (Pytlyk, 2011). We hypothesised that if pinyin hinders learning, nonMandarin speakers exposed to pinyin while studying Mandarin words would recognise studied words less accurately and more slowly than those who studied the same words with no pinyin. In the first of two experiments, 39 Mandarin and 31 nonMandarin speakers studied 24 Mandarin words starting with the pinyin letters b or p, and g or k, pronounced as [p], [pʰ], [k] and [kʰ], respectively (examples in Table 1). In the second experiment, 58 Mandarin and 46 nonMandarin speakers studied words beginning with d or t, and j or q (pronounced [t], [tʰ], [tɕ] and [tɕʰ], respectively). Approximately half of the participants heard the words without seeing pinyin, and the other half heard them while pinyin transcriptions were displayed. Afterwards, all participants were asked to recognise studied versus nonstudied words (Table 1; no pinyin was used during the recognition phases). Two 2(Experiment: experiment 1, experiment 2) X 2(Speaker: Mandarin, nonMandarin) X 2(Condition: pinyin, no pinyin) X 2(Word pair: b-p and g-k [experiment 1] or d-t and j-q [experiment 2]) mixed designs were used to test the hypotheses. The between-subjects variables were the experiment, speaker, and condition. The within-subjects variable was the word pair. The dependent variables were discrimination (d’) and response latencies for correctly discriminated words. Results showed that participants found it easier to discriminate phonemes in experiment 1 than in experiment 2. Also, Mandarin speakers discriminated similarly and relatively well in both the pinyin and no pinyin conditions, while nonMandarin speakers discriminated better in the no pinyin condition than in the pinyin condition, but the difference did not reach significance. However, the difference did reach significance for response latencies in experiment 1, wherein nonMandarin speakers recognised studied words with no pinyin faster than words studied with pinyin, while Mandarin speakers’ response latencies were similar in the pinyin and no pinyin conditions.
conditions. In contrast, in experiment 2, pinyin did not affect response latencies (Figure 1). The findings suggest that for non-Mandarin speakers and sounds that can be discriminated easily ([p] vs. [pʰ], and [k] vs. [kʰ]), pinyin might block recognition as evidenced in longer recognition times. In contrast, when sounds were difficult to discriminate (experiment 2), pinyin neither blocked nor facilitated recognition. We also expected difficulty discriminating [tɕ] versus [tɕʰ], since these sounds are not found in English. However, [t] and [tʰ] were as difficult to discriminate as [tɕ] and [tɕʰ]. A future study will analyse features (e.g., aspiration) associated with pairs of phonemes for which non-Mandarin speakers show poor discrimination.

**Linguistic and ideological transgression and new speakers of a minority language**

Noel Ó Murchadhha  

"'New speakers' have been described as individuals who acquire and develop proficiency in a language that is not the home or community language. By their very existence, new speakers challenge essentialist ideologies on the characteristics of the authentic ‘native speaker’. Furthermore, new speakers can challenge the native speaker construct through innovative linguistic practices that implicitly challenge hegemonic ideologies. They also do this through their overt ideologies on high prestige target language varieties and on the linguistic variation that comprises the language in question.

Focusing on Irish, this paper documents and describes the linguistic practices and ideologies of habitual (and bilingual) users of Irish in Dublin, where Irish is not a community language. These speakers have developed proficiency in Irish mainly through education, but sometimes through the use of Irish in the home and other domains and networks. Data were gathered using sociolinguistic interviews that elicited a range of linguistic styles and practices from participants while follow-up folk linguistic interviews were used to access metalinguistic talk about traditional and post-traditional language variation in Irish.

The linguistic data illustrate that participants are frequently innovative in their linguistic usage and display features, forms and practices that ‘deviate’ from the high prestige dialectal speech of the traditional Irish-speaking communities, known collectively as the Gaeltacht. The folk linguistic data at the same time reveal varying degrees of awareness among participants in relation to the extent to which their own linguistic practices diverge from those of traditional speaker communities. When participants do recognise these linguistic differences, they engage in varying levels of overt commentary on the social meaning and identity negotiation implicit in their linguistic practices. Overall, both the linguistic and folk linguistic data indicate that although participants are reclaiming Irish, their practices and overt ideologies suggest that this does not manifest itself in the form of linguistic atavism. Participants do not appear to seek to recreate the linguistic practices of traditional Gaeltacht communities, but rather they stake a claim to the ownership of the language through their linguistic practices and overt ideologies in fashion that is sociolinguistically meaningful for them."

**Metalinguistic Abilities and Executive Function in Young Foreign Language Learners - Preschoolers in FL immersion may benefit more strongly from repeated testing than monolinguals**

Kathrin Oberhofer  

"A large and ever-growing body of research has shown that individuals who know more than one language (bilinguals and multilinguals) use, process, store, and understand language(s) differently from those who know only one. For instance, compared to their monolingual peers, bilingual children often demonstrate a more abstract and advanced understanding of what language is and how it works – i.e. show more (meta)linguistic awareness at a younger age – in areas such as word-meaning connection, phonology or morphology. They also show more domain-general cognitive benefits, performing better on certain tasks of executive function (EF) and cognitive control, even when these are non-linguistic in nature (for an overview, see e.g. Bialystok, 2009; Bialystok, Craik, Green, & Gollan, 2009). However, such studies have mostly focused on children who are native and/or fairly proficient bilinguals; less is known about the effects of partial/emerging bilingualism. Furthermore, only very few studies have looked at the development of these abilities over time, and those that did usually used a cross-sectional, not longitudinal design.

The present study included some 100 children from German-speaking families, about half of whom were in regular German-language kindergartens, and half of whom attended kindergartens with some form of intensive English immersion or bilingual program. Monolinguals and young language learners (YLL) were matched on age, parental
education, and general intelligence/working memory. The majority of children (longitudinal cohort) entered the project around age 4-5 and were tested three times over a period of two years, but some were tested only once at age 6, in the children’s final months of pre-school (test time three for the longitudinal group).

Tests of EF and metalinguistic abilities found no significant performance differences between monolinguals and emerging bilinguals among the once-tested six-year-olds, but within the longitudinal cohort, the YLL were showing some performance advantages by the final test time. It is not surprising that overall, children doing the tasks for the third time performed better than first-timers. What is surprising is the difference in this development over time between language groups: Among the monolinguals, there were no significant differences between ‘novices’ and ‘repeaters’ at age 6, but among the YLL, the ‘repeaters’ scored significantly higher than the YLL ‘novices’ on a test of nonverbal executive function, a metalinguistic task that depended highly on control of attention and inhibition, and a test of morphological awareness. In other words the young language learners appear to have benefitted more from repeated testing (practice effect) than the monolinguals.

To our knowledge, this is the first study to indicate that emerging bilinguals might have a learning advantage over monolinguals (in the sense of benefitting from learning opportunities, such as repeated testing) in the areas of executive function (both verbal and nonverbal) and metalinguistic abilities.

Narratives in the Assessment of Polish-English Bilingual Children
Agnieszka Otwinowska-Kasztelanic, Marcin Opacki, Karolina Mieszkowska and Marta Bialecka-Pikul

Paper Session 61
"Bilingual children differ from their monolingual peers in language development (Bialystok et al., 2010; De Houwer, 2009; Gathercole & Thomas, 2009). Although bilingualism results in significant cognitive benefits later in the lifetime, in childhood such differences may cause assessment problems if monolingual norms are applied due to the lack of adequate bilingual ones (Armon-Lotem, 2012; Bedore & Pena, 2008). In order to reduce bias in bilingual assessment, it is necessary to examine the child in his/her two languages. To this end, speech samples in both languages of the child can be analysed in addition to tests of language comprehension and production. Language sample analysis is considered a standard, quantitative method that evaluates productive language at all levels of performance (Fiesta et al., 2005; Iluz-Cohen & Walters, 2012; Pearson, 2002).

Here, we focus on contrasting bilingual and monolingual children’s spontaneous speech samples elicited in the context of standardised, comparable picture stories developed within the framework of the European COST Action IS0804 (MAIN, Gagarina et al., 2012). Specially designed narrative tasks (Telling and Retelling after a model) elicit data that are analysed in terms of the story Macrostructure and Microstructure. The analysis of the Macrostructure focuses on the story complexity and coherence. It examines the child’s ability to tell the story in complete complex episodes. The analysis assumes that stories consist of describing sequences of goals, attempts and outcomes (i.e. the GAO sequences) that mirror characters’ goals and motivations within the story (Flory et al., 2006; Renz, et al., 2003). The analysis of the Microstructure focuses on the story cohesion on the level of lexis, morphology and syntax. It examines stories in terms of quantitative differences in the lexical measures (Type-Token Ratios), syntactic measures (Communication Units, Mean Length of Utterance) as well as measures of morphological and syntactic errors, including transfer errors in the case of bilinguals.

In this study we examine the Macrostructure and Microstructure of narratives produced by Polish bilingual children aged 4;5 to 6;11 raised in the UK (N=40) and Polish monolingual children raised in Poland (N=40), matched for age. Each child produced stories in the Telling mode (guided narrative) and the Retelling mode (telling a story after a model). All the stories were recorded and transcribed in the CHAT format (MacWhinney, 2000). We compare bilingual children’s narratives in Polish and English. We also point out how they differ from those produced in Polish by monolinguals. The study reveals that all stories in the Retelling mode are significantly more complex, longer and richer in vocabulary than in the Telling mode. Interestingly, there are no significant differences between the bilinguals and monolinguals in the main Macrostructure and Microstructure measures. However, there are differences between the bilinguals and monolinguals in the number and types of errors made. We analyse erroneous forms produced by bilinguals pointing to crosslinguistic influences between Polish and English, and we propose measures of bilingual performance that take into account transfer between the two language systems.
Creating bilingual space: A cross-cultural study of reflections of pre-primary teachers on their flexible language practices  
Asa Palviainen, Mila Schwartz, Karita Mård-Miettinen, Tünde Puskás and Ekaterina Protassova

Introduction. Ricento and Hornberger (1996) claimed that teachers are at the very heart of language policy making. The aim of the proposed thematic session is to present the results of a cross-cultural research project designed to examine bilingual teachers’ reflections on their flexible language practices within the context of preschool education in Finland (Finnish-Swedish and Russian-Finnish contexts), Israel (Arabic-Hebrew context), and Sweden (Arabic-Romani-Swedish context). The focus on bilingual teachers’ reflections on language strategies that they applied, as well as challenges they faced in realization of language educational policies, can be a useful source for practitioners and policy makers who are responsible for constructing preschool and bilingual curricula.

García (2009) distinguishes between two main types of bilingual arrangements: strict separation and flexible use of languages. In a strict separation arrangement, the languages are separated by time, by teacher, by place or by subject. In a flexible bilingual arrangement, two or more languages are used concurrently in the bilingual classroom space. Baker (2007) claimed that bilingual teachers often apply a mixture of arrangements because of the challenge of implementing a specific arrangement in a classroom of children with diverse needs. In this project, our focus was on four cases of flexible multiple arrangements, in which two or more languages are used concurrently. The cross-cultural context of this project – representing several different sociolinguistic and sociopolitical settings – was expected to contribute to bilingual practitioners throughout the world to view themselves as a ‘single community of interest, each learning from the other and correcting each other’s experimental and attitudinal limitations’ (Fishman, 1976).

The research questions in the project were:
1. Have the teachers changed their bilingual practices over time, how and why?
2. How do the teachers describe and motivate their current language practices?

We applied a combination of linguistic and ethnographic methodology since it allowed us to analyze the teachers’ reflections as a fundamentally social phenomenon, which is not separate from the teachers’ beliefs and attitudes relating to place of the target languages in their society. We used methodological triangulation of the following data sources: observations of the teacher-child communication and in-depth semi-structured interviews with the teachers. The interviews were transcribed, coded and divided into two main content categories: (1) initial bilingual arrangement and its modification; (2) flexible language strategies by addressing each educational context in Finland, Israel and Sweden respectively, and analyzing similarities and differences in bilingual practices between the teachers in these contexts.

We found that in all four educational contexts, the teachers reported on modifications of their initial language model. In spite the fact that these modifications were resulted from different reasons, they aimed to relate programmatically to the initial bilingual arrangement and to adjust it to children’s needs. Similarly, in their advocating of flexible approach to language separation, the Finnish, Israeli and Swedish teachers were directed by child-centered approach rather than by model-centered approach. The flexible language practices were aimed to improve meaning-making, to smoothen the initial exposure to L2, to relieve emotionally loaded situations, and to increase the children’s active involvement in language learning and keeping them attentive.

Language Mixing vs. Borrowing in Bilingual Speakers with Aphasia and Neurologically Healthy Individuals  
Avanthi Paplikar, Mira Goral, Martin Gitterman and Loraine Obler

Introduction. Borrowed words become part of a language that even non-bilingual speakers use; mixed words, by contrast, may be included on a one-time basis when bilingual speakers know they are speaking with listeners who know the source language. There have been reports that individuals with aphasia mix languages inappropriately, but we have seen that they are sensitive to listeners (Riccardi, Fabbro, & Obler, 2004). Our discourse experiment studied the usage of language mixing (LM) and borrowing in bilingual speakers with aphasia and healthy controls.

Participants. Participants were 32 Kannada-English speakers, with moderate non-fluent aphasia and 32 matched controls (mean age: 59.84; mean years of education: 14.29).
Methods. Each participant recounted three personal narratives and described three pictures in three language conditions. In the first condition participants were told in recorded Kannada that the assigned-listener spoke only Kannada, so they should speak only Kannada. The second condition was for English, mutatis mutandis. In the third condition participants heard that the assigned listener was bilingual so they should use both languages.

Transcription and Scoring. All discourse recordings were transcribed by two bilingual Kannada-English Speech Language Pathologists (SLPs), inter-rater reliability was assured. Percent of language-mixed words and number of instances of borrowing were rated by two SLPs (inter-rater reliability > 90%) and analyzed. We examined similarities and differences of LM and borrowing in individuals with and without aphasia during the monolingual and mixed conditions.

Results. Repeated measures ANOVA showed:
Percent LM: There was a significant main effect of conditions (F = 81.43; p < .005), and a significant condition by group interaction (F = 41.71; p < .005). Post-hoc paired t-tests showed significantly more mixing in the language-mixed condition compared to Kannada-only during both tasks in the healthy control group (p < .005) but no difference in mixing between these conditions in the aphasia group (p = .442).

Number of Borrowed Words: There was no significant main effect of group or of condition. There was a significant condition by task interaction (F = 3.623; p = .028) and a significant condition, group, and task interaction (F = 3.971; p = .020). Paired t-tests showed a trend toward a difference between Kannada-only and language-mixed conditions in healthy controls (t = -1.938; p = .062) and no significant effect in the aphasia group (t = 1.672; p = .506) for either task.

Conclusion. While individuals with aphasia mixed and borrowed words in both Kannada-only and language-mixed conditions, healthy controls mixed less and borrowed fewer words in the Kannada-only than the language-mixed condition. These findings converge with previous reports of decreased language control in aphasia.

Code-switching within the noun phrase – Evidence from three corpora
M. Carmen Parafita Couto and Marianne Gullberg  Poster 22-May

"The question of what does and does not occur in code-switching remains difficult to assess given the limited access to comparable data for meta-analysis. Disputes about proposed structural constraints on switching patterns therefore partly remain unresolved (cf. Bullock & Toribio 2009, inter alia). The current study aims to improve our understanding of such constraints by investigating the structure of mixed noun phrases (NPs) in three language pairs. Specifically, we examine complex, modified NPs (determiner-noun-adjective complexes) as a ‘conflict domain’, i.e. a domain where switches may violate the surface grammar of both languages (Poplack, 1980). We draw on three corpora of Welsh-English, Spanish-English, and Papiamento-Dutch conversation, coded in the same way. The languages differ with regard to gender and noun-adjective word order in the NP: (1) Spanish and Dutch have gender; Welsh, English and Papiamento do not; (2) Spanish, Welsh, and Papiamento prefer post-nominal adjectives; Dutch and English prefer prenominal ones. We test predictions regarding possible mixed nominal constructions derived from generativist accounts (MacSwan 2005), and the Matrix Language Frame Approach (MLF; Myers-Scotton 1993; see table 1).

Table 1. Predictions

<table>
<thead>
<tr>
<th>Framework</th>
<th>Predictions</th>
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<tbody>
<tr>
<td>Generativism</td>
<td>Gender from language with most phi features (here Spanish, Dutch)</td>
</tr>
<tr>
<td></td>
<td>Word order matches the adjective language</td>
</tr>
<tr>
<td>Matrix Language Frame</td>
<td>No prediction regarding gender</td>
</tr>
<tr>
<td></td>
<td>Word order matches that of the matrix language</td>
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</table>

Quantitative and qualitative analyses target the mixed NPs in the three corpora (182 Welsh-English, 100 Spanish-English, 77 Papiamento-Dutch NPs). The results indicate that simplex switches between Det and N dominate in all language pairs. Importantly, Dets overwhelmingly come from Welsh, Spanish, and Papiamento, respectively. This provides evidence against the generativist account which predicts Dutch Dets in Papiamento-Dutch, since Dutch has
more phi features than Papiamento, which lacks gender. Secondly, preposed adjectives are the most common in all language combinations. This is striking in that Welsh, Spanish and Papiamento prefer postnominal adjectives. This reflects the fact that, whereas Dets are Welsh, Spanish, and Papiamento, adjectives and nouns are mainly in English and Dutch with adjectives thus appearing in the position of these languages. These findings are in line with both generativist and Matrix Language Frame accounts. Overall, the structural predictions are borne out regarding adjective positions, but not concerning gender. Extra-linguistic factors such as dominance also seem to play a role. We discuss the implications of these findings for the theories, and the need for further comparative studies across data sets."

**Methodological considerations for the study of intra-sentential code-switching**

M. Carmen Parafita Couto, Emma Vanden Wyngaard, Lucia Badiola-Maguregui, Matt Goldrick, Shannon Bischoff, Kay Gonzalez Vilbazo, Janet van Hell, Gerrit Jan Kootstra, Kaitlyn Litcofsky, Caitlin Ting, Margaret Deuchar, Paola E. Dussias, Jorge Valdés Kroff, Rosa Guzzardo Tamargo, Michael Putnam, Marianne Gullberg, Peter Indefrey and Amaia Munarriz Thematic session Session 76

"Bilinguals are known to sometimes mix both their languages within the same sentence. This seemingly effortless skill is called intra-sentential code-switching. The study of code-switching and more specifically the restrictions that govern bilingual speech have recently received a lot of attention in linguistics research. Several theoretical models (Myers-Scotton, 2002; MacSwan, 1999) have been proposed mainly to account for what happens at “conflict sites”, that is, where the grammars of the two languages differ. However, naturalistic data has inherent limitations in the study of code-switching since some questions are very difficult to answer on the basis of a corpus. There is also an overarching methodological problem regarding experimental techniques: how to study code-switching without compromising the phenomenon. i.e. how to induce, manipulate, and replicate natural code-switching (Gullberg, Indefrey & Muysken, 2009). Hence, the aim of this thematic session is to provide a general overview of the different methodologies available to evaluate which factors determine the resolution of grammatical conflict in bilingual speech. Even though there has been lots of research on code-switching from a sociolinguistic and structural point of view (mainly using corpora and judgement data), we are only beginning to understand the neurocognitive mechanisms underlying this type of linguistic behavior. Current neurocognitive models of switching are largely based on studies examining the switching between single, isolated items (cf. Bobb & Wodniecka, 2013). Single-item switching tasks emphasize language selection, cognitive control, and efforts to keep languages apart. Intra-sentential switching, on the other hand, require the integration of linguistic information of two languages. In this session we seek to bridge psycho and neurolinguistic approaches with other linguistic approaches to intra-sentential code-switching by addressing the following question: Is it possible to translate the predictions that linguistic theories make of intra-sentential code-switching into experimentally testable hypotheses?

In all four invited talks this question will try to be answered in reference to results obtained using different methodologies in different bilingual communities. The main results of these studies will be presented in order to explore some of the grammatical conflicts that arise when the properties of the languages differ. The data gathering methods will be described, from most naturalistic methods (corpus data) to most experimental ones, such as (semi-spontaneous) elicitation behavioural tasks, auditory acceptability judgement tasks, sentence completion tasks, shadowing tasks, confederate-scripted dialogue, or more novel methods such as the visual world paradigm or electrophysiological responses measured by means of event related potentials. In general, the results from all four talks corroborate the need for integrating various methodologies in order to analyse in depth both the linguistic and extra-linguistic features of code-switching. This will lead to a discussion of how the data obtained through different methods may cast light on our understanding of the phenomenon.

The special session will be opened by a 5-minute introduction by the session chairs and closed by a 25 minute discussion lead by the invited discussants, who will approach code-switching from different perspectives: Matt Goldrick (Cognitive Science of Language), Kay González Vilbazo and Mike Putnam (Linguistic theory), Shannon Bischoff (Anthropological Linguistics)."
The more, the better? The case of L3 learning by bilinguals and multilinguals

Mihi Park

"In the generativist approach to L3 learning, linguistic transfer from previously known languages has been proposed to occur cumulatively (Flynn et al., 2004) or alternatively to be determined by typological proximity (Rothman, 2011, a.o.) or L2 status (Bardel & Falk, 2004, a.o). Studies of L3 learning have focused on adult sequential bilinguals learning L3 in a formal setting; little is known about transfer in L3 learning for early bilinguals. Early bilinguals are known to differ cognitively from non-bilinguals in executive function and subsequent language learning ability (Bialystock, 1988; Cromdall, 1999; a.o.). It is therefore unclear whether typological similarity or L2 status shapes L3 learning for early bilinguals in the same way as for sequential bilinguals. The present study investigates how formal acquisition of an L2 among early bilinguals influences acquisition of case-markers in an L3, and whether this effect is conditioned by typological proximity between L2 and L3.

Participants in this research were early bilinguals (English-Chinese/Malay) who had been studying Korean for two months at the National University of Singapore. 24 participants were classified as Early Bilinguals (EBLs) and 14 were classified as Late Multilinguals (LMLs), meaning early bilinguals who had studied an additional language in a formal setting. Performance of nominative and accusative Korean case marking was tested in four sentence types of different argument structures: intransitive verbs (IV), transitive verbs with both arguments realized (TVA), transitive verbs with one argument omitted (TVB), and descriptive verbs (DV). Participants were tested in an untimed grammaticality judgment task using a 4-point scalar judgment (“Correct”, “Probably Correct”, etc.).

Overall, LMLs significantly outperformed EBLs (t (36) = 2.09, p = 0.0435). The two groups showed further differences by sentence type, with EBLs performing significantly worse on structures that are unique in Korean (TVB, DV) than on familiar structures (IV, TVA) (F(3,69) = 6.2, p < .001). In contrast, LMLs showed no significant differences by sentence type.

To examine the role of typological similarity between L2 and L3, LMLs were divided into those who had studied Japanese (n = 7), which is structurally similar to Korean, and those with experience studying other languages (French, Thai, etc., n = 7). LMLs with Japanese experience did not significantly outperform others overall, although there was a marginal effect in the expected direction for descriptive verbs (t (36) =1.9894, p = 0.0543).

These results support the conclusion that formal study of a second language conveys advantages to early bilinguals in L3 learning and that this advantage is not accounted for by L2 typological proximity. Taken together, these findings suggest that it is experience with the process of formal language study rather than linguistic transfer that primarily underlies enhanced performance among L3 learners with formal L2 learning experience. Such experience results in enhanced metalinguistic awareness, allowing students to efficiently learn syntactic features that are novel or different from their existing linguistic repertoire."

What determines the source language in L3 acquisition? Evidence from Mandarin-speaking L3 Spanish learners

Matthew Patience

"The major question in L3 phonological acquisition research is which of the two previously learned languages – the L1 or the L2 – acts as the source language. Recent work on L3 phonetic acquisition has observed that cross-linguistic influence is more likely to originate from the L2 in early L3 learners, regardless of the languages involved (e.g., Bannert, 2005; Hammarberg, 2009; Llama, Cardoso, & Collins, 2010; Wrembel, 2010), but that as learners become more proficient in the L3, transfer from the L1 is favoured. However, L1-based transfer has also been reported in early learners (Li, 2014) and our understanding of what interaction of factors (e.g., L1-L2-L3 typological similarity, L2 & L3 proficiency) may lead to L1 over L2 transfer is limited. To contribute to our knowledge of L1 and L2 cross-linguistic influence, I investigate the acquisition of L3 Spanish by L1 Mandarin, L2 English speakers. If transfer is more prevalent from the L2 at early L3 stages, then the production of beginner L1 Mandarin, L2 English learners of L3 Spanish should be characterized by transfer primarily from their L2 English, and as learners become more proficient in Spanish, their L1 Mandarin should shape their L3 production to a greater extent.

Following the methodology in Wrembel (2010), 14 L1 Mandarin, L2 English, L3 Spanish speakers were recorded while reading the passage “The North wind and the Sun” in Spanish. 8 L1 English, L2 Spanish and 6 L1 Spanish participants were also recorded to act as controls. 10 native Spanish speakers listened to the passages and were asked
to indicate what they believed the native language of the speakers to be. L2 and L3 oral proficiency were determined by accentedness ratings performed by 5 native English and 5 native Spanish speaker judges.

Preliminary results indicate that the six least proficient L3 Spanish speakers (accentedness ratings of 1/5) were identified as L1 Mandarin speakers. An additional four participants of intermediate proficiency (mean 2.33/5) were also identified as L1 Mandarin, whereas the remaining four participants were identified as native English speakers (mean 1.79/5). These results are inconsistent with recent work and reveal that the L1 can be a stronger source of cross-linguistic influence, both in less and more proficient L3 speakers. The effect of L2 proficiency was also analyzed, but was not found to be a significant factor. One possible explanation for the different results in the present study and those of recent studies is the degree of typological distance between the participants’ three languages. In previous studies where L2-based transfer was reported, all languages were Indo-European. In the present study, the L1 was Sino-Tibetan, compared to the L2 and L3 which were Indo-European. Li (2014) investigated a similar combination of languages (L1 Mandarin, L2 English, L3 French) and also found evidence of L1-based transfer (from L1 vowels). While we know that similar languages can provide a source of cross-linguistic influence (De Angelis, 2007), the results of this study provide evidence that cross-linguistic influence can also occur from typologically distant languages (i.e., Mandarin to Spanish).

Second language processing of pronouns: evidence from eye-tracking

Clare Patterson, Claudia Felser, Ian Cunnings, Georgia Fotiadou, Ianthi Tsimpli, Sarah Schimke, Saveria Colonna, Israel de La Fuente, Barbara Hemforth, Gloria-Mona Knope and Janna Drummer

Thematic session Session 59

"Besides examining how and to what extent non-native speakers are able to acquire knowledge about a new language, bilingualism research has also increasingly investigated how such knowledge is put to use in real-time. Previous studies have shown that there is often a clear discrepancy between non-native speakers’ performance in offline tasks designed to assess their language knowledge, and online tasks which tap into language processing as it occurs. One area in which such offline/online discrepancies have been observed is pronominal reference resolution.

Referential processing, whether in a native language (L1) or non-native language (L2), is a key to successful language comprehension and use, and can offer a window into more general processing issues because of the involvement of information from a variety of sources such as syntactic structure, morphology, pragmatics and discourse. The real-time co-ordination of these information sources may present a particular challenge in L2 processing.

This session examines non-native pronoun resolution in different L1/L2 combinations and different types of linguistic structures, with the aim of identifying the sources of information which are problematic and those which are readily available during L2 processing. The primary experimental method employed is eye-movement monitoring, which provides a fine-grained record of the time course of processing. The findings presented will have broader implications for other aspects of L2 language processing.

Researchers from the UK, Germany, France and Greece will present data from a range of languages and L2 populations. By focusing on one specific type of linguistic phenomenon, we aim to consider non-native pronoun processing in depth, using evidence from both offline tasks and time sensitive methodologies.

The questions that we will address include the following:

Is it possible for L2 speakers to acquire the pronoun interpretation biases of a target language, and to exhibit this preference during L2 processing?

What are the sources of information that are successfully deployed in L2 pronoun processing, and which are less successfully deployed?

Are supposedly universal constraints on pronoun resolution applied during L2 processing?

What is the relative timing of different types of constraint on pronoun resolution during L1 and L2 processing?

The session will begin with a 5-minute introduction from the chair, outlining the background and purpose of the session. There will be four presentations of 20 minutes, each followed by 5 minutes for questions and discussion. In the final 10 minutes there will be a general discussion.

The first two papers examine whether non-native speakers show native-like pronoun interpretation preferences in the target language. Paper #1 investigates how L2 speakers make use of grammatical role and gender cues in this process, and paper #2 looks at whether L1 preferences are transferred to L2 processing, or whether more general
learner effects are in evidence. Papers #3 and #4 investigate the online application of supposedly universal constraints captured in Binding Theory. Paper #3 examines the processing of anaphoric pronouns, while paper #4 examines L1 and L2 speakers' sensitivity to a structural constraint on cataphoric pronoun resolution."

“Poner or Ponerla?: Modeling Null Direct Objects in Non-native Spanish
Meghann Peace

Second language acquisition research has debated how null direct objects are modeled in non-native speech. In the case of native English speakers who are non-native speakers of Spanish, null objects are disallowed in the standard variety of their native language and seldom produced in the input that they receive from native speakers of Spanish (e.g., Clements, 1994, 2006; García Mayo & Slabakova, 2014; Schwenter, 2006; Zyzik, 2008). The presence of null objects in non-native Spanish is therefore unlikely to be explained by transfer from English, native input or interactions with native speakers.

Zyzik (2008) finds that non-native null objects are due to learners' processing difficulties rather than to the presence of a null object stage of acquisition. Such findings contradict Gundel’s and Tarone’s (1992) model of a null object stage in the acquisition of non-native Spanish.

This study uncovers data that call into question Zyzik’s conclusions; rather, the results support a null object stage of acquisition in the Spanish interlanguage of native English speakers. The participants in the study consist of four groups of native English speakers studying Spanish at a large public university, ranging from beginning language students to advanced students with declared Spanish majors. Oral production data were collected by means of a spontaneous narration and evaluation of a cooking video (Malovrh, 2008) to peer non-native listeners. Following the production task, a stimulated recall (Gass & Mackey, 2000) was done with both speakers and listeners to access their cognitive processes in the production and/or comprehension of the narration and evaluation. These tasks were repeated by a group of native Spanish speakers.

The results indicate that the learners’ use of null objects is largely due to their stage of acquisition. The data from oral production task, as well as information taken from the speakers’ and listeners’ stimulated recalls provide evidence of a null object stage in the acquisition of non-native Spanish.

Cross-linguistic ambiguity of quantified expressions in mathematics word problems
Barbara Zurer Pearson and Thomas Roeper

This paper explores the range of responses to ambiguous “how-many” questions and provides evidence to support explicit teaching of implicit relationships in mathematics instruction for first-language and second-language speakers of English (L1-E and L2-E). A scenario like “Two girls found four caterpillars. How many did each girl find? How many did they find in all?” can involve different numbers of caterpillars for different speakers. We hypothesized that the distributivity/collectivity in the response patterns of even proficient L2-E-speakers might differ from L1-E-speakers' and that L2-E-speakers would be less sensitive than L1-E-speakers to barriers to distributivity under embedding. 160 L1-E adults (ages 15-60yrs) and 80 proficient L2-E-adults (20-65yrs) filled out a web-based questionnaire with problems taken from local and statewide mathematics exams. The variability in these responses extends Musolino’s (2004, 2009) findings to new constructions and language-background groups, and suggests materials to create new mathematics curricula, especially for L2-E-learners.

Language Accommodation and Convergence in the Ironbound
Priscilla Pereira

A number of researchers (Elizaincín, 1992; Clements, 2009; Lipski, 2013; Carvalho, 2004) have studied the outcomes of Portuguese and Spanish languages in contact. They found that in border towns throughout the Iberian Peninsula and South America, where Portuguese and Spanish have been in contact for hundreds of years, contact induced dialects have become a norm in their linguistic communities.

To date, Portuguese and Spanish languages in contact and their possible results within an immigrant enclave in the United States have not been observed.
Until recently, Portuguese—both European and Brazilian varieties—have been the language of choice among members of the Luso-American community. In the past few years however, the Ironbound has seen a large number of people from South America immigrate into the area. This change in immigration has significantly changed the linguistic make-up of the community. Although Portuguese speakers own the majority of real estate and businesses here, they employ a large number of Spanish speakers.

This current study has found that Portuguese speakers often accommodate to Spanish speakers. Examples of recorded data illustrate Portuguese customers’ converging towards the Spanish-speaking employee by switching to Spanish or adapting their Portuguese to sound more Spanish so they can be understood. Furthermore, in some cases, Portuguese speakers who are bi-lingual in both languages employed code-switching as another way of converging towards their interlocutor. In addition to examining the linguistic impact that Spanish has on the Luso-American community, this research explains how language use and attitudes have come to shape the current linguistic landscape. With the use of questionnaires and interviews, speakers’ were asked to answer questions about their language use and attitudes towards those languages. The data showed that although both Portuguese and Spanish are used by members of the linguistic community, it is Spanish that is used the most and is seen as more important than Portuguese.

The results of this research clarify the outcome of such situations where two closely related languages are in contact within an immigrant community and also discusses their implications on linguistic vitality among the speakers.

**Research in heritage Germanic grammars: empirical findings and theoretical challenges**

Michael Putnam, Joseph Salmons, Janne Johannessen, Marit Westergaard, Marete Anderssen, Richard Page, Lara Schwarz, Hyoung-A Jo, Holger Hopp and Terje Lohndal  
Thematic session  Session 2

"Heritage languages have recently become a major topic of interest among linguists, explored for their implications for linguistic theory, especially in terms of acquisition, attrition, and change. Speakers of heritage languages are typically multilingual and usually more proficient in the dominant language of their society than in their native, heritage language. Perhaps the most central issue involving research into heritage language grammars pertains to the question of the permanence of linguistic knowledge initially acquired during childhood. Here we agree with Schmid (2010: 1) who states “If once a speaker has attained a stable (monolingual) command of his or her first language, large areas of this knowledge appear to be so entrenched than they are affected to a surprisingly small degree by non-use and non-exposure, even if the speaker has lived in a migrant setting for decades.” To date, the majority of work on heritage grammars from formal, functional, and empirical perspective have focused varieties of heritage Korean, Spanish, and Russian; producing interesting hypotheses based on solid empirical findings. The central focus of this panel is to further advance this research program, by investigating aspects of the grammatical systems of moribund Germanic heritage languages spoken in the Midwestern United States and the Manitoba Province of Canada. In some respects, these moribund varieties of heritage language grammars vary significantly from these other aforementioned group in that the bulk of previous research has in most cases focused on the heritage language grammars of second and third generation speakers, with the first, usually, but not always, being native speakers of the language under investigation. The presentations in this panel thus contribute to on going research on heritage grammars in two important ways: First, empirically, incorporating data from Germanic languages enriches the typological diversity of languages investigating, thus enabling scholars to test further which domains of grammatical systems are cross-linguistically more vulnerable to change and attrition. Secondly, the additional shift in focus on moribund speakers also increases the breadth of coverage of “heritage language grammars” based on variables such proficiency and levels of activation."

**Empirical methods researching heritage grammars: Challenges and rewards**

Michael Putnam, Holger Hopp, Joseph Salmons, Alyson Sewell, Janne Johannessen, Ida Larsson and Arnstein Hjelde  
Thematic session  Session 57

"Heritage language grammars, defined by Rothman (2009: 156) as a language spoken at home or otherwise readily available to young children, which is not the dominant language of the larger (national) society, have increasingly become the focus of bilingual and multilingual research over the past three decades. Research on these grammars usually involves the elicitation of free speech (i.e., either in narrative form or centered on a story-telling event based on a written, picture, or video prompt) as well as some sort of controlled experiment. As one might expect, the creation
and implementation of controlled experimental tasks have been met with mixed results of success and failure based largely on wide array of independent variables/traits that one attributes to the macro-domain of “heritage language grammar.” The primary goal of this proposed forum is to engage in discussion of research methodology in designed and implementing controlled experiments in heritage language communities, with a particular focus on moribund heritage language-speaking communities. Although quite a few quality contemporary sources exist in aiding linguists with the design of these tasks (e.g. Vaux & Cooper 1999; Newman & Ratliff 2001; Bowern 2008; Mackey & Gass 2012; Sakel & Everett 2012; Thieberger 2012; Krug & Schülter 2013; and Podesva & Sharma 2013), many of these methods have been met with only marginal success in certain bi/multilingual communities such as those inhabited primarily, if not exclusively, by moribund heritage language speakers. There exist of myriad of factors that contribute to these results; with the most poignant perhaps being that these speakers largely illiterate in their heritage language. As exhaustively discussed by Weinert and Miller (2009), the structure of spontaneous spoken language often radically differs in structure from written language, upon which most controlled experiments are currently based.

The presentations associated with this panel address some of these aforementioned challenges associated with the design and implementation of controlled experimental with (predominantly) illiterate (moribund) heritage language speakers, with a particular focus on the elicitation of structural (i.e. morphological and syntactic) and meaning (i.e. semantic and pragmatic) grammatical information."

Is susceptibility to cross-language interference domain specific?
  Anat Prior, Degani Tamar, Sehrab Awawdy and Rana Yassin  Paper Session 73

"Interference from L1 is a major source of difficulty for L2 learning and processing. Indeed, there is abundant evidence that both languages of bilinguals and language learners are active during language comprehension and production (e.g. Kroll, Dussias, Bogulska & Valdes-Kroff, 2012). These findings suggest that at least some of the variability in second language achievement could be attributed to individual differences in the ability to successfully overcome interference from the L1 during L2 processing. Additionally, growing proficiency in the L2 might be expressed by reduced susceptibility to L1 interference. Recently, it has been claimed that bilinguals and language learners recruit domain general executive functions (EF) to manage language competition and selection. These same mechanisms could also assist in overcoming L1 interference. In the current study, therefore, we examined both L2 proficiency and executive functions as possible predictors of susceptibility to L1 interference during L2 processing.

Seventy university students who were native speakers of Arabic and proficient learners of Hebrew as an L2 participated in the study. Cross language interference (from L1 Arabic to L2 Hebrew) was assessed in two language domains. To assess lexical interference, participants judged the semantic similarity of pairs of Hebrew words. In the critical condition, the first word was a false cognate between Hebrew and Arabic (shared phonology, different meaning), and the second word was related to the Arabic, but not the Hebrew, meaning of the first. Thus, in order to correctly rate the Hebrew words as unrelated, participants needed to overcome interference from Arabic. In the syntactic domain, participants performed grammaticality judgments on Hebrew sentences, in a self-paced reading paradigm. This task indexed participants’ ability to overcome interference from their L1 (Arabic) by manipulating the similarity of the grammatical structures across the two languages. L2 proficiency was assessed using a self-report questionnaire and two objective measures. EFs were examined using the Simon arrows task and the numeric Stroop task as indicators of inhibitory function, and a task switching paradigm as an index of mental shifting abilities.

We found evidence of significant L1 interference across the lexical and syntactic domains, even across languages that do not share orthography and in advanced learners. Interestingly, susceptibility to interference in the lexical and syntactic domains was not correlated, and neither type of interference was related to domain general EF abilities. Finally, individual differences in grammatical interference but not in lexical interference were significantly associated with L2 proficiency. These results suggest at least partially independent mechanisms for managing interference in the two language domains, and raise questions regarding the degree to which domain general control abilities are recruited for managing L1 interference.

Second language age of acquisition but not language proficiency predicts bilinguals’ differential brain patterns during a picture-naming task  Aurora I. Ramos-Nuñez, Maya R. Greene and Arturo E. Hernandez  Poster 22-May
Previous literature has discussed how factors such as second language age of acquisition (AoA) and proficiency influence bilinguals’ brain activity during picture-naming in single language tasks [1-8]. However, a consensus as to which of these two factors has the most influence on brain activity during task performance has not been clear. The purpose of the present study was to investigate how language proficiency and AoA modulate brain activity during a picture-naming task.

A group of right-handed (n=47), Spanish-English adult bilinguals who learned English (L2) as a second language between the ages of zero and 17 performed a picture-naming task while inside the fMRI scanner. Participants named objects in three conditions: Spanish only, English only and mixed (alternating between Spanish and English). Before entering the scanner, bilinguals were given a language history questionnaire to examine their L2 AoA and subtests of the Woodcock to examine their L1 and L2 proficiency [9]. Analyses using the general linear model were performed on brain activity during the three conditions using SPM8. Regression analyses using L2 AoA and proficiency as predictors of brain activity were also performed.

fMRI analyses contrasting brain activity during the English versus the Spanish conditions showed that bilinguals activated areas involved in motor control such as right cerebellum, bilateral post and precentral gyri, left supplementary motor area (SMA), left insula lobe, and left putamen and caudate nuclei. The opposite contrast revealed that bilinguals activated areas involved in cognitive control such as left anterior cingulate cortex (ACC), bilateral inferior parietal lobule (IPL), and left middle and superior frontal gyri [10-17]. The mixed versus Spanish condition revealed similar areas as the English versus the Spanish contrast.

Regression analyses revealed that language proficiency did not predict brain activity during the three conditions. L2 AoA on the other hand, revealed differential patterns of activity. For example, the later these bilinguals learned the L2, the more activity they presented with in L IPL, L PostCentral, and L middle temporal gyrus (MTG) during naming in English. On the contrary, when naming in Spanish, the earlier they learned the L2, the more activity seen in the right supramarginal gyrus, bilateral mid CC, R IPL, L SMA, R PostCentral gyrus, L superior frontal gyrus, and R rolandic operculum. AoA also predicted brain regions during the mixed condition that were seen during both the English and Spanish conditions. The regression analyses also predicted similar brain patterns of activity where older and younger L2 learners presented with activity in L inferior frontal gyrus, R superior temporal gyrus, and R MTG during naming in English and Spanish respectively.

While the second level analyses revealed differential brain patterns of activity between naming in English, Spanish and mixed conditions, the regression analyses revealed that AoA predicted differential and similar patterns of brain activity in this group of bilinguals. When AoA was used as a covariate, it revealed that the same recruitment of brain regions required for naming in English and Spanish presents with the same level of difficulty for early and late L2 learners.

Production of English Coda Clusters by 3-year-old Monolingual and Mandarin L2-Learners of English: An Acoustic Analysis
Nan Xu Rattanasone and Katherine Demuth
Session 18

Compared to English, Mandarin has a much more limited segmental inventory and syllable structure, with no consonant clusters, and few word final coda consonants – only nasals are allowed. Mandarin also lacks inflectional morphology. In contrast, English has a range of word-final inflectional morphemes, often appearing as part of a cluster, e.g., rocks. Mandarin-speaking adult L2-learners of English often exhibit persistent difficulties in producing English codas, especially for clusters (wasp) and codas carrying inflectional morphemes (cats) (Broselow & Zheng, 2004; Hansen, 2001; Xu & Demuth, 2012). However it is unclear whether young Mandarin-speaking children learning English before the age of 4 have similar challenges, as there are few studies of these early L2 English learners.

A recent study using ultrasound found 2-year-old English-speaking children produced monomorphic (box [boks]) and bimorphic (rocks [ɹɔks]) clusters differently, suggesting a possible morphological effect (Song, Demuth, Shattuck-Hufnagel & Ménard, 2013). An elicited imitation study of Mandarin-speaking 3-year-olds found that coda clusters were still more challenging to produce than singleton codas after 12 months of English exposure (Xu Rattanasone & Demuth, 2014). However, it is not clear whether this challenge results from learning a new phonology or a new morphology.
To tease apart the effects of phonology and morphology on early L2 acquisition of English final consonant clusters, we examined a range of singular and plural words ending in monomorphemic and bimorphemic /ks/ codas. Using an elicited imitation task, 10 monolingual English-speaking and 10 Mandarin-speaking 3-year-olds learning English were recorded producing 10 simple 3-word, 3-syllable sentences such as ‘Her fox bites’ and ‘Their ducks bite’. If learning new phonotactic constrains in both monomorphemic and bimorphemic contexts are equally challenging, then Mandarin-speaking 3-year-olds should produce the same number of codas of both types. However, if learning inflectional morphology is more challenging, then monomorphemic coda clusters should be produced more accurately than bimorphemic codas.

Although both groups performed well, the results show that both monolingual and bilingual children produced fewer bimorphemic coda clusters ($f(1, 18) = 5.432, p = 0.033, \eta_p^2 = 0.253$; see Figure 1). Although there was a trend for the bilingual children to perform at a lower level than the monolinguals on the morphemic condition, this difference was not signification. This suggests that there is an effect of morphology in the acquisition of cluster codas for both groups. Our study suggests Mandarin-speaking preschoolers may face initial challenges in acquiring morphologically complex codas as part of their typical early L2 English acquisition. These findings also have implications for understanding the nature of early English language development in children from other Chinese and South-East Asian language backgrounds, where simple syllable structure and the lack of inflectional morphology are also prevalent features."

The Importance of Home Language for Academic Achievement of Language Minority Children

Gabrijela Reljic, Dieter Ferring and Romain Martin

"Academic achievement and later chances in the labour market largely depend on the difficulties in understanding the language of school instruction in the country in which language minority children live. This may also increase the dropout rate, which will then increase the cost of education for language minority children. International studies have consistently showed that bilingual programs in which language minorities are instructed in both their home language and school language are effective for their academic achievement when compared to the programs in which they are instructed only in the school language. This has also been supported extensively by meta-analyses from the United States and Europe.

Two studies examined the predictive value of a range of variables associated with young children on their later literacy. Study 1 involved children age 5 to 7 from Serbia (N = 159); Study 2 engaged children age 4 to 6 from Luxembourg (N = 174). Children in Study 1 were assessed on entry to school, aged 5, and again at age 7. There were 16% of Roma children, 8% of Hungarians and 7% of other minorities. Twenty eight percent were not tested in their home language. Children in Study 2 were assessed once, in preschool. There were 28% of Portuguese children and 24% of other minorities. Fifty one percent were not tested in their home language. In Study 1, multilevel models indicated that a baseline assessment in early reading and mathematics (Performance Indicators in Primary Schools Test) administrated in school language at the age of 5, in particular with respect to their competence in mathematics, were the most significant predictors of children's emergent literacy at the age of 7 after controlling for age, gender, vocabulary, and phonological awareness. In Study 2, gender, vocabulary, phonological awareness, and competence in mathematics at the age of 5 were significant predictors of emergent literacy at the same age, after controlling for age, test administered in school language, and behavior. Multivariate analysis of variance showed that Portuguese children performed significantly lower than Luxembourgish and other minority children in both reading and mathematics. Moreover, Luxembourgish children outperformed language minority children, both Portuguese and other minorities in vocabulary with the large effect size (ES = 0.67), indicating that the impact of language was a substantive finding (explaining 67% of the total variance). The effect size in vocabulary between Luxembourgers and Portuguese was very large (ES = 0.76; explaining 76% of the total variance). This is an alarming finding since vocabulary is the most pertinent predictor of literacy and numeracy are the base for the academic achievement of children.

Both studies have important educational implications, suggesting that practitioners should assess language minority children at the start of school in their home language and act upon the outcomes of those assessments to avoid later literacy problems. There is an urgent call for the intervention studies designed particularly at the preschool level.
since studies showed that good progress in reading in the early years predicts later outcomes even at the age of 11. A bilingual program is recommended."

*Language contact and language attrition: Restructuring processes in Barossa-German (South-Australia)*

Claudia Maria Riehl  
Paper Session 28

"Language communities on the verge of extinction are of particular interest for language attrition and language contact studies: they display both restructuring processes due to long-term language contact and simplification strategies caused by lack of usage (see Schmid 2011).

This paper presents the final outcomes of a project on the last remaining speakers of a German enclave variety in South Australia, the so-called Barossa-German. Our sample includes 35 speakers (18 females and 17 males between 75 and 96 years old, mean age = 85) who do not use German anymore as a means of communication. The data encompass a corpus of narrative interviews (mean length of 60 min. per speaker, including a 15 min. passage in English to exclude age-based biases), a sociolinguistic questionnaire, and a translation task which includes single words, phrases and sentences. Both free spoken data and translation task were analyzed according to restructuring and simplification processes of morphological phenomena (case-marking, tense marking) and syntactic features (word order). In this paper we will particularly report on three major findings:

1. Reduction of the case-marking system
   
   Reduction of case-marking (especially of the dative case) is a typical phenomenon in German-speaking contact varieties (see Boas 2009), but there is conspicuous variation among the various communities (see Riehl 2010). Our corpus illustrates the endpoint of this development: while in verb-assigned constructions dative case marking is almost completely lost in the NP, it is still used in some constructions where case is assigned by prepositions. Following a construction grammar-based approach (Goldberg 2006, Tomasello 2003) we assume that verbal schemata are more abstract than prepositional schemata and therefore lost earlier. Best retained are frozen units such as zur Schule, zur Kirche which had been in the speakers’ repertoire for a long time and used with high frequency.

2. Removal of the sentence brace

   Another widespread phenomenon in German-speaking enclaves is the gradual removal of the so-called ‘Satzklammer’ (sentence brace), a construction where the finite and infinite parts of the verb encapsulate other components of the clause (e.g. du hast gestern das Haus geputzt, lit. ‘you have yesterday the house cleaned’, cf. Riehl 2010). Surprisingly, among our Barossa-German speakers the sentence brace is relatively stable, but we can also observe a significantly higher percentage in frequent constructions. We argue that this can be explained by the entrenchment of typical intonation patterns which favor the brace construction.

3. Restructuring of past tense marking

   German uses synthetic forms similar to English for past tense marking with a conspicuous number of irregular forms (e.g. ich spreche ‘I speak’ – ich sprach ‘I spoke’). This pattern is gradually replaced by a periphrastic construction with tun: ich tat sprechen (lit. ‘I did speak’). We argue that this phenomenon reflects a simplification process as speakers do not need to store irregular forms (cf. Rosenberg 2005).

   We conclude that the case of Barossa-German presents a remarkable example to illustrate the mechanism of restructuring and simplification in language contact settings."

*Language mixing inside the nominal phrase: A case study of American Norwegian*

Brita Ramsevik Riksem, Maren Berg Grimstad, Terje Lohndal and Tor A. Åfarli  
Paper Session 53

"In this talk, we will present a case-study of language mixing inside the nominal phrase in the heritage language American Norwegian (AmNo). The latter is the variety spoken by Norwegian immigrants who settled in the USA during a hundred years’ period starting from the first half of the 19th century (or their descendants) (see Haugen 1953 and Hjelde 1992 for more details).

Empirically, our data will be taken from the newly established Corpus of American Norwegian Speech (CANS) created by The Text Laboratory at the University of Oslo. CANS comprises material collected in recent years and therefore contains data that show considerable lexical attrition as compared to the earlier data collected by Haugen in
the 1930's (Haugen 1953) and Hjelde in the 1980's (Hjelde 1992). Moreover, the corpus contains sound and video files together with transcriptions, which enable us to actually listen to the pronunciation of the inserted English item.

We will look at several instances of mixing in AmNo within the nominal phrase. (1) demonstrates that English nouns, which have a very clear American pronunciation, appear with Norwegian indefinite articles. These are traditionally called gender markers in Norwegian, as they denote masculine (1a), feminine (1b) and neuter (1c) gender. There are also instances like (2), where an English noun with American pronunciation appears in a Norwegian definite nominal phrase. In this example, –a is the Norwegian exponent for Def+Num+Gen and is assigned to the English root inserted under N.

We will assume a structural skeleton for the AmNo nominal phrase (DP) roughly similar to the structure proposed for Norwegian in Julien (2005), except that we assume that Gen(der) constitutes an independent functional head and Julien’s n = Def[initeness], see (3). To derive the data in (1), we assume that the designated values in Def, Num, and Gen provide the corresponding values for the relevant heads in the higher functional structure, and the English root/stem is inserted under N. The English root/stem is assigned the Norwegian Def, Num, and Gen values by being embedded in this Norwegian structure. The derivation will be presented in detail in the talk.

In the AmNo material collected by Haugen (1953), the Norwegian definiteness affix was virtually obligatory in the appropriate contexts (Haugen 1953: 452), as in (2). However, in the new corpus of spoken AmNo, we also find data such as (4), where the affix is lacking. We hypothesize that this is due to the possibility of inserting English items (chunks) under a designated functional projection (viz. DefP, and not just under N) in the more recent material.

Also, in the older material, English the is not acceptable with a Norwegian root/stem (Haugen 1953: 451), but a few clear cases of just this type are found in the newer material, cf. (5). We suggest that the DPs in (5) are in fact English structures with Norwegian material inserted into them. The fact that we do not find Norwegian definiteness affixes in such cases will be argued to constitute evidence for this analysis.

Input-related factors and cross-linguistic influence: Comparing Heritage and L2 Speakers of European Portuguese

Esther Rinke and Cristina Flores  Paper Session 55

"This study compares the linguistic knowledge of three groups of speakers of European Portuguese (EP): a) monolingual speakers living in Portugal, b) heritage bilinguals living in Germany with Portuguese and German as their L1 and c) adult L2 learners of EP with an advanced proficiency level and German as their L1.

Previous studies have argued that heritage bilinguals fall in between monolingual speakers and L2 learners. Like monolinguals, they have acquired their heritage language from birth and they typically control features of this language which are acquired early. According to Montrul (2010), they resemble L2 learners in showing developmental and transfer errors, as well as variable proficiency and fossilization.

In this paper we propose that L2 and heritage speakers diverge from monolinguals in different ways and for different reasons. In particular, input related factors cause different types of deviations in the two groups and cross-linguistic influence is less relevant for heritage bilinguals than for L2 learners.

The phenomenon under investigation is the system of object clitic pronouns in EP. 18 monolingual speakers, 18 heritage bilinguals and 16 L2 speakers performed an untimed written grammaticality judgement task.

Input-related factors were tested with respect to shaped forms of clitics and clitic climbing. Shaped forms of clitics (1) are acquired through explicit instruction and contact with written EP, whereas clitic climbing (2a.-b.) is a typical feature of the spoken language. The test reveals that L2 learners clearly outperform the heritage bilinguals with respect to shaped clitic forms. Similar to monolingual speakers they even reach more than 90 % of correctness in the grammatical sub-conditions. However, they show difficulties in recognizing the grammaticality of clitic climbing, whereas heritage speakers – because of the primarily spoken input on which they base their linguistic knowledge – show high rates of acceptance of clitic climbing.

German – in contrast to EP – has strong pronouns in object position and only topicalisation structures without resumption. In both sub conditions of the test, monolingual controls exhibit a case asymmetry: They do not accept the use of strong pronouns instead of accusative clitics in EP (3a.), but they show some variation with respect to the use of strong datives (3b.). Topicalisation of accusative objects without resumption (4a.) is more accepted than the same structure with dative objects (4b.). Although both L2 learners and heritage bilinguals show lower levels of accuracy, the
case asymmetry is exclusively present in the data of the heritage bilinguals. We conclude that the lower performance of the latter group cannot be caused by cross linguistic influence whereas influence from German is more likely with respect to L2 learners.

In conclusion, our study shows that although the linguistic knowledge of heritage speakers and L2 learners may deviate from that of monolinguals in similar ways, a closer look reveals that it is shaped by different factors and that heritage bilinguals do not simply fall “in between” monolingual and L2 speakers. In line with Pascual y Cabo & Rothman (2012) we conclude that the different outcome of the three groups of speakers reflects their different input realities.

(1) (O ladrão escondeu-se) mas os meninos viram-no.
   (the thief hides-himself) but the children saw-himclitic
   ‘The thief hides himself but the children saw him.’
   (enclitic -no instead of -o after nasal)
(2)a. O João pode comprá-lo na semana que vem.
   the John can buy-itclitic in-the week that comes
   ‘John can buy it next week.’
   b. O João pode-o comprar na semana que vem.
   the John can-itclitic buy in-the week that comes
   ‘John can buy it next week.’
(3)a. (O Francisco não estudou para o teste de matemática.)
   the Francisco not studied for the test of mathematics
   *O professor chumbou ele.
   the teacher failed him/strong/acc
   (strong pronouns in object position, accusative, ungrammatical condition)
   b. (Os editores da D. Quixote andam à procura de novos talentos.)
   the editors of-the D. Quixote go to look for new talents
   *O Luís enviou o seu livro a eles.
   the Luis sent the his book to them/strong/dat
   (strong pronouns in object position, dative, ungrammatical condition)
(4)a. A Linda não gosta de doces, mas o teu bolo ela comeu __ com muito gosto.
   the Linda not likes Präp. sweets but the your cake she ate with much pleasure
   ‘Linda doesn’t like sweets but she ate your cake with great pleasure.’
   (left dislocation without resumption, accusative)
   b. (A direcção ofereceu prendas a toda a gente.)
   the administration offered gifts to everybody
   Aos colaboradores mais antigos, deu ___ um relógio fantástico.
   to-the collaborators most long, (it) gave a watch fantastic
   ‘The administration offered gifts to everybody. To the longest collaborators, they gave a fantastic watch.’
   (left dislocation without resumption, dative)

When and why do they switch? Conversations between parents and children in Russian-German immigrant families in Germany. Anna Ritter Paper Session 14

"This paper explores conversations of bilingual Russian-German immigrant families in Germany from linguistic and sociolinguistic points of view. Specifically it focuses on the process of code switching by both parents and children.

After the dissolution of the Soviet Union, Germany was one of the countries to receive a major part of the immigrants from the succession states. The majority of estimated two million Russian-speaking immigrants had little or no knowledge of German when arriving in Germany (BPB, 2012). Meanwhile many Russian-speaking immigrants have been living in Germany for about 20 years and have children, who were born in Germany or arrived there as toddlers. Thus, their family conversations show different patterns of usage of both languages.

The present study has an intergenerational character and investigates conversations between parents and
children in ten families, based on self-recordings of their daily routine at home and sociolinguistic questionnaires. At least one of the parents in every participating family speaks Russian as the mother tongue or as one of his/her mother tongues. All the families originate from Russia, Kazakhstan, Tadzhikistan or Ukraine and are living in Germany now.

The study focuses on the following questions: 1) When and why do parents and children switch from one language to another? 2) What linguistic, sociolinguistic and individual factors may have an impact on this process? 3) Are there some elements of language mixing apart from code switching in their speech (cf. Auer, 1999)? In this way the study combines the studies of language contact of Russian and German (e.g. Anstatt and Dieser, 2007; Brehmer, 2007) and family language (e.g. Pauwels, 2005; Schüpbach, 2009; Schwartz and Verschik, 2013).

The analysis shows that there are several factors influencing the switching process together as a complex interplay: The lack of words as a linguistic factor is found in the speech of both parents and children. The expression of emotions (cf. Pavlenko, 2002) by parents and the coping of the parental style of speaking by children are apparent as individual factors. The sociolinguistic factors are the intensity of the contact of conversation partners to both languages and their proficiency in these languages. Furthermore, both parents and children tend to switch after several turns by their conversation partners in another language and when starting a new topic of conversation."

Minority vs. majority language: Where is the difference? Evidence from bilingual Norwegian-Russian children’s narratives

Yulia Rodina

The paper aims at contributing to the debate of bilingual children’s communicative skills though the investigation of oral narratives of 2L1 Norwegian-Russian children living in Oslo. There is a considerable body of evidence showing that bilinguals’ communicative abilities reveal both language-general and language-specific capacity (e.g. Gagarina & Bohnacker 2014). The evidence, however, is largely based on the comparison of bilingual and monolingual speakers; fewer studies make systematic comparison of children’s communicative abilities in majority and minority language. Quantitative analysis of macro- and microstructure in the two languages of Norwegian-Russian children reveals that both majority and minority languages are quantitatively similar not only at the macrostructural level which is often argued to be language-independent, but also at the microstructural level. However, qualitative analysis of grammaticality of their oral narrations reveals a clear discrepancy, as the children make considerably more grammatical errors in the minority language than in the majority language. The paper brings up the discussion of early child bilingualism, language dominance and grammatical competence.

Neural correlates of bilingual language processing: Using bilingualism to study brain plasticity

Eleonora Rossi

"An increasing number of neurocognitive studies have shown that negotiating between two languages engages neural structures implicated in cognitive control (e.g., left inferior frontal gyrus -LIFG, anterior cingulate cortex -ACC-), suggesting the use of domain-general cognitive processes to successfully produce in the intended language (Abutalebi & Green, 2007; Green, 1998). However, it remains unclear what sub-components of this network are specific to bilingual language processing and how this network adapts to different cognitive and linguistic contexts. The aim of this mini-symposium is to address these questions with novel neuropsychological, neuroimaging, and behavioral evidence. We show that ACC activity is not specifically related to bilingual language processing but suggest that ACC activation induces adaptive structural changes in the bilingual brain (Abutalebi). We also present novel Event-Related-Potentials (ERP) and functional Magnetic Resonance Imaging (fMRI) data, revealing that the ability to tolerate changes to the native language may be a critical factor to second language processing (Kroll & Bice). Finally, we propose that data from habitual code-switchers (HCS) are crucial to inform future neurocognitive models of bilingual language processing and cognitive control. We show that HCS exhibit sensitivity to regularities in natural code-switching contexts as evidenced in differential activity in ACC (Rossi et al.). We also demonstrate that processing code-switches results in greater activation in LIFG but is functionally separable into domain-general and semantic components (Valdes Kroff et al.). Taken together, this work highlights bilingualism as an illustration of adult brain plasticity.

Testing the Initial State: Full Transfer/Full Access, Organic Grammar & Modulated Structure Building

Vivienne Rogers
Two theories concerning the initial state of second language (L2) acquisition have dominated generative linguistics, namely Full Transfer/Full Access (Schwartz & Sprouse 1996) and Organic Grammar, formerly Minimal Trees, (Vainikka & Young-Scholten 1996, 2005). These two theories make contrasting predictions about the role of first language (L1) transfer. FT/FA argues that the full underlying representation of the L1 is present in the L2 whereas OG argues that functional categories do not transfer and that learners build their underlying representation gradually. Another hybrid theory, Modulated Structure Building (Hawkins 2001) suggested a compromise namely that learners build their representations gradually from the VP but that L1 transfer is present at each stage.

This study empirically tests these theories by examining the acquisition of the uninterpretable Tense feature by instructed English learners of French. According to Pollock (1989) and Lasnik (2007) English possesses a weak Tense feature on lexical verbs prohibiting verb movement out of VP whereas in French, the strong Tense feature requires verbs to move to TP. Evidence comes from word order with negation and adverbs, as shown in the table below in which the grammatical structure with verb movement in French is ungrammatical in English and vice versa.

<table>
<thead>
<tr>
<th>French</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Je regarde souvent la télé. (SVAO)</td>
<td>*I watch often TV. (*SVAO)</td>
</tr>
<tr>
<td>*Je souvent regarde la télé. (*SAVO)</td>
<td>I often watch TV. (SAVO)</td>
</tr>
<tr>
<td>Je (ne) regarde pas la télé. (SVNO)</td>
<td>*I watch not TV/ *I am watching not TV. (SVNO)</td>
</tr>
<tr>
<td>*Je (ne) pas regarde la télé (*SNVO)</td>
<td>I do not watch TV/ I am not watching TV (SNVO)</td>
</tr>
</tbody>
</table>

Legend: S=subject, V=verb, O=object, A=adverb and N=negation.

This results in a clear case to test between the different theories outlined above, which are summarized in the table below:

<table>
<thead>
<tr>
<th>FT/FA</th>
<th>Organic Grammar</th>
<th>MSB</th>
</tr>
</thead>
<tbody>
<tr>
<td>VP only</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Functional categories develop</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Functional categories from outset</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>L1 transfer in functional categories</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Twenty-eight English learners of French, who had received 78-94.5 hours of instruction, were administered a semi-elicited oral production task, a comprehension task and a grammaticality judgment task targeting negation and adverb placement. In the oral production task there were 15 obligatory contexts each for negation and adverbs. In the comprehension task there were 10/40 items each for negation and adverbs. In the grammaticality judgment there were 16/64 items for negation and 24/64 for adverbs. Learners were considered beginners due to their vocabulary size (Meara & Milton 2003).

Analysis is on-going but results from the oral production data for 15/28 learners show some evidence of Functional categories from the outset with negation (69/225, 31%) and adverbs (86/225, 38%). This is contra the prediction of Organic Grammar but provides limited support for FT/FA as Schwartz & Sprouse (1996) set a criteria of 75% suppliance in obligatory contexts. It is consistent with MSB. In terms of L1 transfer, there are no instances of post-verbal negation (SVNO) but learners use a variety of idiosyncratic structures, e.g. omission of the negator pas. Results from the judgment task show that they accept pre-verbal negation (62%), which suggests L1 transfer in their judgments if not oral production. For adverbs, the most common structure produced is pre-verbal adverbs, SAVO, (82/225, 36%). In the grammaticality judgment task, learners accepted pre-verbal adverbs (47%). This shows evidence of L1 transfer in both oral production and judgment data for adverbs. These results are contra the predictions of Organic Grammar but consistent with FT/FA or MSB.

Overall the results appear to support Modulated Structure Building as they suggest a gradual development of the syntactic representation and the presence of large amounts of L1 transfer.

Comprehension of wh-questions in German-speaking simultaneous and sequential bilingual children with and without SLI

Anne-Dorothée Rösch Roesch and Vasiliki Chondrogianni

Poster 23-May

"Monolingual (L1) children with typical development (TD) and with Specific Language Impairment (SLI) have been shown to have prominent difficulties with understanding object wh-questions compared to subject wh-questions (Deevy & Leonard, 2004; Friedmann & Novogrodsky, 2011). At the same time, the presence of cues, such as number or gender,
in complex structures is known to facilitate comprehension (Adani et al., 2011; Belletti et al., 2012). In German, case-marking has shown to facilitate comprehension of subject and object wh-questions in L1 children (Rösch & Chondrogianni, 2014) and in L2-German adults (Jackson & Bobb, 2009). The acquisition of complex structures in bilingual children with SLI remains rather unexplored (Chilla, 2008). This is the first study to examine (a) whether simultaneous (2L1) and early sequential (eL2) bilingual German-speaking children with and without SLI use the same morpho-phonological cues (case) to comprehend subject and object wh-questions, and (b) whether or not bilingualism has a cumulative effect on SLI.

44 eL2 German-speaking (L1 French) children aged 4-to-5 years old with (N=14) and without SLI (N=30) (mean:5;2) (AoO: 3 years), 51 age-matched 2L1 French-German children with (N=31) and without (N=30) SLI (mean:5;1), and 63 L1 German-speaking controls with (N=32) and without (N=31) SLI (mean:4;11) participated in a comprehension experiment examining subject (1a,2a,3a) and object (1b,2b,3b) referential wh-questions. Children were shown a picture panel with triplets (Picture 1). There were three morphological conditions for each question type: (i) one with double morphological cues on both the wh-element and the second noun phrase (NP) (1a,b) (sentence-initial and sentence-final cues), (ii) only on the wh-element (2a,b) (sentence-initial cues), and (iii) only on the second NP (3a,b) (sentence-final cues). Children were also tested on a case production task (Schulz & Tracy, 2010).

Across groups, children performed better on subject than on object wh-questions (p<.005), and on the double cue than on the wh-cue condition (p<.01), with the lowest accuracy on the NP-cue condition (p<.001), that is when the cues where in the sentence-final position. Furthermore the L1-TD had higher accuracy than the 2L1-TD children (p<.001), who in turn- outperformed the L2-TD children (p<.01). In contrast, the language-impaired children had similar performance across language groups (p≥.8), and performed at chance on the double cue and single wh-cue conditions (p≥.72), and below chance on the single NP-cue condition (p<.05).

These results suggest that 2L1-TD and L2-TD bilingual children are sensitive to the same morpho-phonological cues as L1-TD children, with sentence-initial cues having higher accuracy than sentence final cues. However, children with SLI have persistent difficulties with using cues such as case-marking and have trouble recovering from the initial interpretation they assign to the sentence. However, there is no additive effect of bilingualism and language impairment, as children with SLI performed similarly regardless of their bilingual status.

**Performing ideologies: Speaking tests as a social practice**

Maria Rydell Paper Session 9

"This paper reports from an on-going study on interaction in oral proficiency tests in the national exam in Swedish for Adult Immigrants. The main data consists of video recorded paired speaking tests (a candidate-candidate discussion) in the final National test (B1/B1+ on the CEFR-scale) and interviews with the test takers. The aim is to investigate speaking tests as a social practice. The findings of an interactional analysis of the paired speaking tests show how language testing is not a neutral activity, which can be observed by the ideologies performed in the interaction during the speaking tests.

From the point of view of testing bodies, providing valid, fair and reliable test is a main concern, and this has for a long time been the focus of much language testing research. This “practical focus” (McNamara 2012, p.564) has been criticized for not recognizing language testing as a social and political practice (e.g. McNamara 2011, Shohamy 2013). One way of investigating language tests as a social practice is to examine the embedded ideologies in testing practices (Spotti 2011). The context of Swedish for Adult Immigrants is a highly multilingual and diverse setting. Yet, a monolingual norm is manifested in the speaking test by the candidates themselves. This is not a coincidence, this monolingual norm can be found in testing practice (Shohamy 2011), the educational system (Blackledge & Creese 2010) and in the society as a whole (Kroskrity 2000).

In this paper, I will argue that Goffmans (1959) notion of performance and Bakthins (1986) notion of addressivity offers interesting perspectives for the understanding of speaking tests as a social practice. Language learning in immigration contexts are intertwined with political discourses concerning national identity and integration policies (Blackledge & Creese 2010). The interaction in the speaking tests in this study reveals an ongoing dialogue with monolingual ideologies in society."
"Inflected languages can mark semantic information (e.g., number) lexically (e.g., overt subjects) and morphologically (e.g., suffixes) (Evans, 2003). Children use morphological before lexical cues (Valian, 2006), but adult learners have persistent difficulty processing inflectional morphology (Slabakova, 2008). Most online studies focus on intermediate or advanced learners, and reveal both sensitivity to morphosyntactic agreement violations (Keating, 2010; Tokowicz & Warren, 2010) and L1 transfer effects (Tokowicz & MacWhinney, 2005; Hopp, 2010). The few online studies examining beginners with minimal L2 exposure (e.g., first-year students) show that some are sensitive (P600 response) and others are not (N400 response) (Tanner et al., 2012), and that they are insensitive, unless they have high working memory (Sagarra & Herschensohn, 2010) or the structure is cognitively easy (Han & Liu, 2013). If beginners’ insensitivity is due to cognitive constraints, and higher cognitive effort yields less transfer (Holme, 2013), beginners should show minimal, if any, traces of morphological transfer.

To examine sensitivity and transfer effects in beginners, 31 Romanian, 32 Spanish, and 37 English monolinguals, 19 Romanian and 23 English beginning learners of Spanish, and 27 Romanian and 28 English intermediate learners of Spanish read 85 sentences (16 experimental) with SV agreement like (1) and SV disagreement like (2), while their eye movements were recorded. Romanian and Spanish are pro-drop languages, but English requires explicit subjects. After each sentence, participants chose one of four pictures: [+-grammatically congruent, +/- semantically congruent] (see Figs. 1, 2). One-way ANOVAs indicated that all groups were homogeneous in terms of working memory (Letter-number Sequencing test) and inhibitory control (Flanker test). Furthermore, the two beginner groups scored significantly lower than the two intermediate groups in the DELE Spanish proficiency test.

Multiple GLMMs revealed that monolinguals and intermediates, but not beginners, showed both sensitivity
Language assessment of Turkish-German bilingual children with Specific Language Impairment (SLI)
Hilal San Poster 23-May

"Specific Language Impairment (SLI) is defined as a deficit in the development of language in the absence of any additional disorders such as hearing loss, mental retardation or autism. Given these exclusionary criteria, monolingual children who score more than 1.25 SD below normative means on a language measure are considered to be children with SLI (Leonard 1998).

As genuine language impairment, SLI affects all languages of bilinguals and should thus be ideally assessed in all their languages. While there is a plethora of research on SLI focusing on Indo-European languages, the examination of languages belonging to other language families, such as Turkish and Arabic, has remained relatively under-researched and under-theorized. This affects not only linguistic research, but also implies clinical relevance since practitioners lack knowledge and assessment tools of SLI in migrant children. A practical proposal has been to run monolingual standardized tools but to adjust the Z-scores to the language dominance in bilingual children (i.e. -1.5 to -2.25; Thordardottir 2012).

Furthermore, linguistic features for clinical markers may coincide with the characteristics of language change in migrant settings. Research on monolingual SLI in Turkish shows that errors in complex sentences with a subordinate clause may be potential clinical markers of SLI (Topbaş 2010). Complement and relatives clauses as well as participial constructions are acquired by monolingual Turkish children around five years (Aksu-Koç 1994) whereas finite clauses are preferred by Turkish-German bilingual children at the age of 4-9 instead of subordination (Herkenrath & Karakoç 2002). These might misleadingly be interpreted as characteristics of SLI in Turkish migrant children. Hence, a sole adjustment of Z-scores using tools for the assessment of monolinguals might be inappropriate for Immigrant Turkish children. Furthermore, sentence repetition tasks (SRTs), accepted as reliable method of identifying monolingual children with SLI, may not distinguish between Turkish-German bilingual typically developing children (BI-TD) and bilingual children with SLI (BI-SLI).

The present study focuses on the chances and limitations of adapting a monolingual assessment tool for Standard Turkish (TELD-3-T, Topbaş & Güven 2007) to the bilingual migrant setting, comparing the data of 5 Turkish-German BI-TD (age range: 5;1-7;5) and 5 BI-SLI children (age range 5;6-6;6) by TELD-3. The preliminary results (cf. Table 1) show no significant differences in the L1 performance of BI-TD and BI-SLI (χ²(1) =0.476, p = 0.490), but even converse results to the diagnosis. Also, the results of sentence repetition task (cf. Figure 1) show that counting only correctly repeated sentences does not distinguish BI-TD and BI-SLI in the context of Immigrant Turkish. As a consequence, even with the recommended Z-score adaptation, an L1-assessment with such a task for Standard Turkish is claimed to be inappropriate. Contrasting the linguistic markers of SLI to the linguistic features of Migrant Turkish with respect to TELD-3, the outcome of grammatical SLI in Turkish-German bilingual children and suggestions for assessment in the migration setting will be presented and discussed."

Experimental teacher training: Form-focused instruction in a foreign language context
Masatoshi Sato and Mónica Frenzel Paper Session 12

"Form-focused instruction (FFI), or instruction that integrates grammar instruction into communicative teaching, has been proven effective for second language development (Spada, 2011). Also within the framework of FFI, corrective feedback (CF) has been shown to facilitate second language acquisition by restructuring learners’ inaccurate
grammatical knowledge (Lyster et al., 2013). When considering implementation of those pedagogical techniques in the classroom, however, research indicates that teachers are hesitant to interrupt communication with their students by explicitly giving grammar instruction or correcting their errors (Loewen et al., 2009). Hence, the current study was designed to examine the impact of training teachers to integrate FFI and CF into their teaching and to investigate teachers’ perceptions of this training to assure its feasibility.

In this experimental study, participants were ten university-level EFL teachers in Chile who were teaching required English classes to students from various majors (e.g., Business Administration). They were divided into two groups and were matched based on their classes (two teachers of the same course in each major). The experimental group (n = 5) participated in a 9-hour workshop over a period of four weeks that included various ways of raising the teachers’ awareness of their teaching patterns (e.g., reading research articles; lectures; role-play activities; analyses and reflections of videotaped lessons of their own), while the other group served as the control (n = 5). With a pre-post design, the effects of the intervention were examined by classroom observations. Using Simard and Jean’s (2011) observation scheme, the videotaped data (640 minutes) were analyzed in terms of the frequency and duration of form-focused instruction. In addition, Lyster et al.’s (2013) categorization of CF was used to tally different types of CF. The frequencies of the pedagogical moves were submitted to statistical analyses. Finally, teachers from the experimental group were interviewed after the final observation.

The results indicate that the trained teachers changed their teaching patterns to some extent by integrating grammar instruction into communicative lessons. For instance, the teachers spent less time on explicit grammatical explanation at the time of the post-observation. Also, a significant difference was detected in the number of CF (especially prompts) between the pre and posttests. During the interviews, the teachers stated that some of their initial concerns regarding grammar instruction (e.g., breaking the communicative flow) were misbeliefs. Despite the positive impact of the intervention, however, the data also suggest that having teachers adopt a new teaching technique is challenging: Only a few of the FFI techniques that were taught actually used by the teachers. It is argued that the training sessions must be longer and more rigorous to have a sizable impact on practice."

**A multilingual orientation to the languages curriculum: an implementation study**
Angela Scarino  Paper Session 15

"The development of a new national curriculum for K-12 education in Australia has afforded the opportunity to develop a new national curriculum for Languages. This development is taking place in a context of changing, complex linguistic and cultural diversities at the local institutional, state and national levels (ABS 2011) on the one hand, and in a context where the valuing of multilingualism is undermined by a persistent ‘monolingual mindset’ (Clyne 2008) on the other hand. Although constrained by the need to conform to the conceptualisation of the monolingual design of the curriculum as a whole, the design for the languages learning area proposes a multilingual orientation to language learning. The learning of languages is conceptualised as interlinguistic and intercultural (Liddicoat & Scarino 2013; Kramsch 2009; Kramsch 2011; Lie Wei 2011; Scarino 2014) where learners learn to ‘move between’ and come to understand the linguistic and cultural systems of the language they are learning and at the same time referencing these to their own linguistic and cultural systems. Furthermore, through reflection, they learn to develop metacognitive and metalinguistic awareness of what it means to interpret and to act in the world, and to be interpreted reciprocally by others (ACARA 2011). In addition, the design is not generic, but language specific, respecting the distinctiveness of particular languages and proposes multiple pathways to cater for the differing home backgrounds of learners learning particular languages.

In this paper, I discuss a three year implementation study that is being undertaken to realise the Australian Curriculum for Languages in a range of languages. The aim of the implementation study is to engage teachers of 10 different languages in exploration and experimentation to understand the multilingual orientation of the curriculum and to bring about changes in the way they plan, enact, assess and evaluate students’ language learning and their own teaching practices. Drawing on data and examples from the study, I discuss the participatory classroom research orientation, the processes of classroom-based experimentation including ways of profiling the learners, ways of personalising learning and the positionality of students; planning programs that realise the multilingual orientation; pedagogies and assessment processes that enact the programs, and the reflection processes that are intended to
develop students’ awareness of the role of language and culture in engaging with diversity. I conclude with a critical discussion (Andreotti and de Souza 2008; Goodson 2008) of the need for and at the same time the complexity of facilitating and studying curriculum implementation in language learning in multilingual settings.”

*Multilingualism in the public sphere: Ideologies and practices*
Claudio Scarvaglieri

“The talk focuses on the interrelationship between language ideologies and language practices. We seek to describe ways in which attitudes about language influence the achievement of goals through linguistic action in different languages. Overall we ask how language ideologies contribute to the societal (mis-)management of migration induced linguistic diversity.

We study two domains of public communication in which we expect language ideologies to play contrasting roles: discourse about migration induced multilingualism in the mass media and actual multilingual communication performed in public spaces (public transport, playgrounds, public places, streets, stores). We expect different kinds of language ideologies to come into play in these domains and to impact language practice in different ways.

To cover both domains, we use methods from sociolinguistics and media analysis. Concerning the study of multilingual communication in public spaces we rely on methods from Linguistic Landscaping and ethnography (cf. Blommaert 2013) and Linguistic Soundscapeing (Scarvaglieri et al. 2013). Mass media discourse about multilingualism will be investigated by means of established methods of media and critical discourse analysis (Hauser & Luginbühl 2012, Wodak & Meyer 2001) that will be combined from a functional pragmatic perspective (cf. Scarvaglieri & Zech 2013). Concerning the impact of ideologies on practice we use interviews with interactants as an accompanying tool to verify hypotheses derived from actual language practice (cf. Moyer 2011).

The data were gathered in Switzerland and stem from Swiss newspapers and public spaces in the bilingual German/French city of Biel/Bienne as well as from unilingual Swiss German Bern.

We present case studies from both domains that highlight the importance of ideologies for multilingual language practice. We discuss effects of language ideologies on multilingual language practice and describe different ways in which individuals apply or reject such attitudes. Our analyses also take the geographical space, in which communication is conducted, into account, as observations from pilot studies suggest that migration induced multilingualism tends to get pushed to the less prestigious outskirts of a city, whereas the center seems to be mostly reserved for the national languages German and French as well as English as the language of globalization. Special attention will also be given to the question whether the results for Switzerland, which declares itself a multilingual society, differ from those reported in the literature on (officially) monolingual countries.

*Variation in sentence repetition task performance: How do children in immersion education compare to other bilinguals?*
Maureen Scheidnes

"An important objective in the field of child bilingualism concerns the identification of language disorders in sequential and simultaneous bilinguals. Part of the difficulty with this issue is that child bilinguals have been shown to have language performance similar to children with SLI (e.g., Paradis 2005), so it is unclear whether language difficulties are part of typical bilingual development or are due to language impairment. Variation in language experience across different types of bilinguals further complicates the issue. Therefore, it is important to understand how different types of typically developing (TD) bilinguals vary in language performance.

While structures involving clausal embedding and wh-movement have been shown to cause difficulties in children with SLI (e.g., Tuller et al., 2012), relatively little is known about their acquisition in child bilinguals. Using a sentence repetition (SR) task (Prévost et al., 2012) targeting fronted wh-questions and sentences with and without clausal embedding in French, Fleckstein et al. (2013) found that identical repetition of the target sentence distinguished between TD bilingual (French-English) children (Bi-TD) and children with SLI. However, their Bi-TD consisted of simultaneous bilinguals who were growing up in France and had ample exposure to French. A follow-up question concerns whether sequential bilinguals with less exposure, such as those acquiring an L2 in immersion schools, would pattern like the TD groups or like the children with SLI.
The present paper seeks to answer this question by using a shorter version of the same SR task (Table 1) with 10 children learning French in an immersion school (Bi-IMRS) in St. John’s, Newfoundland, a predominantly English-speaking community. While data collection is ongoing, preliminary results include 10 first graders, who also completed kindergarten in the same program. In these grades, (European) French is the exclusive language of instruction. The performance of the Bi-IMRS (mean age: 6;10, SD: 0;3) on the SR task will be compared to Fleckstein et al.’s Bi-TD (mean age: 6;9, SD: 1;1). Monolingual children with SLI (Mo-SLI, mean age: 7;8, SD: 0;9) and TD monolingual controls (Mo-TD, mean age: 6;0, SD: 0;4), also from Fleckstein et al., will be included.

Results reveal that the Bi-IMRS pattern more closely to the Mo-SLI than the Bi-TD for identical repetition (see Table 2). All groups performed weakest on sentences with clausal embedding. Despite considerable overlap in overall performance, the Bi-IMRS made more substitution than omission errors (see Figure 1), whereas the opposite was true for the Mo-SLI. Furthermore, the Bi-IMRS group made an average of 9 gender errors (range: 6-11), but this error was absent from the Mo-SLI data.

These results suggest that while the identical repetition measure is appropriate for bilinguals with sufficient exposure to the target language, it may penalize other types of TD bilinguals. The discussion will focus on teasing apart the effects of limited language exposure and atypical development on language performance in bilinguals.

**Picture naming of singular and plural nouns: Differences between simultaneous and sequential bilingual children**

Christina Schelletter Poster 22-May

The study compares picture naming of singular and plural nouns in simultaneous and sequential bilingual children at preschool age. 30 bilingual German/English preschool children were divided into three groups: Simultaneous bilinguals, sequential bilinguals with L1 English and sequential bilinguals with L1 German. Both naming accuracy and naming latencies in both languages were compared across groups. Differences were found in accuracy relating to the language status of the children. Accuracy of plural naming was lower than that of singular nouns but there was no significant increase in naming latency. The results are discussed in relation to the language status of the children as well as different mechanisms for regular and irregular morphology.

**Portuguese as a Soft Skill in a New Jersey-based Cleaning Company**

Anne Schluter and Kellie Goncalves Paper Session 65

"The strategic use of non-dominant languages in the workplace has been documented in such settings as French-language call centers in English-dominant regions of Canada (Heller 2003) and Mexican restaurants in Texas, U.S.A. (Barrett, 2006). Similarly, Schluter’s (2014) findings from Kurdish-owned restaurants of Istanbul, Turkey highlight the importance of Kurdish language abilities for the smooth and cordial operation of business; Duchene (2009) refers to the “added value” of airport baggage handlers in Switzerland who are conversant in lesser known African languages; and Goldstein (1994, 2001) investigates the role of Portuguese to transmit solidarity among migrant assembly line workers in a Toronto, Canada-based factory. The literature provides a number of such examples in which proficiency in a minority language represents a valuable skill in the workplace context.

In Barrett (2006), Goldstein (1994, 2001), and Schluter (2014), this skill can be considered a soft skill (as defined by Urciuoli 2008) for its role in establishing and maintaining harmonious work relations. Similar to these three studies, the current study focuses on the use of a migrant language as a soft skill among co-workers. In this case, the migrant language is a Portuguese hybrid that borrows from both Luso-Brazilian and Peninsular varieties; it also includes lexical and syntactic elements of English. The current study aligns itself with Lüdi et al.’s (2010) focus on workplaces as “microclimates” of language practices that may function independently from those of the larger community. The data for this paper come from twenty women [aged 26-65] who work at a Brazilian-owned, New Jersey-based cleaning company that serves primarily monolingual English-speaking clients. These data are part of a larger study that includes forty-seven semi-structured interviews with a.) the 20 migrant workers from Portugal, Brazil, and Honduras, b.) 4 language brokers, and c.) 23 English-speaking clients. Transcripts from these interviews, along with observations of the participants’ local community and the houses they clean, resulted in a multimodal corpus that has been analyzed to explore the participants’ language attitudes and ideologies as well as employee-employee, employee-employer, and employee-client interactions.
Results suggest that, despite the English-language workplace setting, the predominantly monolingual English-speaking clientele, and the workers’ diverse backgrounds, proficiency in a hybrid Portuguese variety represents a key soft skill as it is the most important language for both finding employment and maintaining rapport with co-workers. This finding is in line with Schluter (2014) in which the Kurdish language serves similar purposes between co-workers. It directly parallels Goldstein (1994, 2001) in which Portuguese—rather than English—is the workplace lingua franca and conveys closeness between co-workers. Moreover, the non-native speakers of Portuguese in the current study, similar to those in Goldstein’s study, deem Portuguese—rather than English—as the language for relating to co-workers. Their beliefs and desires to eventually return to their home countries influence the participants’ minimal investment (Norton 2000) in English. In addition, testimonies of their strong and dense ties to their social networks within their local community, namely, the “Ironbound” section of Newark, New Jersey help shape their language choices (Gonçalves 2012).

Contrasting perspectives and effects of language dominance in bilingual children

Anika Schmeisser, Antje Endesfelder Quick, Elena Lieven, Michael Tomasello, Dorota Gaskin, Josje Verhagen, Jelle Fremerij, Susanne Grassmann and Aylin Küntay
Thematic session Session 20

"Bilingual first language acquisition often goes hand in hand with the notion of language dominance. It is extremely rare for bilinguals to maintain a complete balance between their languages (see, for instance, McLaughlin, 1984). At any point in time or in particular situations one language is likely to be more dominant than the other. Dominance is usually related to proficiency, however the criteria that foster this imbalance as well as the different criteria that are used for defining the dominant or weaker language differ tremendously. Further, differing competences in two languages also raise the question of whether language dominance reflects grammatical competence and whether and how the different levels of competence have an influence on each other, i.e. resolving linguistic conflicts.

The aim of the current symposium is twofold: First, it looks at quantitative and qualitative measurements of dominance and the question as to what extent different measurements can reveal the nature of grammatical knowledge as well as relating the predictions and contradictions of objective measurements to code-mixing data. Second, it investigates effects bilingualism has on the disambiguation of linguistic conflicts.

Therefore, the first paper investigates the different methods for measuring language dominance (like fluency, increase in lexicon and MLU) in bilingual Romance (French, Italian, Spanish)-German and Romance-Romance children by analyzing whether the degree and the direction of language dominance differs on the basis of the criteria chosen. The second and third papers link language dominance to code-mixing in German-English and English-Polish bilingual children between the ages of 2 and 3. Code-mixing is often related to imbalanced languages, e.g. more code-mixing while speaking in the weaker language. The two papers investigate quantitative measurements in relation to code-mixing by applying and explaining usage-based concepts such as entrenchment or frequency of exposure to explain the language behaviour in young bilingual learners. Finally, the fourth paper looks at bilingual children’s disambiguation of referential acts and the effects of language dominance. Dutch-English bilingual children, aged 2 to 4, were presented with a referential conflict, pointing versus labelling and it was shown that bilingual children relied more on pointing than on labelling. Moreover, a small effect of language dominance was also found; when children were tested in their non-dominant language they relied on (the universal) pointing more often than when they were tested in their non-dominant language."

U-shapes in German SLA: A quasi-longitudinal corpus study

Anna Shadrova
Paper Session 77

"This study addresses the question of what German interlanguage looks like at different stages of acquisition with respect to the usage of verb constructions and vocabulary. In particular, it focusses on the appearance of u-shaped learning curves indicating a more flexible usage at intermediate stages than at early and late ones. Results are of special relevance against the background of recent studies that suggest a central role of idiomaticity in language (Faulhaber 2011, Wray 2002, Wulff 2008, Zeldes 2012 amongst others), and will help understand the dynamics of coselection acquisition in L2.

The study is based on a corpus of 150 essays written by Russian/Belorussian and Mandarin Chinese native
speakers and a control corpus of 20 native speaker essays. The texts can be grouped by test scores reflecting a range from early intermediate to far advanced levels, thus allowing for a quasi-longitudinal study design.

The data is currently being analyzed by means of frequency, collexeme and collocutional analysis (Gries and Stefanowtisch 2004, Stefanowitsch and Gries 2005) aimed at modelling lemma, part of speech and verb construction distributions and variation. To my knowledge, this is the first corpus study to address the question of u-shaped learning in German SLA.

First results show an L1-like distribution of many parts of speech from early stages on (with some underuse of modifiers and some overuse of verbs and pronominals), as well as several u-shapes with regard to different phenomena. For instance, the variance in lemma per token ratio, a measure of richness of vocabulary in a text, shows a peak at late intermediate stages compared to both early and advanced ones, meaning learners behave most differently at this stage, and forming a u-shape regarding inter-learner uniformity.

Directly related, a slope in the lemma per token ratio appears at intermediate stages, a highly significant effect ($p = 0.003$) in comparison to the least and most advanced groups, while early and late stages do not significantly differ from native speaker ratios in the control corpus. Neither of these effects can be fully attributed to text length, which shows a correlation to the lemma per token ratio of up to .99 at early stages but only .7 at intermediate ones.

It appears that learners already have a good grasp of the distribution of parts of speech and the rate of introducing new lemmata at early intermediate stages. This suggests that statistical knowledge is part of interlanguage early on and is relevant for statistical and quantitative modeling of SLA.

Yet, with regard to vocabulary richness, something happens at intermediate stages that makes learners drift a little, both from L1-likeness and from one another. It might be the case that individual strategies, such as clinging to familiar words and expressions („lexical teddy bears“, Hasselgren 1994) versus trying to include as much vocabulary as possible, influence learner language more at some stages than at others.

The results will be of particular interest for those interested in the development and variation of interlanguage, idiomaticity and language flexibility research, and corpus linguistics.“

The impact of language input and parental attitudes on bilingual acquisition

Mineko Shirakawa Poster 22-May

"This paper presents the findings of two studies exploring the influence of parental attitudes and language experience on bilingual first language acquisition in children raised in a one person - one language environment at home in Japanese and English from birth in Christchurch, New Zealand. Additional Japanese exposure was available through a Japanese supplementary class and some families accessed further schooling in Japanese while on short trips to Japan. In Study 1, nine children aged five to ten (from six families) told the story from the wordless picture book ‘Frog, where are you?’ (Mayer, 1969) in Japanese and English. The stories were then examined for grammatical errors, vocabulary and sentence structure. Parental attitudes were examined through structured interviews with six of the mothers. In Study 2, 34 children aged five to eleven, from 25 families (seven of whom were also in Study 1) responded to picture selection tasks designed to investigate Japanese morphological case markers for interpreting the agent-patient relationship. The 25 mothers also participated in a structured interview."

The mothers in both studies expressed very positive attitudes towards bilingualism. Nonetheless, the children in Study 1 had higher levels of English compared with their Japanese as evidenced by fewer errors, more complex sentences, and a lack of code-mixing in English. This tendency was more salient in the older children. The finding largely corroborates parental concerns reported in Lauwereyns (2011), where parents felt that their children’s Japanese oral and literacy skills are lagging behind their English skills. The results of the picture selection tasks in Study 2 suggested that whereas monolinguals five and older use the case markers as cues in interpreting the agent-patient relationship (cf. Sano, 2004; Suzuki, 2007; 2012), some bilingual children across the age span in Study 2 relied on word order. As other researchers have suggested that child directed speech in Japanese tends to lack the morphological case markers (Rispoli, 1991; Tanaka and Shirai, in press), these results may stem from a lack of the appropriate input despite the positive parental attitudes (cf. De Houwer, 2007; 2013).

Considerable individual variation between subjects was revealed by a logistic regression analysis which suggested that experience of schooling during traveling in Japan had a statistically significant effect on picture selection ($p<0.05$) in
Study 2. 14 of the children attended a regular Japanese school while traveling to Japan, with an average of 24 days attendance each in total per child. This could be seen to support Blom’s (2010) observation that grammatical development in bilingual children is affected by input quantity, because schooling in a Japanese dominant environment gives children considerably more opportunities to be exposed to Japanese input. So although parental input and support may be insufficient to ensure successful bilingual acquisition (cf. De Houwer, 2007; 2013), positive attitudes toward bilingualism may prompt parents to make strategic decisions in the upbringing of their children that will increase the quantity of input to the required level."

"The present study investigates code-switched prepositional phrases (PPs) by means of an elicited repetition task in sequential English-Hebrew bilingual children ages 5;5-6;6 with and without Specific Language Impairment (SLI).

Prepositions are a source of difficulty for bilingual children, both typically developing (TD) and language impaired (Armon Lotem 2014), and they are claimed to be infrequently code-switched (Muysken 2008; Treffers-Daller 1993). Joshi (1985) argues that prepositions cannot be code-switched because they are closed class items. The present study assesses these claims. Moreover, by examining five switching sites within the PP, it also provides a testing ground for other constraints advanced in the code-switching (CS) literature, e.g. switching a determiner together with the ensuing noun (Dussias 2002; Myers-Scotton 1993) or switching between a preposition and its governed complement (Di Sciullo, Muysken & Singh 1986). On this background, the study examines whether TD bilingual children and children with SLI exhibit different CS patterns vis-à-vis the proposed constraints. In light of claims regarding circumscribed processing skills and impaired linguistic representation, we are interested in whether children with SLI adhere to the linguistic constraints of CS in the way that children with typical development do.

Six switch conditions (illustrated below) were examined: (1) a code-switched preposition (P), (2) a preposition switched together with the following determiner (PD), (3) a preposition switched together with the following determiner and noun (PDN), (4) a code-switched noun (N), (5) a noun switched together with the preceding determiner (DN), and (6) no switch. Stimuli consisted of 36 English sentences and 36 Hebrew sentences, along with 24 filler sentences. The English and Hebrew sentences were matched for semantic content and syntax. The English stimuli contained a switch to Hebrew and the Hebrew sentences contained a switch to English, thus allowing for analysis of directionality effects in CS, and particularly the question of how the various CS constraints operate in the two, typologically different languages. The English and Hebrew stimuli were presented in separate sessions, one week apart. Children were instructed to repeat the sentences verbatim.

Data analyses include ANOVAs to examine the effects of the different switch sites within the PP, the effects of directionality (Hebrew to English vs. English to Hebrew), and the extent to which error patterns differed for TD and SLI children. Preliminary analyses of repetition accuracy indicate that the non-switch condition, the N switch condition and the PDN switch condition resulted in greater accuracy (fewer repetition errors) than the other conditions, particularly for children with typical development. Also, performance was better on Hebrew to English CS than vice versa for children with TD, but not for children with SLI.

Repetition accuracy and data on errors are discussed in light of previous work (largely from field based studies) on CS constraints. In addition, we discuss the relevance of CS directionality. In doing so, we consider the question of whether CS could be a potential clinical marker for language impairment in bilingual children.

Sample stimulus sentences in English and Hebrew

English sentences:

1. No switch: The duck swam around the boat this morning
2. P switch: The duck swam SAVIV the boat this morning
3. PD switch: The duck swam SAVIV HA-boat this morning
4. PDN switch: The duck swam SAVIV HA- SIRA this morning
5. N switch: The duck swam around the SIRA this morning
6. DN switch: The duck swam around HA- SIRA this morning

Hebrew sentences:
Minoritized Linguistic and Cultural Identities: A Case Study of Multicultural Education in South Korea  
Heejin Song  Poster  21-May

Despite the South Korean government’s recent policy interventions to reflect an increasing multicultural population, few guidelines are given for newcomer adolescent education. In particular, investigations focusing on these students’ cultural and linguistic identities are scarce. In this light, the paper investigates how immigrant adolescents’ linguistic and cultural identities are reflected at two high schools in South Korea. Nieto’s (1999) conceptualization of critical multicultural education is deployed to uncover the sociopolitical conditions that influence learners’ identity construction and schooling. Also, Bourdieu’s (1986) concept of cultural capital is crucial to understand the politics of schooling wherein economic and cultural inequalities are reproduced by valuing/devaluing certain learners’ linguistic and cultural knowledge. In order to obtain a deeper understanding of students’ cultural and linguistic identities, the study examines seven students’ perspectives from two secondary schools, namely, a multicultural alternative school and a mainstream school. The data were collected through semi-structured interviews and classroom observations throughout one semester. The data were complemented with administrator and teacher interviews as well as a document analysis of curricula and student-generated resources. The study reveals that the seven participants have plural or hybrid cultural and linguistic identities; however, their different cultural and linguistic backgrounds are perceived as a hindrance to social adjustment and integration by their teachers and administrators. In addition, the study highlights the lack of professional development in multicultural education and a failure to recognize linguistic and cultural diversity across curricula. Furthermore, administrators’ nationalistic attitudes on multicultural education all contribute to marginalizing the students’ heritage cultures and languages while silencing their multiple linguistic and cultural identities. These findings underscore the importance of developing inclusive multicultural policies and curricula to create spaces where multicultural learners may feel empowered and envision their plural linguistic and cultural repertoires and identities as global assets, not as unwelcome baggage (Cummins, 2001).

The sociophonetics of sibilants in bilingual speakers  
Lorenzo Spreafico  Paper Session 18

Goal: This paper presents an UTI-based study on /s/ in Italian as spoken in South Tyrol, a bilingual region on the border between Italy and Austria. More specifically, it focuses on /s/ in /S/C(C) clusters as produced by sequential or simultaneous Italian/Tyrolean bilingual speakers. The main aim is to describe the articulatory patterns for /s/ in Italian under different conditions and to discuss how they vary according to the nature and the degree of bilingualism of the speaker so to offer new data for the discussion on the sociophonetics of bilingual speakers, in particular as regards covert articulations.

Method: Lingual articulatory data are captured using an Ultrasonix™ SonixTablet ultrasound system coupled linked to the ArticulateInstruments™ AAA software for data acquisition at a temporal resolution of 122Hz. Tongue profiles are compared using the approach proposed by Davidson (2006) to determine whether or not tongue shapes for articulation under different conditions are significantly different (SS.ANOVA) and, in case, to assess which sections of the tongue profiles are statistically different (Bayesian confidence intervals).

Data: Five adult female speakers of the same age and from the same city but with different degrees of bilingualism are recorded while reading a list of 40 Italian words containing the sibilant /s/ followed by /p/, /t/ or /k/ or by /pr/, /tr/ or /kr/ and a vowel in word-initial as well as in word-internal position.

Results: The inter-speaker comparison of tongue profiles at the fricative acoustic midpoint shows that the informants resort to different articulatory patterns: the covert apical vs. laminal distinction (Fig. 1) plays a role in contrasting /s/ as produced by monolingual speakers against /s/ as produced by bilingual speakers. This differentiation
has negligible effects on the acoustic output in the data under scrutiny. These results are relevant to the discussion on the role of bilinguals in promoting sound change, especially as regards a speaker-oriented theory of sound change.

The across-speakers comparison of intra-speaker difference for /s/ tongue profiles under different conditions shows that: (i) as for each possible /sCr/ combination in the dataset, the significance of the degree of differentiation in tongue profiles for the same cluster is different across the speakers, but independent from the degree of bilingualism; (ii) as for each possible /sCr/ combination in the dataset, the significance of the degree of differentiation in tongue profiles for the same cluster is the same across the speakers, hence independent from the degree of bilingualism; (iii) as for word-initial vs. word-internal allophones the significance of the degree of differentiation in tongue profile is the same across speakers, hence independent from the degree of bilingualism. These preliminary results are relevant to the discussion on the role of instrumental articulatory techniques in bilingual phonology, in particular because they provide new insights concerning sociophonetic variation in the light of the debate on what is indexical or due to the anatomical and physiological properties of the tongue."

L2 acquisition of prosodic structure among learners of Japanese
Rebecca Starr and Stephanie Shih Poster 21-May

"While research on L2 acquisition has asserted that learners transfer L1 prosodic structure (e.g., Goad & White 2004), no previous work specifically addresses L2 acquisition of prosodic units. Unlike English, Chinese, and other languages in which the syllable is the primary prosodic unit, in Japanese the mora is considered to be the most salient unit (e.g., san consists of two moras, sa-n.) (Warner & Arai 2000, Otake et al. 1993, a.o.). Indeed, the psychological reality of the syllable in Japanese has been the subject of continued debate (Kawahara 2012, Labrune 2012, Kubozono 1989, a.o.); evidence in this debate has been drawn from text-setting, the pairing of language and music in song. Starr & Shih (2012) observe that, while mora-based text-setting is the default in Japanese songs, syllabic text-setting is also prevalent, particularly among words borrowed from English. The present study examines whether Japanese learners acquire native-like intuitions regarding syllable and mora-based text-setting, and whether this effect persists among English-origin words.

10 near-minimal pairs of words from the Foreign and Sino-Japanese lexical strata were selected (e.g., minto ('mint'), minka ('private house')). Sung stimuli were synthesized using Vocaloid 3 software. Native and learner participants were asked to rate the acceptability of the following settings, representing different approaches to arranging the text to five notes:

(1) mora-based (“mi-n-to da-yo” (“it’s a mint”))
(2) syllable-based (“min-to da-yo-ne” (“it’s a mint, right”))
(3) syllable-based (demi-syllabic) (“mi-in-to da-yo”)
(4) infelicitous, onset assigned one note (“m-in-to da-yo”)
(5) infelicitous, multiple syllables assigned one note (“mi-i-i-i-ntodayo”).

Native Japanese speakers rated settings (1) and (2) as equally felicitous. (3), the demi-syllabic setting, was rated as significantly worse than (1) and (2), but significantly better than settings (4) and (5). This suggests that native listeners find syllable-based settings fully acceptable when a mora-based setting is impossible (as in 2), but prefer mora-based settings when enough notes are available (as in 3). In other words, listeners prefer settings that achieve a one-to-one correspondence between note and prosodic unit, whether mora or syllable. Contrary to corpus evidence, participants did not show a significant syllabic preference for Foreign stratum words.

Japanese learners rejected settings (4) and (5), but rated all mora- and syllable-based settings as equally felicitous. This acceptance of moraic settings indicates that learners have gained familiarity with the salience of the mora in Japanese; however, they have not fully acquired native-like patterns, as evidenced by their more complete acceptance of syllabic settings, which are the default in their native languages (English and Chinese). No significant differences were observed across levels of Japanese proficiency or lexical stratum.

This study confirms that the syllable, while not as salient as the mora, has psychological reality in the minds of native Japanese speakers. Learners’ performance suggests that L2 learners quickly and effectively attend to new salient prosodic units, in this case perhaps via Japanese orthography. However, learners are not as able to disregard familiar units from the L1, thus producing non-native-like judgments."

"
Evaluating lexical breadth and depth as predictors of general L2 French proficiency

Jeffrey Steele

Studies of L2 acquisition require efficient, reliable measures of learners’ general proficiency. Lexical knowledge is such a measure (e.g., Milton, 2006). However, whereas this construct includes knowledge of both primary meaning (breadth) and polysemy and collocations (depth; Read, 2000), tests of L2 vocabulary most often assess breadth alone (e.g., X_Lex2 test; Meara & Milton, 2003). The present study thus seeks to evaluate whether the measurement of vocabulary depth increases the power of lexical knowledge as a predictor of general L2 proficiency.

To this end, French versions of the Vocabulary Levels Test (VLT; Nation, 1990) and the Word Associates Test (WAT; Read 1993, 1998) were created to test breadth and depth respectively. Vocabulary was chosen from Lonsdale & Le Bras’ (2009) list of the 5000 most frequent French words. Given the relationship between lexical frequency and ease of vocabulary learning (e.g., Richards & Malvern, 2007), the list was divided into five 1000-word frequency bands. The VLT included 15 items (5 frequency bands x 3 grammatical categories [noun, verb, adjective]/band). For each item, learners were presented with 6 words (3 targets and 3 distractors of the same grammatical category and frequency band) as well as three definitions, and were asked to match the definitions to the appropriate words. The WAT, in contrast, tests knowledge of polysemy and collocation. For each of the 10 items (5 frequency bands x 2 grammatical categories [noun, verb]/band), the target word was presented followed by 2 four-word lists: the first included the two most common meanings of the word plus two distractors, the second two collocated words plus two distractors. For example, for the target word bibliothèque ‘library’/’bookshelf’, possible responses in the first list (polysemy) included the correct items bâtiment ‘building’ and meuble ‘piece of furniture’ as well as the distractors camion ‘truck’ and fauteuil ‘armchair’. The second list (collocation) included the correct responses collection (collection de la bibliothèque ‘library collection’) and rat (rat de bibliothèque ‘bookworm’) as well as the distractors amitié ‘friendship’ and oiseau ‘bird’.

Forty L2 learners of French ranging from high beginner to low advanced proficiency were tested individually on the VLT followed by the WAT. Learners also completed a cloze test previously validated as a measure of general L2 proficiency that assessed their knowledge of determiners (determinancy, gender and person agreement, allomorphy), nouns, verbs (mood, aspect, person and number agreement), and adverbs (Lapkin & Swain, 1977). Correlations between individual learners’ scores on the two vocabulary tests and the cloze test revealed that vocabulary breadth was the best predictor of general L2 proficiency (R²=.649). Vocabulary depth (WAT scores) was less predictive (R²=.405). For the latter test, whereas knowledge of polysemy was as predictive as the WAT test as a whole (R²=.402), learners’ collocational knowledge was the least informative measure (R²=.305). In summary, the present study supports the use of vocabulary breadth tests as reliable predictors of overall L2 proficiency and finds no benefit for the addition of measures of lexical depth.

A bilingual advantage for young beginning EFL learners?

Claire Stevenson, Anneloes Saarloos, Jan Willem Wijers and Kees De Bot

"There is a substantial body of research on the so called ‘bilingual advantage’ of bilinguals and multilinguals, mainly coming from Ellen Bialystok and her colleagues. The data consistently show an advantage in executive functions for early bilinguals, that is people who acquired the two languages from birth. Executive functions have to do with attention, memory, task switching and inhibition. A wide range of tasks have been used to assess these effects. The bilingual advantage is assumed to result from the additional cognitive effort bilinguals have to invest to use the appropriate language (while suppressing their second language) in diverse settings, which includes various forms of code-switching. Prolonged experience with switching and inhibiting languages appear to lead to better developed executive skills.

Most studies so far have focused on early bilinguals and multilinguals who started learning their languages in infancy and who have reached a high level of proficiency in each language. Less is known about the effects of a later start with lower proficiency in and less frequent exposure to an additional language. In this project executive functions were tested in Dutch children in the 3rd and 4th grade of primary education (M=9.5, SD=0.7 years). The early second language education group (N=323) received English instruction for at least ninety minutes a week from kindergarten
onwards. The other group (N=185) had no instruction in English. The pupils were tested individually with tests for executive functions (i.e., Flanker, Wisconsin card sorting, verbal and visual Go/NoGo and verbal and visual memory span tasks), abstract reasoning (Raven Progressive Matrices), lexical proficiency in Dutch and English (Peabody) and English grammar (Test of Everyday Grammar). Background data was gathered through schools and a children’s SES questionnaire.

Initial analyses showed that the two groups performed similarly with regard to verbal and visual memory, inhibition control as well as task switching. Advantages were found for children who received early second language education in the areas of English proficiency and grammar, abstract reasoning, and Visual inhibition control measured with a Go/NoGo task with visual stimuli instead of sound as in the auditory Go/NoGo task. Dutch proficiency was similar between the two groups.

Preliminary conclusions are that few differences in executive functioning are apparent between children attending primary schools with early second language education and those in a monolingual setting. We discuss this in light of the differences in the taxation of executive functions for children with prolonged experience with a second language (i.e., raised bilingually) versus children receiving limited immersion lessons in a second language. The results and conclusions of this study based on more rigorous statistical models will be discussed during the presentation.

Bilingual acquisition of voicing categories: Do bilingual children mirror their bilingual parents?

Antje Stoehr, Titia Benders, Paula Fikkert and Janet van Hell Poster 22-May

"Bilinguals have to acquire more phonological categories than monolinguals, and use the appropriate categories in each language. This task is especially intricate when the bilingual’s two languages divide the same phonetic continuum differently into phonological categories. Examples are the phonological categories 'voiced' and 'voiceless' that languages space differently along the phonetic voice-onset time (VOT) continuum. Dutch contrasts phonetically prevoiced plosives with phonetically short lag plosives to realize the phonological voiced-voiceless contrast, whereas German contrasts phonetically short-lag with aspirated plosives for the voicing distinction. Bilingual children produce such voicing categories differently than monolinguals (e.g., Fabiano-Smith & Bunta, 2012; Kehoe, Lleó & Rakow, 2004, and references therein). Non-native productions in bilinguals are often accounted for in terms of negative transfer (cf. Goldstein & Bunta, 2012), which suggests that the bilingual acquisition process is qualitatively different from monolingual acquisition. In order to understand this seemingly different developmental trajectory, the following questions need to be answered: Do bilingual children differ from monolinguals in their production of VOT in both languages? Can the phonological properties of bilingual children’s speech be related to frequent exposure to non-native and attrited speakers?

This study investigates the production of plosives in Dutch-German simultaneous bilingual children (3;6 – 6;0) and their sequential bilingual parents. Child productions were elicited in an interactive book reading task and a picture-naming game in both languages. Parental productions in L1 and L2 were elicited through picture naming. Ongoing data collection of a total of 99 bilingual and monolingual children and their parents will be finished in the next few months. Data will be analyzed using multilevel regression analysis, taking into account detailed measures of language exposure and speech perception.

The first results of nine bilingual and 30 monolingual children (25 Dutch) indicate that bilinguals produced longer VOTs in Dutch and shorter VOTs in German as compared to their monolingual peers. This divergence from monolingual patterns could be explained as a result of negative transfer (Goldstein & Bunta, 2012). Our results also indicate that bilingual children nevertheless differentiate their VOTs by language: They use overall shorter VOTs in Dutch than in German (see Figure 1), a result counting against negative transfer only. We further performed a phonetic analysis on the language input that the bilingual children receive from their parents (n=15), each of whom is an L1 speaker of one language and an L2 speaker of the other. In both L1 and L2 German the parents, all of whom used Dutch more frequently than German, produced shorter VOTs than monolingual German adults (n=4), and used more aspiration in L2 Dutch than monolingual Dutch adults (n=24). As found in the child productions, the parents differentiate their VOTs by language, using shorter VOTs in Dutch than in German. The children’s shorter VOTs in German and longer VOTs in Dutch compared to monolingual children are in line with their parents’ articulation (see Figure 2).
These results suggest that simultaneous bilingual children may not suffer from negative transfer between their languages: Their non-native outcome can be explained by their language input.

**Recognition Memory for New Characters and Words by Bilinguals with Different Writing Systems**

Lidia Suárez

Distinct orthographies demand and promote specific cognitive skills to a different extent. For example, greater visual memory ability has been associated with reading logographic languages (Tavassoli, 2002), and better phonological awareness with alphabetic languages (Rickard Liow, 2014). Moreover, while bilingualism has been associated with general advantage during third-language acquisition (Kaushanskaya & Marian, 2009), some studies have focused on how the use of different scripts affect the learning of new logographic words (i.e., characters). For instance, Ehrich and Meuter (2009) found faster response latencies during new-character recognition by bilinguals with Chinese as a first language (L1), as compared to bilinguals who possessed alphabetic languages (English and French). However, the bilinguals’ performance was equal regarding recognition accuracy and syntactic processing speed. Those results suggested that a logographic-L1 background might facilitate basic processes involved in character identification (e.g., visual speed and storage of visuospatial information) rather than higher-order processes involved in lexical access. The current study explored the influence of the use of different writing systems on basic processes of visual memory and recognition of new characters and words (see Table 1). Participants were English monolinguals, and bilinguals were literate in English and another alphabetic, alphasyllabic, or logographic language. The first hypothesis predicted that logographic users would show visuospatial memory enhancement, associated with an advantage at recognising new characters. Results (see Table 1) showed that logographic users performed better than the average of the other three groups in visuospatial memory tasks. However, discrimination and response latencies of characters were similar between logographic users and the average of the other three groups. This indicated that language background and visuospatial memory enhancement did not facilitate the learning of new logographic forms, contrary to previous findings (e.g., Ehrich & Meuter, 2009). It could be that the visuospatial memory advantage is evidence only in tasks that require focused attention and short-term memory (a few seconds) as compared to tasks (character-recognition) that require recognition responses after a few minutes. Experience in reading Chinese might have facilitated rapid processing and storage in short-term memory, but not long-term memory retention of complex stimuli. The second hypothesis compared biscriptal bilinguals (English-Chinese and English-Tamil [or Hindi]) on visual memory and character learning ability in order to understand whether memory enhancement was related to the use of Chinese or the use of two scripts. The results revealed that greater memory and character-learning performance (but not speed) were associated with the use of Chinese and not alphasyllabic language. Alphasyllabic-language users discriminated characters very poorly as compared to the rest; it could be that experience with alphasyllabic script might have prompted the participants to use inadequate strategies when learning new character-like forms. The third hypothesis tested bilinguals’ learning facilitation of new phonological forms (i.e., spoken words). The results showed that bilinguals’ new-word recognition response latencies and accuracy were higher than the monolinguals’. This supported previous findings (e.g., Kaushanskaya & Marian, 2009), which relate bilinguals’ enhanced phonological capacity to a broader phonological repertoire stored in long-term memory, as compared to monolinguals.

**Does the irrelevant meaning of interlingual homographs really get inhibited? an ERP investigation**

Jakub Szewczyk, Joanna Durlik and Zofia Wodniecka

"Previous evidence shows that interlingual homographs (words of common orthography but different meanings across languages) initially activate conceptual representations in both languages (e.g., Dijkstra, Van Jaarsveld, & Brinke, 1998). A mechanism that has been proposed to resolve interference from the competing meanings is inhibition (Chwilla, Kolk, 2003). In the present study, we set out to explore ERP signature (in particular, N400) associated with performance of an English-Polish version of a task originally developed by Macizo et al. (2010), which probes two aspects of bilingual comprehension: (1) interference between L1 and L2 elicited by presence of cross-linguistically ambiguous words and (2) interference resolution indexed by subsequent inhibition of the irrelevant L1 meanings.

We recorded the ERPs while 63 unbalanced Polish-English bilinguals judged whether two words presented were semantically related or not. The task was presented in L2 (English) and consisted of 40 blocks, each containing two pairs
of words. The design included four experimental conditions: homograph-translation, homograph-control, control-translation, control-control (see Fig. 1). In all experimental blocks, a correct answer to the first pair was ‘no’, whereas to the second pair - ‘yes’. The homograph-translation and homograph-control conditions included a Polish–English homograph (e.g. ‘pies’ - the Polish word for ‘dog’) in the first pair. The homograph-translation condition included the English translation of the Polish meaning of the homograph (‘dog’) in the second pair. Our behavioral results replicate Macizo et al. study, with RTs in the second pair being longer in the homograph-translation, relative to the control-translation condition.

The main goal of the present study was to explore a precise mechanism leading to the response delay in the homograph-translation condition. One possibility (considered also by Macizo et al.) is that the longer RTs in the homograph-translation condition are due to inhibition of the irrelevant language meaning in the first pair, and a subsequent need to reactivate the just-inhibited meaning in the second pair. An alternative interpretation assumes that in the first pair participants form a strong association between the Polish meaning of the homograph (‘dog’) and a required ‘no’ response. Since the second pair of the task requires ‘yes’ response to the same concept (‘dog’), the two possible responses are in conflict, which invokes a response monitoring process, slowing down the RTs.

To adjudicate between these two explanations, we capitalize on the properties of the N400 and P600 components. The N400 indexes the difficulty of automatic activation of word’s meaning. If in the first pair the irrelevant meaning of the homograph (‘dog’) indeed gets inhibited, this should be reflected by a larger N400 amplitude in the following second pair containing the translation of the homograph (‘dog’; homograph-translation condition), relative to the control-translation condition. However, if the alternative explanation holds, then for the translation of the homograph a reduced N400 effect should be observed, reflecting pre-activation of its meaning in the first pair. The N400 component should be accompanied by a pronounced P600 component, indexing the task-related processes of response conflict monitoring. The ERP data are currently under analysis.

Nonword repetition performance by Polish-English emerging bilinguals and Polish monolinguals
Jakub Szewczyk, Agnieszka Otwinowska-Kasztelanic, Dariusz Zembrzuski, Ewa Haman and Zofia Wodniecka
Poster 22-May

This study is a part of the BI-SLI-PL project (http://www.pszychologia.pl/bi-sli-pl) assessing linguistic and cognitive development of bilingual children at the school entrance age. Here, we investigate L1 phonological abilities of emerging bilinguals (4;5-6;11 years of age) relative to their monolingual peers. Of additional interest is a relationship between phonological skills and language proficiency, as measured by children’s vocabulary size, and linguistic input, as reported by parents (Silven et al., 2014).

The phonological skills were tested using a Polish and English version of a non-word repetition (NWR) test. Children’s task in NWR tests is to repeat pseudo-words that are played to them via headphones. The task yields a score that reflects the child’s repetition accuracy. The pseudo-words used within the Polish and English version of the NWR test were carefully matched on a number of variables that were found to be most predictive of pseudo-word repetition performance: the phonological frequency of all-ngrams occurring in a non-word, the number of consonants, and the transition probability between the phonemes. The parameters for the Polish and English non-words were derived from a phonologized corpus of Polish (NKJP: Przepiórkowski et al., 2012) and English (CUV2: Mitton, 1992), respectively.

Both groups were tested with the Polish (L1) version of the NWR test, and a Polish receptive vocabulary test (OTS-R: Haman et al., 2011). In addition, the bilingual children were tested with the English (L2) version of the NWR test, and with an English receptive vocabulary test (BPVS3: Dunn et al., 2009).

The data collection is still under way. Preliminary analyses on a group of 21 Polish-English migrant children and 21 Polish monolingual ones (matched on age, gender and parents’ education level) reveal that migrant children had significantly less developed phonological skills in Polish, relative to the monolingual control group, despite the fact that most children were raised in Polish-speaking homes. Importantly, the difference in the NWR scores between the groups can be largely accounted for by the size of the children’s receptive vocabularies in Polish.

We hypothesize that the relatively worse phonological competence observed in the children’s L1, and a smaller L1 vocabulary size of the migrant children are largely due to a limited input in this language. The data from the whole sample and from the English NWR test are currently under transcription. The comparison between the children’s NWR
performance in both languages will enable us to test an extent to which the non-word repetition ability is language-independent. We will also examine whether the English NWR test depends on the English receptive vocabulary size in the same manner, as the Polish test depends on the Polish receptive vocabulary size. The planned analyses should bring more insight into the nature of phonological development in bilingual language acquisition.

Learning L2 Syntax: The intersection of learning conditions and individual differences

Kaitlyn M Tagarelli, Simón Ruiz and Patrick Rebuschat

"The highly variable nature of second language (L2) learning outcomes has been attributed to individual differences (IDs) in cognitive abilities between learners (e.g., Skehan, 2002; Robinson, 2005), such as working memory capacity (WMC; see Juffs & Harrington, 2011, for a review), phonological short-term memory (PSTM; e.g., Williams & Lovatt, 2005), and language aptitude (e.g., Erlam, 2005; Payne & Whitney, 2002). There is also evidence to suggest that IDs interact with instructional conditions in predicting L2 outcomes (Erlam, 2005; Krashen, 1981; Robinson, 2005; Skehan, 1989). According to Reber et al. (1991), IDs should correlate with learning in explicit, but not implicit, learning conditions.

Findings supporting a role for IDs in explicit but not implicit learning conditions could be due to a methodological bias in research design. That is, the finding that IDs relate to explicit but not implicit learning may be due to a bias toward language and ID measures that favor explicit processes (e.g., grammaticality judgment tasks, or GTJs, and WMC). More recent work has indeed shown that IDs relating to more implicit processes are correlated with implicit learning abilities (Kaufman et al., 2010). This paper seeks to address the bias toward explicit processes in ID research, focusing on measures designed to test both explicit and implicit L2 knowledge, as well as a variety of ID measures.

Twenty-four native speakers of English (data collection is ongoing) were exposed to a semi-artificial language composed of an English lexicon and German syntax (Rebuschat & Williams, 2012). Participants were randomly assigned to two groups – incidental and instructed, which correspond to implicit and explicit training conditions in the Second Language Acquisition literature (DeKeyser, 1995; Norris & Ortega, 2003; Spada & Tomita, 2009). Participants in the incidental group were distracted from the true purpose of the study, and participants in the instructed group were trained on the verb placement rules of the semi-artificial language. Both completed a meaning-focused task in which they were exposed to 120 sentences in the language. Participants also completed four tasks to assess IDs that were expected to vary according to their relationships to explicit and implicit learning: WMC, PSTM, inhibitory control, and procedural learning.

Learning was assessed by accuracy and reaction time scores on a GJT, elicited imitations, and reaction time during the learning phase, in an attempt to measure implicit and explicit knowledge (Ellis, 2005). A learning effect was observed for both groups, with no significant between-group differences. There were no significant correlations between any of the IDs and performance in the instructed condition. In the incidental condition, procedural learning correlated with performance on the elicited imitation task (r = .602, p = .05), and there was a marginally significant correlation between WMC and performance on the GJT for grammatical items only (r = .601, p = .051). The findings from this study demonstrate that if the appropriate cognitive variables are tested, both implicit and explicit learning are susceptible to IDs, but they relate to different abilities."

Journeys of identity; exploring the position of language via an artistic lens

Michal Tannenbaum, Steven Kellman, Maria Kager, Adrian Wanner and Natasha Lvovich

"The proposed thematic session deals with interfaces between multilingualism, immigrant and minority identities on the one hand, and their reflection in the arts—literature, poetry, visual arts, cinema, music—on the other. A starting assumption is the centrality of the mother tongue as a symbol of one’s past, as including memories and feelings related to early childhood experiences and first object relations, and as closely associated with identity formation and the sense of self. On this basis, the panel will address the motivations for and implications of language shift, maintenance, and use; the sociological and psychological meanings of being bi/multilingual; the notions of hybrid and hyphenated identities, and the socio/psychological journeys of immigrants and members of other minority groups in general and of the artists among them in particular."
The perspective of this panel is a one of multiliteracies and multimodalities, viewing language and text in the broader sense of the concept as any format rendering information. Lectures in the panel will focus on artistic works – mainly but not only literary – that deal with issues of identity both explicitly in terms of their content, but also implicitly via language maintenance, language shift, code switching, and translanguaging. Language matters will thus also be discussed in terms of visual images, the language of music, movement, and the like. The panel will suggest sociolinguistic and psychological understandings emerging from the analysis of various art works, emotional aspects embedded in identity construction, acculturation and language transitions, and the uniqueness of the arts as a rich data source capable of yielding significant insights and interpretations."

**TELICITY AND THE DEVELOPMENTAL SEQUENCE OF THE ENGLISH PRESENT PERFECT BY L1 SPANISH SPEAKERS**

Virginia Teran, Krassimira Charkova and Usha Lakshmanan  Paper Session 84

"The Aspect Hypothesis (AH, Andersen & Shirai, 1994; 1996) proposes that the inherent lexical aspect of verbs plays a major role in the acquisition of tense-aspect (TA) morphology in both L1 and L2. This has been attested in most studies on TA morphology conducted with past and present TA markers (e.g. Bardovi-Harlig, 1992; Bardovi-Harlig & Reynolds, 1995). The present study examined the acquisition of Present Perfect (PP), an insufficiently studied TA form (see Bardovi-Harlig, 2002; Liszka 2002; Uno 2014), from the perspective of the Prototype Account (Shirai & Andersen, 1995), regarding two of its four functions, Experiential Past and Persistent Situation. In this sense, the study proves to be innovative in the field of SLA since so far only two studies (Liszka 2002; Uno 2014) have examined the acquisition of the PP according to the AH.

The participants were 85 L1-Spanish learners of English as a Foreign Language in Argentina at intermediate and advanced levels. The data were collected through a forced-choice task with 16 situations equally distributed between the two Present Perfect functions and between telic and atelic verbs of four semantic categories: states, activities, achievements, and accomplishments. Participants had to choose the correct verb form out of three options (Present, Past or Present Perfect). The data results support the argument that the acquisition of the functions of the Present Perfect may not be solely influenced by lexical aspect but several other factors may be at work, such as sentence-type effect (output influenced by the effect of a certain type of sentence), input distribution, L1 transfer and rote-learned forms. Therefore, developmental stages in the acquisition of the Present Perfect should be examined in view of an interplay of “multiple factors” (Shirai, 2004), which work simultaneously and in a complementary fashion in the acquisitional process of TA morphology.

Multiple t-tests compared the two proficiency groups, which showed clear developmental stages in the acquisition of the Present Perfect, characterized by an important role of proficiency level as the more proficient participants showed a more accurate use of the target form. Regarding lexical aspect, both the intermediate and advanced groups showed a tendency towards employing Persistent Situation with atelic verbs, the same as Uno’s (2014), whereas they used Experiential Past with telic verbs. Contrary to the predictions of the AH that perfective meaning emerges before imperfective meaning, the use that seemed to be easier to learn was Persistent Situation (imperfective), which obtained higher correctness rates in both groups than Experiential Past (perfective).

When the results were analyzed across each aspectual verb type, the pattern of acquisition was less clear and thereby only partially support the AH. The accuracy percentages regarding Persistent Situation was higher for accomplishments and achievements than for states and activities in both proficiency levels, which goes against the prediction of the AH that atelic verbs emerge first with imperfective meaning. However, since the telic verbs used in the elicitation task were in the negative form they were further reclassified as activity verbs (Squartini, 1998) complying with the AH. Finally, the Experiential Past across states shows that this non-prototypical combination obtained the highest accuracy rate in both proficiency levels."

**Deaf readers are bilingual too** Robin Thompson and Stefan Frank  Poster  22-May

"Most deaf readers have exposure to both a signed and a spoken language, making them bilingual. Here we consider the effect of bilingualism on deaf reading. While most previous research on deaf reading has focused on lack of access to a spoken language, research with spoken language bilinguals suggests that being bilingual affects reading
(Duyck, Van Assche, Drieghe, & Hartsuiker, 2007). To our knowledge, no research has considered the role of bilingualism on deaf reading performance; performance that has been consistently poor (Traxler, 2000).

Method: 10 deaf-bilinguals fluent in British Sign Language and English, and 20 hearing-bilinguals fluent in English and an additional language read 205 English sentences randomly selected from unpublished novels while their eye movements were tracked. Additional use was made of existing monolingual data (N = 16; Frank & Thompson, 2012) collected using the same methodology.

Analyses: The main predictors of interest were: Group (monolingual, hearing-bilingual, deaf-bilingual), Frequency (log-transformed relative word frequency), and Surprisal (an information-theoretic measure of the extent to which a word’s occurrence is unexpected or predictable given previous words in a sentence; Levy, 2008). Linear mixed-effects regression models were fitted to first-pass durations, a reading time measure of the total duration of all fixations on a current word before a first fixation on any other word. Group differences were investigated using pairwise comparisons (i.e., deaf-bilingual vs. monolingual, deaf-bilingual vs. hearing-bilingual, and monolingual vs. hearing-bilingual).

Results: Two main findings of interest emerged. First, there was a Group by Supral interaction such that monolinguals show a stronger effect of word surprisal compared to deaf-bilinguals (t>2.1), but no such interaction when comparing hearing-bilinguals with deaf-bilinguals (t=1.63) or hearing-bilinguals with monolingual readers. Second, monolinguals showed weaker effects of word frequency compared to both hearing-bilinguals (t>2.3) and deaf-bilinguals (t>2.1).

Conclusion: Both bilingual reading groups demonstrated stronger effects of word frequency compared to monolingual readers. This pattern of results is consistent with the frequency-lag hypothesis (Gollan, Slattery, Goldenberg, van Assche, Duyck & Rayner, 2011) that claims that less exposure to words for bilinguals due to using each of their languages relatively less results in larger frequency effects compared to monolinguals. Additionally, a significantly weaker effect of surprisal compared to monolingual readers was found for bilingual-deaf readers only. This result can best be explained by less frequent English input for deaf-bilinguals due to lack of access to spoken English compared to hearing readers (either bilingual or monolingual) which would lead to less accurate internalized language statistics.

Overall, some reading patterns found for deaf-bilinguals may be driven by bilingual knowledge of a signed language. In which case, deaf bilinguals may exhibit reading patterns similar to all bilingual readers (as found for frequency effects in the current study). Alternatively, predictors of reading may instead stem from the fact that deaf people don’t have the same access to spoken language as hearing people (as found for measures of surprisal). By considering the impact of both bilingualism and limited access to spoken languages, we gain better insight into the nature of deaf reading.

"Various picture naming studies have found that bilinguals have slower lexical access than monolinguals (Gollan et al., 2005; Ivanova & Costa, 2008). One explanation is that when bilinguals access lexical items in one language (i.e. the target-language), the other (non-target) language is interfering (Hermans et al., 1998; Costa et al., 2003). So far, most studies on lexical access in bilinguals have focused on adolescent or adult bilingual speakers and often only studied interference effects in one direction.

In the present study, we investigate whether the bilingual disadvantage in lexical access is also present in child heritage learners whose heritage language proficiency varies greatly (in this case Turkish or Berber) (figure 1). We also study whether a potential disadvantage occurs in their other language Dutch. Besides, we want to examine whether a larger vocabulary in the one language will cause more cross-language interference and therefore lead to slower lexical access in the other language. Will this be the same for both languages? To address these questions, we compare the picture naming performance of Turkish and Moroccan child heritage learners to that of monolingual Dutch children and take the bilinguals’ vocabularies in both languages into account.

25 child heritage learners (N(Turkish/Dutch)=15, N(Berber/Dutch)=10; Mage=85.6 months) were compared to 25 monolingual age-matched Dutch children (Mage=85.6 months). Lexical access was measured by mean reaction time (RT) on a Dutch picture naming task with pictures of highly frequent concrete nouns. For a subset of 11 Turkish-Dutch
children, we also measured the mean RTs on a Turkish version of the same naming task. Vocabulary in Dutch was measured by the Dutch Peabody Picture Vocabulary Test-III-NL (PPVT) (Schlichting, 2005). Vocabulary in the heritage languages was measured by Turkish and Berber translations of the Dutch PPVT. Translated items that were not comparable to the Dutch items in difficulty and cognate items had been excluded.

When compared to monolingual children, the child heritage learners were significantly slower both in Dutch (t(48)=−2.49, p<0.05, d=0.72) and Turkish picture naming (t(20)=−3.85, p<0.01, d=1.72) (table1). Regarding effects of vocabulary size in the heritage language, we found a significant positive correlation between PPVT scores in the heritage language and mean RTs in Dutch naming: r(25)=0.42, p<0.05. However, we did not find any significant correlations between PPVT scores in Dutch and mean RTs in Turkish. In both analyses we controlled for PPVT scores in the target-language to assure that correlation effects were independent of vocabulary knowledge in that language.

Our results indicate a lexical access disadvantage for child heritage learners in both languages. Whereas we find evidence for language interference from their heritage language during picture naming in Dutch, we do not find a similar interference effect from Dutch during naming in the heritage language. This finding implies that for child heritage learners, language interference might only occur during naming in the non-heritage language. Results will be explained taking into account the language dominance patterns of the child heritage learners."

**Concurrent processing of linguistic and musical syntax: Comparing bilingual and monolingual musicians and non-musicians**

"In both music and language, information must be presented and processed in serial order to be properly integrated. According to the Shared Syntactic Integration Resource Hypothesis (SSIRH; Patel, 2003; 2008) resources to process the syntax of music and language are shared, and these resources have limited capacity. Tasks that require concurrent processing of linguistic and musical syntax should result in longer responses times and lower accuracy as compared to the processing of language or music alone.

We tested the SSIRH by investigating the limited capacity of these resources during concurrent processing in individuals with different backgrounds: bilingual musicians, bilingual non-musicians, monolingual musicians, and monolingual non-musicians. We also examined the reported bilingual advantage in cognitive control and executive functioning (e.g., Bialystok, Craik, & Luk, 2008), and examined to what extent the cognitive advantage is restricted to bilinguals speaking two languages, or whether it also extends to monolingual musicians who handle two different syntactic systems: language and music. In Experiment 1, English monolingual musicians and non-musicians completed a color-word Stroop task while listening to musical chord progressions ending with harmonically expected and unexpected chords. Upon hearing the final chords, strings of letters appeared and participants identified the color in which the letters appeared. In Experiment 2, Dutch-English bilingual musicians and non-musicians completed the same task. If extended experience with one linguistic and one musical syntax afford a musician a similar advantage as bilingual speakers of two languages, then (monolingual) musicians should demonstrate a reduced Stroop interference effect relative to (monolingual) non-musicians. If, however, the bilingual advantage stems from the pervasive co-activation between languages rather than possession of two syntactic systems, only a difference between bilingual and monolingual performance is predicted.

Preliminary analyses on reaction time data collapsed across Experiments 1 and 2 yielded the predicted Stroop effect, but not the effect of harmonic expectancy or an interaction between the Stroop effect and harmonic expectancy. The magnitude of the Stroop effect was equal when paired with a harmonically expected chord as compared to a harmonically unexpected chord. The Stroop effect for the bilingual musicians and non-musicians was larger when incongruent visual conditions were paired with harmonically unexpected chords as compared to harmonically expected chords. However, the Stroop effect for the monolingual musicians and non-musicians was smaller when incongruent visual conditions appeared with harmonically unexpected chords as compared to harmonically expected chords. These findings suggest that a bilingual’s experience with two linguistic syntaxes does affect their concurrent processing of linguistic and musical syntax, which supports the SSIRH’s prediction of shared resources. When considering the participants’ musical background, the magnitude of the Stroop effect was equal for bilingual and monolingual musicians as compared to bilingual and monolingual non-musicians, which suggests that experience handling one linguistic and one musical syntax may not be the same as possessing two co-activated linguistic syntaxes. Implications of the findings
will be discussed in light of theories on syntactic processing in language and music, as well as theories on the bilingual advantage.

Consequences of Language on Spatial Representations among English-Mandarin Bilinguals
Wei Xing Toh and Lidia Suárez  
Paper Session 26

The debate over the possible interactions between language and thought has been an enduring and controversial one till this day. From a relativistic standpoint, language modulate our perception and understanding of the world; contrarily, universalists advance that language effects have little to no bearing on our cognitive machinery which is deemed to be universal. While previous research has delved into a multitude of lexicogrammatical domains (e.g., grammatical gender), cross-linguistic variations in the differentiation of relative distances between objects remains as one area that has received scant empirical attention. In English, prepositions like above/on and beneath/below are often used to denote distal and proximal relationships (e.g., “the clouds are above the fields” versus “the ball is on the floor”)

Conversely, such spatial discriminations are not obligatorily encoded in Mandarin where shang (上) encompasses both above and on, and xia (下) signifies beneath and below. In light of this, we investigated the prospect of such cross-linguistic inconsistencies contributing to cognitive dissimilarities amongst English-Mandarin bilinguals. Participants were assigned to either the English or Mandarin experiment which contained 96 trials each. In every trial for the English experiment, a sentence describing the spatial relationship between two objects using prepositional primes was first presented (see Table 1). Following which, a spatial decision task was attempted where participants were required to click on either a superior or inferior region relative to a blue object in the middle of the computer screen (see Figure 1). The Mandarin experiment was methodologically similar and comprised matched Mandarin sentences. The results revealed that the English primes affected responses on the spatial decision task: Primes conveying proximal (on, beneath) and distal (above, below) relationships induced participants to click on positions closer and further away from the blue object respectively. Contrastingly, such distinctions in spatial decisions were not mirrored for the Mandarin primes (shang, xia). The findings bear several notable implications. First, we argue that the asymmetric results across the English and Mandarin experiments represent an interaction between spatial language and cognition. In considering the results from previous studies (Munnich, Landau, & Dosher, 2001; Suárez, Koh, & Zhang, 2013) with our current findings, we posit that the spatial language-thought relationship is likely to be a dynamic one, where the influence of language on cognition is selective rather than exhaustive. Second, we demonstrated the priming effects of language nonlinguistically. Thus far, only two other studies have explored how prior linguistic exposure can induce conceptual thinking that perseverates even in contexts devoid of language (Boroditsky, Ham, & Ramscar, 2002; Holmes & Wolff, 2010). Third, while the vast majority of the literature illustrates bilinguals’ performance resembling those of L1 or L2 monolinguals or falling somewhere in-between, our findings suggest that bilinguals may adopt and rely on distinct L1 and L2 modes of thinking.

Sentence Repetition tasks in bilingual children: Are they measures of language processing or working memory abilities?
Ianthi Maria Tsimpli, Despina Papadopoulou, Ifigeneia Dosi and Maria Andreou  
Paper Session 61

"Our study aims to explore whether Sentence Repetition Tasks (SRT) reflect only working memory (WM) abilities or alternatively language processing abilities in bilingual children. There is no consensus in the literature in relation to this research issue. Some studies have indicated that SRT is a measure of language ability (Ellis, 2004; Erlam, 2006), rather than just an issue of memory (MacDonald & Christiansen, 2002). Moreover, Klem et al. (2014) note that language processing tasks and working memory tasks are not closely related. On the other hand, other studies (Hamayan et al., 1977) have shown that SRT cannot measure language ability since listeners simply repeat what they hear, without any linguistic processing.

In order to address this research question, we employed a SRT as well as measures of WM and language proficiency. More specifically, the aims of our study are to detect (a) whether SRT is a measure of language ability, (b) whether bilinguals with or without a dominant language (balanced and unbalanced), differ to monolinguals with respect to WM. We define balance as the distance between the expressive vocabulary scores in each of the two languages of the child, and c) to what extent SRT performance in bilinguals can be predicted by language proficiency measures, balance and WM. Our participants are 90 bilinguals (Greek-German, Greek-English, Greek-Albanian) and 30 Greek monolinguals from
Translation ambiguity and individual differences in L2 vocabulary learning

Alba Tuninetti, Natasha Tokowicz, Tessa Warren and Karla Rivera-Torres

"When learning a second language (L2), words that have more than one translation across languages (henceforth, translation-ambiguous words) are harder to learn and process than words that only have one translation (henceforth, translation-unambiguous words) (Boada et al., 2013; Degani & Tokowicz, 2010). Furthermore, production of translation-ambiguous words is slower and more error-prone than that of translation-unambiguous words (Tokowicz & Kroll, 2007). We were interested in examining the source of this translation-ambiguity disadvantage, both at the level of the words themselves, and at the level of participant differences. Therefore, we examined how individual difference measures and translation ambiguity interact during learning of novel vocabulary. The variables we manipulated included: number of translations (one, two, or three), the order of training, how similar the meanings of the translations were (Translation Semantic Variability; Bracken, Degani, Eddington, & Tokowicz, in prep), the number of presentations of the L2 word, and semantic integration to examine how meaningfully participants processed the words they were taught.

Native English speakers were taught 48 German words with one, two, or three English translations over the course of two days. Translation accuracy was examined with a production task (German to English) and a semantic relatedness task wherein participants had to judge if an English word was semantically related to the original German word even if it was not the translation itself. Participants also completed various individual difference tasks to investigate how successful learning and cognitive skill interacted. These included measures of vocabulary knowledge (PPVT-4), phonological processing (CTOPP), picture naming fluency, working memory (operation span), inhibitory control (Stroop), and nonverbal intelligence (Raven’s). Participants also completed a language history questionnaire to ensure that they had no previous knowledge of the target language or closely related languages.

Results showed that translation-unambiguous words were overall translated more accurately than translation-ambiguous words. Furthermore, when translating three-translation words, participants translated the first translation they had been taught more quickly than the other two. English vocabulary knowledge interacted with number of translations on accuracy in translating translation-ambiguous words, such that participants with higher PPVT scores showed overall higher accuracy on the German-English translation task. These results suggest that more robust first language vocabulary skills allow for better retrieval of new vocabulary in long-term memory.

Additionally, repetition seems to alleviate some of the disadvantage associated with a lower vocabulary score because participants with lower PPVT scores showed higher accuracy in the German-English translation task when the word pairs were repeated more times during training. Generally, our results imply that translation-ambiguity has a fan-type effect (e.g., Anderson, 1974) wherein there is a linear increase in difficulty for accuracy and semantic relatedness with more translations. Our individual differences results also provide insight into the cognitive mechanisms that might make L2 learning more difficult or slower.
Linking comprehension and production in bilinguals

Eva Van Assche, Wouter Duyck and Tamar H Gollan  Paper Session 21

"Language comprehension involves the basic functions of comprehension and production of words. They are intrinsically linked to each other, and at the same time, they are also very different involving different cognitive processes. In psycholinguistic bilingual research, these processes are almost always investigated and discussed separately. Many studies each focusing on a certain processing modality such as for instance reading (e.g., Van Assche et al., 2009) or speaking (e.g., Costa, 2005) have provided evidence for the assumption of integrated lexicons and/or language-nonselective activation of words by showing that word processing in the second language (L2) is influenced by the first language (L1), and vice versa (e.g., Costa, 2005; Dijkstra et al., 2010; Spivey & Marian, 1999; Van Assche et al., 2009). That is, they investigated the integration of L1 and L2 lexical systems separately within each processing modality. In the present study, we examined the degree of integration across modalities. More specifically, we investigated whether bilinguals rely on the same lexical systems for reading and speaking using the frequency effect. For example, will frequently reading a word make it easier to later speak the same word?

In Experiment 1, we tested Dutch-English bilinguals who are dominant in L1 and highly proficient in L2. The stimuli were two sets of L2 high- (e.g., horse) and low-frequency words (e.g., parrot). The bilinguals came to the lab on three consecutive days. On day 1, they did a lexical decision task (reading) on one set of high- and low-frequent words and they repeated this task 5 times. They also did a picture naming task (speaking) on the other set of high-and low frequent words and repeated this task 5 times. We observed strong frequency effects in both the lexical decision (frequency effect of 45 ms) and picture naming task (210 ms) when the words/pictures were presented for the first time. These frequency effects diminished quickly when the lexical decision (11 ms) and picture naming task (21 ms) were repeated.

On day 2 and 3, the lexical decision and picture naming task were again repeated 5 times. After this training on day 3, the words that were trained in the lexical decision task were tested in a picture naming task. Similarly, the words that were trained in the picture naming task were tested in a lexical decision task. The results showed that the size of these frequency effects was significantly different from the first presentation results indicating transfer from one modality to the other. In Experiment 2, we ran the same experiment with Dutch-English bilinguals in L1 to be able to compare processing in L1 and L2. The results show that frequency effects can converge across modalities to a large degree and provide evidence for direct links between representations in the comprehension and production system of bilinguals.

English L2 lexical acquisition by children prior to instruction  Mieke Van Herreweghe  Paper  Session 77

"In this paper the acquisition of English by children in Flanders will be discussed. Two research questions will be dealt with: to what extent have they acquired English vocabulary and which factors play a role in the acquisition process?

It is often claimed that Flemish children’s knowledge of English has increased over the last decades, as a result of the rise of English as an international language, which is pervasive in the media and popular culture (Goethals, 1997; Kuppens, 2007). In Flanders, instruction in English typically starts in the second year of secondary school, i.e. at the age of about 13. In this paper a number of studies will be reported on which have examined just how much English children between the ages of 10 and 13 know and have been confronted with prior to instruction of English (Dermul, 2009; Lippens, Caroline 2010; Lippens, Charlotte, 2010; De Jans, 2013; Merlaen, 2014). The paper aims to shed light on the effects of acquiring a foreign language in a context in which language users are not immersed in a foreign language (they are not living in a second language speaking community), but have also not been taught the foreign language in a classroom context. Rather, they have been exposed to large amounts of the foreign language through the media. Although learning contexts like these are nowadays by no means exceptional, most research has been carried out either in immersion or in classroom contexts (Huckin & Coady, 1999; de Bot, Lowie & Verspoor, 2005; Nation 2006; Ellis, 2008; Gass, 2011), and it remains to be investigated how vocabulary is acquired in a context of naturalistic exposure without immersion, i.e. in a receptive naturalistic context.

The paper will focus on both the receptive and the productive lexical knowledge of English prior to instruction. Different methodologies were used in different partial studies (each time with more than 100 participants), such as a receptive test based on Meara and Buxton’s (1987) Yes/No test, the Peabody Picture Vocabulary Test (Fourth Edition)
(Dunn & Dunn, 2007) and for this purpose designed written productive test asking participants to produce English lexical items on the basis of pictures and translations of words and sentences, and to fill in sentences with given words. Moreover it was also investigated which extracurricular activities can stimulate the second language acquisition of children in this age group. They were asked to fill in a questionnaire which inquired about their linguistic backgrounds and their exposure to English through popular media such as television, music, internet and gaming. Some of the participants were asked to keep a diary for the duration of one week.

Results revealed that the children master a certain set of basic English vocabulary. A more thorough analysis of the vocabulary tests showed that nouns and pronouns are most easily acquired. In general, colors, numbers and animals make up the most frequently produced semantic fields. Also, English words with a close resemblance to Dutch were most frequently answered correctly. Yet, there were great individual differences in the scores. The results show that some youngsters had already acquired a fairly broad English lexicon, but that others only had some very basic knowledge.

The hypothesis that popular media positively influence the productive English vocabulary of Flemish youngsters was, for the most part, confirmed. Even though watching English television programs, listening to English music and playing English games were the most highly valued activities by the informants themselves, surfing on the internet was overall considered to be the most effective factor in the children’s vocabulary acquisition. In sum, a prolonged exposure to English television programs (with subtitles), the internet and English games stimulates the children’s second language acquisition. Listening to English music was not considered to be effective in any way.

Cross-linguistic influence in Turkish-Dutch bilingual children’s knowledge of object-reflexives and object-pronouns?

Margreet van Koert, Aafke Hulk, Fred Weerman and Olaf Koeneman Poster 22-May

Background. Van Koert et al. (2013) found that Turkish-Dutch bilingual children (6;5-10;1), who were tested on their comprehension of Dutch reflexives and pronouns by means of a picture verification task (PVT), performed similarly to Dutch monolingual children (6;3-9;1). Both groups showed more target-like performance on object-reflexives than on object-pronouns and they behaved similarly on referential noun phrase (the sheep) and quantificational noun phrase (every sheep) antecedents.

This was a remarkable result, as (a) binding is a vulnerable domain for Dutch monolingual children and bilingual children commonly receive only half of the input monolingual children receive, rendering these difficult sentences even more challenging, and (b) although Dutch and Turkish are roughly alike with regard to object-reflexives and object-pronouns, Turkish has a quasi-reflexive that can be interpreted as either a reflexive or a pronoun, a characteristic which could cause cross-linguistic influence. Thus, these similar results beg two questions: (i) Had these bilingual children already caught up with their Dutch monolingual peers, i.e. if we test younger children, will we find differences?; (ii) How do these bilingual children perform in Turkish; will their results be the same as in Dutch?

Subjects, Materials and Procedure. To address question (i) we designed a picture selection task (PST) in which children (Dutch monolinguals: n=24, 4;1-6;4; Turkish-Dutch bilinguals: n=21, 4;3-6;8) were asked to point to the picture that matched the sentence they heard best, as in (1).

To investigate (ii), we employed a slightly adapted version of the PVT that was used by van Koert et al. (2013; 2014) and Marinis and Chondrogianni (2011), see the example in (2). Twenty-two Turkish-Dutch bilinguals (6;8-9;10) were tested in Turkish by a native speaker of Turkish.

Results and Analysis. The results of the PST reveal that these two groups of young children behave similarly on their interpretation of Dutch pronouns and reflexives (as found earlier); this answers question (i), as even the young bilingual children show no differences with their monolingual peers.

For (ii) we found that these bilingual children performed only slightly more target-like on the object-reflexives than on the object-pronouns in Turkish; however, surprisingly, they were worse in Turkish on the object-reflexives than in Dutch, whilst no difference was found for the object-pronouns, see Table 1.

How can this difference between Turkish reflexives and pronouns be explained? Aarssen and Bos (1999) found that Turkish monolingual children (5;0-9;0) performed between 29% – 62% target-like on the reflexives; thus, even for monolingual children object-reflexives seem to be problematic. These difficulties might be due to the reflexive paradigm.
containing a reflexive, which is interpreted via syntax proper, and a quasi-reflexive, understood via pragmatics (Demirci, 2001; Gürel, 2002).

Seen in this light, it is noteworthy that the Turkish-Dutch bilingual children perform similarly to their monolingual peers, because pronouns are a vulnerable domain in Dutch and the interpretation of Turkish reflexives appears to be a challenging acquisition path. Thus, despite the bilingual children’s lack of input, they seem to cope with these difficult domains.

Cross-linguistic influence in the prosodic domain: the Dutch prosody of heritage speakers of Turkish in the Netherlands

Remy van Rijswijk, Antje Muntendam and Ton Dijkstra
Poster 23-May

"This study examines the Dutch prosody of heritage speakers of Turkish in the Netherlands. The Turkish community in the Netherlands is known for its high Turkish language maintenance, even though second and third-generation speakers generally report Dutch to be their dominant language (Doğruöz & Backus, 2007; Extra, Yağmur & Van der Avoird, 2004). While there have been studies on the lexical and grammatical features of these heritage speakers’ Dutch language system (Backus, 1992; Cornips & Hulk, 2008), a potential Turkish influence on Dutch prosody has not yet been explored. Previous studies have shown contact-induced prosodic change for other language combinations (Bullock, 2009; Mennen, 2004). Particularly, Queen (2001) showed a Turkish influence in the German prosody of bilingual children.

Turkish and Dutch differ in several aspects regarding prosody. Whereas Dutch is a stress-accent language, with duration being the main cue for word stress (Sluijter & Van Heuven, 1995), Turkish is a pitch-accent language and mainly uses pitch movements to indicate stress (Levi, 2005). Moreover, Turkish and Dutch differ in focus marking. Dutch relies mostly on prosody to express focus, while Turkish also uses word order and has more prosodic restrictions (İşsever, 2003; Kamali, 2011; Özge & Boszahn, 2010). Given these cross-linguistic differences, this study explores whether the Dutch prosody of Turkish heritage speakers differs from that of Dutch controls (i.e. native speakers of Dutch who do not speak Turkish) and whether differences could be ascribed to a Turkish influence.

Prosody at the word level (stress) and sentence level (focus marking) were investigated. Eight second-generation heritage speakers of Turkish and eight Dutch controls of the same age and education level participated in the study. These participants completed a sociolinguistic questionnaire and language proficiency tests. The experiment used (wh-)questions about pictures to elicit SVX sentences, where X was a direct/indirect/prepositional object. Each speaker produced 45 utterances in three conditions: broad focus, contrastive focus on the subject and contrastive focus on X (1)-(3), yielding 135 utterances per participant. The prosodic analysis included F0 minima and maxima, rises and falls, peak alignment and duration differences.

The results showed several differences between the heritage speakers and the controls. While all speakers used prosody to mark differences in focus (e.g. steeper F0 falls after words in contrastive focus), the heritage speakers applied fewer prosodic features than the controls. For instance, unlike the controls, they did not lengthen words in contrastive focus. The heritage speakers also used intonation contours that differed from those employed by the controls. Specifically, they used a significantly smaller pitch range. This is in line with Kamali (2011), who noted a limited pitch range between the first and final peak in Turkish sentences.

The differences in intonation contours and use of prosodic features suggest a Turkish influence in the Dutch prosody of Turkish heritage speakers. Besides shedding light on cross-linguistic influence in the prosodic domain, this study describes the Dutch prosodic system of Turkish heritage speakers in the Netherlands, thus contributing to the linguistic research on heritage speakers (e.g. Benmamoun, Montrul & Polinsky, 2013).

Examples

1) Wat gebeurt er?
   'What is happening?'
   De jongen eet aardbeien.
   'The boy is eating strawberries.'
2) Eet de opa de aardbeien?
   'Is the grandfather eating the strawberries?'
   Nee, de jongen eet de aardbeien.
‘No, the boy is eating the strawberries.’

(3) Eet de jongen de kersen?

‘Is the boy eating the cherries?’

Nee, de jongen eet de aardbeien.

‘No, the boy is eating the strawberries.’

The Adjective in French-Dutch codeswitching

Emma Vanden Wyngaerd

Poster 22-May

“This paper investigates the word order and adjectival agreement patterns in French-Dutch codeswitched DPs. It examines the predictions made by two theoretical frameworks: the Minimalist Program (MP) approach to codeswitching – as developed by MacSwan (1999) and applied by Cantone and MacSwan (2009) – and the Matrix Language Framework (MLF) – as developed by Myers-Scotton (1999) – and compares these predictions to data gathered in an elicitation task and a grammaticality judgment task. This is the first study investigating the adjectival agreement in codeswitched DPs.

Dutch-French is an interesting language pair to investigate within the context of the DP because it has several conflict sites. The first is word order: Dutch has pre-nominal adjectives, while French has (mostly) post-nominal adjectives. Secondly the adjectival agreement systems work differently. Dutch adjectives are sensitive to definiteness, while French adjectives aren’t. These two differences are shown in (1). In addition, French and Dutch have different gender systems: masculine and feminine for French as opposed to a three-way gender system (masculine, feminine, neuter) in Southern Dutch, the dialect discussed in this paper.

To investigate this question a grammaticality judgment task was developed in the form of an online survey. Participants of the survey were asked to rate 160 aurally presented sentences on a three-point scale. All of these sentences were in codeswitching mode and presented in a randomised order.

Of them, 40 were fillers and 24 sentences contained DPs without adjective, which were included to control for gender assignment of codeswitched nouns. The remaining 96 sentences were the focus of the study, as they had DPs with an adjective. These sentences were conditioned for matrix language, word order, agreement on the adjective and gender conditions of the noun.

The survey included a background questionnaire to select responses of participants that learnt both languages before the age of four and spoke both languages on a daily basis. There were 15 suitable responses. All participants were between the ages of 15 and 33. Ten of the participants took the survey in the presence of the investigator and a post interview was conducted.

The results of this judgment task show no unambiguous confirmation of the predictions of either framework. However, statistical analysis of the mean ratings of the sentences showed that the MP is a better predictor for the grammaticality judgments. Sentences predicted to be grammatical by the MP were rated higher than sentences predicted to be ungrammatical. This difference was statistically significant to the 5% level. There was no significant difference in rating for the predictions of the MLF.

Because this is the first study looking at adjectival agreement in codeswitching, these results in favour of the Minimalist Program can only be seen as tentative. It has been argued that only an integration of corpus and naturalistic data, grammaticality judgments and neurolinguistic evidence can give a complete picture of codeswitching data. Since the evidence in this study has been limited to grammaticality judgments, these results will only gain a definitive nature when they are replicated using other methodologies.

Meaning-making in Maningrida: social factors in code-choice in a highly multilingual community

Jill Vaughan and Margaret Carew

Paper Session 54

“Multilingual practices, such as code-switching/mixing and receptive multilingualism, enable speakers to draw upon the range of codes within their linguistic repertoire to construct linguistic and social meaning in interaction. This is particularly the case in Aboriginal Australia, one of the most multilingual regions in the world, where traditional languages continue to be spoken alongside newer contact languages (e.g. Kriol and mixed languages), Aboriginal English and Standard Australian English (see, e.g., Koch & Nordlinger 2014). As such, speakers in these settings have many codes to choose from in their linguistic meaning-making.
This paper investigates the social and pragmatic functions of the linguistic codes of Maningrida, Arnhem Land, a predominantly Aboriginal region of Australia’s Northern Territory. Maningrida has extremely high levels of multilingualism due to its role as a linguistic and socio-political nexus of many distinct groups from further afield in Arnhem Land. Indeed, Maningrida is in some ways a microcosm of traditional Arnhem Land affiliations and hostilities, many of which are still apparent in ongoing interactions and attitudes. At last report (in 1996), fourteen distinct languages are spoken there, with most people able to speak between two and six (Elwell 1982; Handelsmann 1996).

In focusing particularly on the practices of code-switching and mixing, we investigate which languages are currently being used in Maningrida, how distinct codes are drawn upon in interaction, and the particular social meanings they may have for speakers. In particular, we consider a small set of multilingual texts collected from both private and public domains in the community in order to elucidate indexical properties and grammatical constraints (where relevant) of code-switching/mixing as practiced in Maningrida. Close examination of the choice and strategic use of codes in interaction is combined with data from qualitative interviews with speakers (regarding language ideologies and practices), as well as broader ethnographic work in the community, to elucidate the indexicalities of the codes in question (e.g. Bucholtz & Hall 2008). This provides a targeted means of investigating how social meanings are constructed more generally.

These findings are considered within the context of existing work on code-switching/mixing both in Aboriginal Australia (e.g. McConvell 2008; Meakins 2012) and beyond. This study further contributes to understanding the enduring role of ‘traditional’ linguistic practices that contribute to ongoing stable multilingualism in Aboriginal Australia, as well as the inextricable link between language, land and identity in this region, wherein sociolinguistic variation is dimensionalised into the geographical and social cosmos (Evans 2013). These extant yet traditional practices now interact with newer cultural and linguistic pressures, such as the increasing use of Standard Australian English, in a variety of ways, and within this context code-switching/mixing can be a symptom of language in a state of change but can also be characteristic of an enduring multilingual language ecology.

How anglicisms are perceived in French classes within a francophone minority setting in Canada
Samuel Vernet Paper Session 64

“In the South-East of New-Brunswick, Canada, the city of Moncton is the main acadian urban center. Since the 90s, the socio-economic environment of this town is characterized by significant migration of Acadian populations coming from the rest of the province. Francophones account for about 40% of the population, and for decades, the city has been the heart of a struggle for language rights.

As a result of that context, the linguistic landscape of Moncton can be described as a continuum, which Boudreau and Perrot define the features (2010: 56) like this: a weakening of the so-called « traditional » French Acadian, a development of bilingualism coupled with increasing contacts between communities. Meanwhile, the development of cultural and institutional francophone structures (art scene, media, education, health) and the growing contacts with Francophones from other parts of the country and the world strengthen, in the public spaces, the presence of both a French vernacular, the Chiac (a French dialect where English lexicon is integrated to a syntactical and grammatical French frame, see Perrot 1995), and a normative form of French, preferred in educational institutions.

In this paper, we intend to ask the following question: how are anglicisms handled in French courses given at the University of Moncton? We will question the notion of anglicism and how people involved in this field (professors, students, University) are dealing with it. We will see that it is related to linguistic ideologies anchored in the social environment (Schieffelin and Woolard 1994, Schieffelin, Woolard, and Kroskrity 1998) and in close connection with a commodification of languages and language skills (Blommeart 2010, Heller and Duchêne 2012).

We support this presentation with an ethnographic inquiry for a whole semester in French courses at the University of Moncton. These courses – obligatory for all students – aim, as a stated goal, to develop the communication skills of students in French, both written and oral. A corpus of data was collected, consisting of 42 hours of audio tape recording of class sessions and 8 hours of interviews with professors and students. We will base our work on these data, analyzed according to the framework of critical discourse analysis (Fairclough 1992, but also Blommaert 2005), because we follow a critical sociolinguistic approach (Heller 2002, Bourdieu, 1991).
It will be necessary to question the very notion of « anglicism », in other words, how is it defined by those who use it. Then we will see how these are perceived during French classes, between a form of rejection and tolerance. We will see that the hierarchy of anglicisms that's being established is linked to certain linguistic ideologies, in particular a discourse of language endangerment (Duchène and Heller 2006) which shows a fear of assimilation. Moreover, it shows that the connection people involved in this field have with anglicism is proof of an ideological struggle, between opportunities brought by bilingualism and the teaching of a “uniform” French that provides access to symbolic and material profits."

*Bilingual categories as a window into semantic-conceptual mapping. Behavioural and fMRI evidence.*

Nestor Vinas Guasch, Virginia C. Mueller Gathercole and Hans Stadthagen-Gonzalez  Poster  23-May

"This presentation focuses on bilinguals' processing of categories that differ in their two languages, with the goal of gaining greater insight into the relationship between concepts and linguistically encoded classes. While concepts are fundamental to mental life (Murphy, 2002), debates still rage concerning the extent to which language influences cognition (see Lakoff, 1987; Bowerman, 1996; Gentner, 2003; Murphy, 2002; Elston-Güttler & Williams, 2008; Levinson, 1997). The present studies focus on cases in which one language lexicalizes a concept in a word, while another either lacks a word for it (e.g., English nut denotes a class including almonds, pecans, cashews, while there is no translation equivalent in Spanish (Gathercole et al., 2010) or divides up the conceptual space differently (e.g., English contrasts fingers and toes, while Catalan dits refers to both fingers and toes).

Our two studies aim at exploring the behavioural and neural correlates of semantic and conceptual representations – often overlooked in language neuroscience with problematic results (Pylkännen 2011). The present studies use categories that differ across languages in their conceptual-semantic relation, ranging from categories that show a stronger ‘conceptual’ component (classical/objectivistic categories), to "'categories'' that are purely ‘linguistic/semantic’ (homonyms). (See appendix for stimuli examples).

The first experiment was a category membership judgement study, where bilingual Spanish-Catalan and monolingual Spanish participants decided whether items presented visually belonged to a certain category. Participants’ performance was highest in classical (predominantly conceptual) categories followed by radial taxonomic (intermediate), then homonyms (linguistic) and finally radial thematic categories (less conceptual than radial taxonomic). Bilinguals performed overall better than monolinguals, but there were no differences between language groups in homonyms. Additionally, bilinguals tended to ‘overextend’ in their judgements about category boundaries by choosing distractors as members of the categories.

The second experiment used fMRI to explore L1 to L2 priming in a lexical decision task, specifically to examine whether the degree of priming and patterns of brain activation vary across category types. Spanish speakers who had English as their L2 and English monolinguals were given an explicit priming lexical decision task that used pairs of same-category words as stimuli (see appendix). Results revealed an overall higher neural activation in bilinguals (performing in their L2) in areas associated with processing of visual word form (BA 37), classical language areas (BA 9, BA 47, BA 39) and memory (BA 36). Monolinguals showed lower neural activation except in memory areas (BA 6). In bilinguals, Classical categories were associated with higher neural activity in the visual cortex (BA 19) and areas hypothesized to integrate visual and motor information (BA 7). On the other hand, homonyms were associated with more activity in executive control areas (BA9, BA10, BA46), Broca's area (BA44), and the angular gyrus (involved in semantic processing BA39).

Taken together, these results provide evidence for different mechanisms in category boundary processing in bilinguals, compared to monolinguals, and separate neural bases for conceptual and linguistic components. Finally, we argue for a more careful selection of stimuli in language neuroscience studies and a distinction between semantics and concepts."

*Processing differences between simultaneous and early bilinguals: Evidence from tasks of cognitive control*

Santa Vinerte and Laura Sabourin  Poster  21-May

"A body of evidence suggests that bilingualism affects both our linguistic abilities and our general cognitive abilities.1. To manage two languages, bilinguals must use cognitive control skills such as attention, inhibition, and task-
Cognitive status and voice onset time influence early auditory word identification in bilinguals
Shirlene Wade, Marcel Giezen, Jillian Hall and Henrike Blumenfeld Poster 22-May

"Previous research has suggested that cognate status (e.g., English “elephant”–Spanish “elefante”) constrains processing during word recognition in bilinguals (e.g., Blumenfeld & Marian, 2007). Furthermore, Ju and Luce (2004) showed that, during word recognition, bilinguals are sensitive to bottom-up acoustic-phonetic cues like cross-linguistic variations in voice-onset time (VOT). However, it is unclear how these variables interact in explaining activation of bilinguals’ two languages during word identification.

The present study evaluates how bottom-up acoustic-phonetic cues (English-like VOT vs. Spanish-like VOT on word-initial voiceless stops) and lexical status (Spanish-English cognate targets vs. English-specific non-cognate targets) impact language activation in bilinguals. Bilinguals were predicted to exhibit parallel activation of their two languages for both cognate and non-cognate target words (e.g., Blumenfeld & Marian, 2007). Additionally, bilinguals were predicted to use cross-linguistic variations in voice-onset time to constrain parallel activation (Ju & Luce, 2004).

Using a 2x2 mixed design, our study evaluates the effect of cognate status (cognate, non-cognate) and acoustic-phonetic properties (English VOT, Spanish VOT) on parallel language activation using a eye-tracking. Participants were instructed to select the image corresponding to an English target word (e.g., palace-palacio). Participants heard target words including voiceless stop-initial cognate and non-cognate words with English VOTs (24 trials), and voiceless stop-initial cognate and non-cognate words with manipulated Spanish VOTs (24 trials). Voice onset times were manipulated by artificially shortening them to lengths characteristic of Spanish VOTs. For example, the VOT of the word-initial /p/ in...
“palace” was shortened to the length of the word-initial /p/ in the Spanish competitor “pato” (duck). Parallel activation was operationalized as looks to the cross-linguistic competitor image, which shared phonological overlap with the target word (e.g., palace).

Initial findings with 10 Spanish-English bilinguals did not yield statistically significant evidence of parallel language activation when participants listened to the English- and Spanish-VOT targets. However, significant effects of cognate status and VOT were identified. Reaction times and accuracies were combined into efficiency scores (RT/proportion correct). A 2x2 ANOVA revealed a main effect of cognate status, p<.05, with faster and more accurate identification of cognates than non-cognates. A main effect of VOT was also present, p<.001, with faster and more accurate identification of English-VOT than of Spanish-VOT targets. Critically, an interaction emerged between cognate status and VOT, p<.01: for cognates, targets with English and Spanish VOTs were identified equally efficiently, p=.07; for non-cognates, English-VOT targets were identified more efficiently than Spanish-VOT targets, p<.001. This pattern was also reflected in the target activation time course. For cognates, target activation curves were statistically identical for English and Spanish VOTs, p>.1. For non-cognates, English-VOT targets were activated more quickly than Spanish-VOT targets, p=.05.

Together, initial findings suggest that early language activation in bilinguals is sensitive to both lexical and acoustic factors. During listening, bilinguals may be more tolerant of English-Spanish variations in VOT for cognate words, with less tolerance for such manipulations in English-specific non-cognates. Additional data will be collected from bilinguals and English monolinguals to solidify and extend these findings."

The Effects of Perceived Similarity and Training on Novel Speech Acquisition: an fMRI study
Victoria Wagner, Pilar Archila-Suerte, Ferenc Bunta and Arturo E Hernandez  Poster  23-May

"The current study sought to understand brain plasticity in adults associated with acquiring novel speech sounds. The Speech Learning Model (SLM) suggests that the perceived similarity between L1 and L2 sounds will affect the acquisition of L2 sounds (Flege, 1995). L2 sounds that are perceived to be part of the L1 category are less fully acquired in terms of production (Flege, 1987). Thus the acquisition of L2 speech stimuli should be affected by similarity to L1 and affect neural recruitment. In the current study, the effects of perceived similarity of speech sounds and training on novel speech production were examined. We expected differences in neural recruitment for more and less similar novel stimuli across training, with less similar stimuli recruiting speech production regions later in training.

English monolinguals underwent a covert repetition training session for native and novel bi-syllabic nonwords of varying perceived similarity while undergoing fMRI. Novel non-words were composed of Hungarian phonemes and were recorded by native Hungarian speakers. The fMRI training was preceded and followed by overt production sessions of the native and novel sounds that were recorded. Recordings were rated for accuracy. Behavioral results showed improvement for novel sounds after the short training session with significant improvement for less similar sounds as predicted by the Speech Learning Model.

Neuroimaging data was analyzed using regions of interest based on previous literature. Overall, more similar stimuli elicited significantly greater activation than less similar stimuli in bilateral caudate, left Heschl’s gyrus, bilateral insula, right middle temporal gyrus, and bilateral putamen. Looking at the effects of training, there was greater activation for more similar compared to less similar stimuli in bilateral caudate, left Heschl’s gyrus, left insula, right middle temporal gyrus and bilateral putamen, at the beginning of training while there was no difference for the final segment of training. These results suggests that the similar novel stimuli may recruit the speech commands of native stimuli more than the dissimilar novel stimuli for the beginning of training. Over time, similar novel stimuli experience either a reduction in brain activation or the results suggest a possible increase in activation for dissimilar novel stimuli.

Looking at the effect of training within the levels of similarity, more similar stimuli elicited greater activation in right superior temporal gyrus at the beginning of training compared to the end of training. Investigating the effects of training on the less similar stimuli, there was greater activation at the end of training in right caudate, left insula, and bilateral putamen compared to the beginning of training, suggesting that participants were in the process of engaging new motor speech commands for these sounds.

These results suggest that perceived similarity affects the neural recruitment involved with the acquisition of novel speech sounds. Participants appear to recruit regions associated with memory for sounds that are more similar to
L1, while less similar sounds require continued activation in regions associated with motor control during the final phase of training, which suggests the continued acquisition and formation of L2 categories, in line with the SLM.

*Language Control in Bilingual Reading: evidence from the maze reading task.* Xin Wang, Paper Session 8

"Bilinguals naturally develop the ability to resolve interference from one of their languages while speaking in the other, and to use resources from that language while communicating in the other. In bilingual language production, most experimental work on lexical processing has demonstrated a switch cost when a speaker switched from one language to the other, which has been taken to support the existence of the language control mechanism in language switching. However, empirical efforts to investigate whether a similar effect can be observed in bilingual comprehension are rather limited, regardless of the available mixed findings. The current study adopts a new technique (i.e., the MAZE task, Forster, Guerrera & Elliot, 2009) and design to measure language switch costs in comprehension. In the maze paradigm, participants were instructed to complete a sentence in a word-by-word fashion. Each word was presented with an alternative on a trial where participants were required to use both syntactic and semantic knowledge to choose the correct word to continue the sentence. This paradigm, unlike the self-paced reading task, allows us to create comparable conditions where both switched and non-switched trials can be measured to test whether a delay is encountered in reading language switches, without being confounded by potential spill-over effects. In addition, in order to understand whether language dominance plays a role in language switching, three different groups were tested in the reading paradigm: Chinese-English balanced bilinguals, Chinese-dominant bilinguals and English-dominant bilinguals. The results showed robust switch costs in both L1-L2 and L2-L1 directions and that language dominance modulates the size and direction of switch costs. Because this paradigm allows us to tease apart lexical effects from inhibitory control effects in reading, the analysis shows that switch costs in reading were generated by two different sources: the lexicon and the inhibitory control. In fact, the inhibitory effects observed in reading language switches can best be explained by a language control mechanism connected to the executive control functions that benefit from extensive bilingual experiences. Overall, these results are consistent with the Inhibitory Control model (Green, 1998) and the lexical activation account, supporting the claim that a language control mechanism external to the lexicon is necessary even in bilingual language comprehension.

*Bilinguals’ expository text reading: benefits from knowing connectives and slow reading* Camille Welie, Rob Schoonen and Folkert Kuiken, Paper Session 70

"Crosson and Lesaux (2013) have shown that fifth graders’ knowledge of connectives contributes to reading comprehension when controlling for vocabulary knowledge and reading fluency. Their study also revealed that English-Spanish bilingual fifth graders do not benefit as much from knowing connectives as their monolingual English peers when reading English texts. The authors propose that this differential effect could be due to English-Spanish bilinguals’ lower levels of reading fluency and vocabulary knowledge in English. A certain amount of vocabulary seems necessary to interpret connectives appropriately (Degand & Sanders, 2002) and slow reading may prevent readers from fully benefitting from connectives in texts, which is in accordance with Perfetti’s (1985) verbal efficiency theory and Just and Carpenter’s (1992) limited capacity theory.

The present study investigated the hypotheses put forward by Crosson and Lesaux (2013): whether language background, reading fluency and vocabulary knowledge influence the use of connectives in expository text comprehension, and whether these variables interact with each other. A total of 117 eighth graders participated in this study of which 40 were monolingual and 75 bilingual. All of them were born in the Netherlands and received education in Dutch from primary school; those considered as bilinguals spoke over 50% of the time another language than Dutch at home.

In contrast with Crosson and Lesaux’ results, we did not find Dutch bilinguals to benefit less from their knowledge of connectives in Dutch reading comprehension, instead of that, they seem to benefit more when they have low levels of reading fluency and vocabulary knowledge: a linear mixed model analysis revealed a significant three-way-interaction between KOC, reading fluency and vocabulary knowledge indicating that readers with low vocabulary scores and a low reading fluency, benefited the most from their knowledge of connectives.
We suggest that the differential outcome between our findings and those of Crosson and Lesaux is related to a difference in the reading proficiency of the students tested. Bilingual readers with more reading practice (our study) might be able to compensate for slow reading or low vocabulary knowledge by knowing connectives and directing attention to relationships between sentences, in accordance with Walzyck's compensatory-encoding model (1995, 2002). Less experienced readers (Crosson and Lesaux's study) may not be able to apply strategic behavior likewise.

Moreover, slow reading seems not to be detrimental at all for reading dense expository texts in secondary school, supported by a reverse fluency effect found for readers with average knowledge skills: for these readers slower reading was related to better expository text comprehension. Bilinguals with average knowledge skills may be better able to compensate for knowledge gaps than monolinguals with average knowledge skills because they are slower readers. The advantage of slow reading for expository texts could be one of the reasons why several studies have found that bilinguals perform better than expected compared to monolingual peers with similar knowledge levels.

**Heritage, Community, and Native Languages in the United States: Examining the current status and identifying future possibilities**

Terry Wiley, Donna Christian, Nancy Rhodes, Sarah Catherine K. Moore, Margaret E. Malone, Joy Peyton, Shereen Bhalla and Lpren

Thematic session Session 47

Since the publication of Fishman's (1966) foundational study of Language Loyalty in the United States, nearly half a century ago, interest in the maintenance, development, and revitalization of heritage and community languages in the United States has grown despite decades of debate over the merits of bilingual education for language minority populations (Wiley, 2013). Although many language communities have long devoted energy to educating their children and finding ways to maintain rich linguistic and cultural traditions, institutional recognition of, and support for, the promotion of heritage and community languages has, for the most part, been lacking. This panel will explore the current status and future possibilities for heritage and community language (HL/CL) education in the United States through four relevant and judicious topics: demographics; stakeholders; funding; and; assessment. Panelists will offer 15-minute presentations, with 10 minutes for questions at the end. The panel will begin with a consideration of the current state of HL/CL education and explore, based on U.S. Census and language program surveys, the mismatch of demographic realities in terms of the diversity of languages spoken in communities in this country compared with where, and if, those languages are taught in schools. The second presentation will discuss stakeholders’ perspectives on heritage/community language programs, including their current status, factors that have helped them run well, challenges, and suggestions for improvement. The third paper will address the relationship between program models for language instruction, their funding streams, and broader associations between these and minority-majority language ideologies and policy. The fourth presentation will examine the challenges which arise in the development and administration of assessments of heritage language speakers and suggest further direction for pursuit of related issues. A discussant will tease out the relationship between the four presentations, as well as facilitate interaction between the audience and the panel during a question and answer session.

**Working Memory in Second Language Acquisition: Effects of Interlanguage Dynamics and Modality**

Joshua Williams and Isabelle Darcy

Paper Session 16

"Previous research (Osaka & Osaka, 1992) has shown that working memory (WM) abilities across languages does not change for highly proficient second language (L2) learners. The present study utilizes a listening span (LS) task (Daneman and Carpenter, 1980) to explore differences in L1 and L2 working memory during acquisition. Importantly, L2 modality (i.e. signed vs. spoken) is modulated to characterize changes in WM as a function of cross-linguistic code. It was predicted that L1-LS would be significantly larger than the L2-LS based on deficits in proficiency and processing demands. Spanish L2 learners (L2ers) were expected to have greater L2-LS capacities compared to the ASL learners because the Spanish students’ L1 WM is attuned to verbal codes, eliminating the need to recode L2 to L1. Conversely, ASL L2ers must recode a visuo-spatial code into a verbal code in order to reproduce the last word of the sentence.

Interlanguage dynamics (i.e. language/memory system changes as a function of proficiency) was also explored. An approximation of L2 span to L1 span as a function of proficiency was expected. A greater magnitude of change for ASL learners, who are acquiring a different code, was posited. Discrepancies in accuracy of traditional WM measures (e.g. digit span) for native deaf signers (Morere & Allen, 2012) motivated an investigation into their ability to predict L2-
modality listening span. Thus, it was hypothesized that digit span will only predict L2 spans for Spanish students, not ASL learners, because of the similarity in codes.

Hearing learners of ASL (n=20) and Spanish (n=20) participated in the listening span task. Both groups saw a native speaker (or signer) of the target language. The participants made plausibility judgments while maintaining the last word of the sentence in WM. The participants translated the last word from their target language to their respective L1.

Results indicate that regardless of modality, the WM capacity of L2 words was significantly lower than in their L1. Spoken L2ers had significantly higher WM capacities compared to signed L2ers. This effect was not due to differences in proficiency as self-ratings and proficiency composite scores did not significantly differ across groups. Furthermore, regressions show that signed L2ers increase their L2 WM capacity as a function of proficiency, whereas the spoken L2ers do not. This may indicate that the WM system is undergoing change to accommodate another perceptual code. Digit span predictive power was observed only for Spanish L2-LS.

In conclusion, the present study provides the first account of how language modality affects WM capacity for different groups of L2ers. Results motivate research-specific changes on how to measure L2 working memory in ASL students, as digit span may be code-specific. More importantly, the study shows that cross-modal WM changes can occur over time and the deficit induced by another modality can be overcome. These changes may be explicated by the use of memory processing in the episodic buffer before phonological processing for ASL learners (Hirshhorn, Fernandez, & Bavelier, 2012). Modality differences in WM might have direct implications on language processing and acquisition.

"As immigration and emigration increase around the world, the salience of multilingualism will intensify, including the need for multilingual writing abilities. This includes literacy not only in the strict sense, but also the ability to write an appropriate text, what we call ‘textual competence’. Multilingual textual competence even gains higher importance if we assume that bilingual knowledge, competence and proficiency are not made up of separate or separable subsystems (L1, L2...), rather consist of one holistic and dynamic system within which every change has ramifications throughout all subsystems (e.g. de Bot et al. 2007).

The paper presents results of a large-scale cross-sectional study, which comprises 360 9th graders with Italian, Greek and Turkish as L1 and German as an early L2. The study focuses on the following questions:

1. How do writing abilities of bilinguals in different languages influence each other?
2. What is the role of cognitive and extra-linguistic factors for the development of multiliteracy?
3. Does a higher degree of textual competence in L1 have a positive impact on L2?

The corpus includes argumentative and narrative texts in the respective L1 and in L2 German, a sociolinguistic questionnaire, interviews on language biography in L1 and L2, parental interviews, plus a bilingual language awareness test, which has been particularly developed for the scope of this project. The text data is analyzed according to global textual features (see Berman & Nir-Sagiv 2007) comprising aspects such as macrostructure, discourse mode and discourse stance (Riehl 2013) to identify different text-levels and measure textual competence. The different text-levels achieved in the respective languages are correlated with each other and with other influential factors, such as mother tongue instruction, language use, language attitudes and language awareness.

In this paper we particularly focus on the role of extra-linguistic factors and language awareness. One of the results is that students reach a higher text-level score in narrative texts than in argumentative texts in both their L1 and L2 languages. Furthermore, students are either reaching the same level of textual competence in their respective L1 as in their L2 (German) or they show a higher level of textual competence in their L2, but not vice versa. Surprisingly, no significant differences were found between the students with non-compulsory L1 instructions and without L1 instructions. However, there are highly significant correlations between L1 reading activities of the students and literary practices in the family and L1 textual competence. We also observe differences between the respective ethnic groups, which also highly correlate with language attitudes and literary practices in the family (Duarte et al. 2014).

Another remarkable finding is that high textual competence in the dominant language (L2) correlates significantly with a high language awareness score in L2 and also in L1. Thus if the textual competence in L1 does not correspond with the language awareness score, other factors must be responsible, e.g. cognitive overload as discussed by Riehl...
(2013), Torrance and Galbraith (2006), Kellogg (2001), Flower and Hayes (1980). Furthermore, we argue literary practices in the family are of particular importance for the development of both cognitive abilities and textual competence.

**Bilingualism in users of British Sign Language and English following stroke**

Bencie Woll  
Paper Session 16

"The British Deaf community is a bilingual community, with members using both British Sign Language (BSL) and English. BSL, with records going back to the 16th century, is a language unrelated to English or American Sign Language (ASL). Members of the British Deaf community use English in a variety of forms and with varying degrees of fluency. These forms include written English, spoken English, and fingerspelling (a manual representation of English orthography). The manual alphabet used for fingerspelling in England was first described in the 17th century and is a 2-handed alphabet, unlike the 1-handed alphabets found in North America and in most countries in Europe. As well as its use in representing foreign (i.e. English) words such as place names and proper names, fingerspelling is also a means of borrowing from English into BSL, and many signs are historically derived from fingerspelled forms, undergoing consistent changes such as loss of handshape contrasts in order to assimilate to BSL phonology." 

The study reported here describes dissociations between preserved and impaired abilities in signing (BSL) and fingerspelling (English) in studies of two right-handed signers, Charles and Gordon, who experienced motor and language problems following left hemisphere stroke. Stroke affords a rare opportunity to explore dissociations in bilingualism in signers. 

Study 1 describes anomia - a deficit in sign retrieval - as a prominent feature of aphasia in Charles following stroke. As well as semantic and phonological errors (Marshall et al., 2004), Charles was no better at retrieving iconic than non-iconic signs, and often substituted fingerspelled forms in response to sign elicitation tasks. In Study 2, adaptations to the production of two-handed signs, and to the use of the two-handed British manual alphabet were studied in Charles and Gordon. Both signers had partial paralysis of the right hand following their strokes and had switched to using their left hand as their dominant hand for signing and gesture. Nevertheless both continued to use their impaired right hand as the dominant hand for fingerspelling. This was initially considered to be because the articulatory complexity of fingerspelled forms (articulation letter-by-letter) is greater than that of signs (which are mono- or disyllabic). However the dominance shift could be seen even in loan signs – borrowings from English into BSL via fingerspelling. This dissociation could be seen even when signs and fingerspellings had identical forms. For example, the BSL sign MOTHER is identical in form to the fingerspelled letter -m-, but MOTHER was produced with the impaired right hand dominant, while -m- was produced with the unimpaired left hand dominant.

Motoric, neurological and linguistic accounts for these dissociations are considered. We conclude that rather than being competing influences, they are bound together. We argue that preferential access to left-lateralised phonological processing –essential for fingerspelling – is also important for signs that exceed a threshold of phonological complexity. Thus, complex trade-offs between language, cognition and motor execution underpin observed patterns of dominance-switching in these two forms of communication, and provide insights into a unique form of bilingualism.

**Overall summary.** This study describes dissociations between preserved and impaired abilities in signing (BSL) and fingerspelling (English) in two right-handed signers following left hemisphere stroke. Complex trade-offs between language, cognition and motor execution underpin observed patterns of sign and word retrieval difficulties and hand dominance-switching, providing insights into a unique form of bilingualism."

**Multilingual repertoires and transnational spaces. Language use and attitudes among immigrants in Venice (Italy)**

Matthias Wolny  
Paper Session 45

"In the last two decades Italy has emerged as one of the major arrival points for globalized migrants among the Western European countries [(cf. Castles/Miller (2009)]. Immigration statistics show a vast range of countries of origin: from Eastern Europe and Northern Africa to more distant areas of the world like South and Southeast Asia or Southern America.

The city of Venice offers a special multilingual configuration compared to other small- or medium-sized urban centers in Italy: besides being one of the major tourist destinations (with the consequential presence of tourist languages) and the presence of many different immigrant communities, the urban dialect of Venice is widely used by the
The present study is based on qualitative data gathered in different immigrant communities in Venice – the communities from Bangladesh, Sri Lanka and the Republic of Moldova – and includes in-depth interviews on the sociolinguistic biography of the participants and their language use, photographs, fieldnotes and material published by community members.

The first part of the data analysis is focused on the composition of the multilingual repertoires considering the country of origin, primary and secondary education as well as varieties acquired during the migration trajectories considering also the ‘truncated’ elements of the repertoires [cf. Blommaert/Backus (2012); Blommaert (2010)]. The second section investigates the actual language use of the informants through the sociology of language lens [cf. Clyne (1991)] considering domains both in the real and the virtual world, in the private as well as the work domain. The conclusive section of the study discusses the construction of transnational communicative spaces and the positioning of the individual inside these spaces through the choice of the adequate linguistic variety.

This study will illustrate how translocal and transnational ties structure and influence the social reality and work life of migrants and their families. Furthermore, the use of the varieties of the repertoire to communicate with community members, members of the host society and other immigrants unveils a conscious management of the elements of the individuals' linguistic repertoires (community language(s), linguae francae, Italian and other foreign languages, Venetian dialect). This conscious management of one's linguistic resources recalls the conception of linguistic resources as social or economic capital [cf. Bourdieu (1982)] and challenges classical sociolinguistic findings regarding the attrition of immigrant languages and the prestige of the language of the host society.

_Bilingualism and the Acquisition of Idiomatic English of ESOL Students_  
Jenny Wong  
Paper Session 78

Research problem: The acquisition and retention of English idiomatic expressions have proven to be one of the major challenges faced by non-native English speakers. Acquisition of idioms is a problematic area even for advanced learners who start to quail at the prospect of dealing with phrases. Retention of idiom has long been an area of interest among educators and learners, as both teachers and students of second language learning admit that idioms are much more difficult to learn than their non-idiomatic meaning equivalents. Researchers have proposed that learners can acquire L2 idioms by considering the historical origins of words, understanding cultural stereotypes, contextual information as well as capturing the meaning of the core verb of idiom. In the traditional classroom setting, idioms are acquired by non-native speakers through rote learning or by translation, which often result in incomplete imitation of idioms in the retention stage. Aims: Drawing on my past experience in teaching idioms, this paper explores the effectiveness of learning idioms in a bilingual context based on a communicative teaching methodology that teaches the origin of idioms, their cultural significance and their application in everyday English in a student-centered, collaborative environment. Secondly, it aims to demonstrate that ESOL students can acquire idioms and phrases effectively, if not more, through translation into L1, as opposed to the effectiveness of learning in an immersive English environment.

Research Method and Participants: Feedback of ESOL students of different ethnic backgrounds who attended English camps in 2013-2014 in their respective countries were collected through a post-camp survey and participant observation in-class. Outcomes: Generally, the data collected suggest that ESOL students responded positively to the acquisition of idioms in this communicative approach. It also shows that a majority of ESOL students in non-native English speaking countries benefit from learning idiomatic expressions in a bilingual setting. Implications for future research: The fact that these students were taught by non-native English teachers further suggest that Albert Bandura’s theory on peer modeling was at work in a collaborative setting, where non-native English teachers would be considered as a peer model as they share more similar characteristics with ESOL students than native English teachers.

_Bilingualism delays clinical manifestation of Alzheimer’s disease_  
Evy Woumans, Patrick Santens, Anne Sieben, Jan Versijpt, Michaal Stevens and Wouter Duyck  
Poster 23-May

Recent research has indicated that bilingualism may have beneficial cognitive effects, also outside the verbal domain. The current study investigated the effects of bilingualism on the clinical manifestation of Alzheimer’s Disease (AD) in a European, homogeneous sample of patients. We assessed all new, incoming possible AD patients for two neurologists in two university hospitals within a specified timeframe. In total, 69 monolinguals and 65 bilinguals...
diagnosed with probable AD were compared for onset of clinical manifestation and diagnosis of the disease. The results of our linear regression model, which controlled for confounding variables, indicated a delay in AD manifestation and diagnosis for bilinguals that constitutes almost five years. These findings have considerable implications for cognitive wellbeing of AD patients, and for health care costs, as research has shown that even a short delay of one year would significantly reduce the disease’s global burden.

Language use, choice and acculturation orientations among Dutch and Turkish immigrants in Germany
Kutlay Yagmur, Sjaak Kroon and Judith Hendriks-Hermans

Dutch immigrants in English speaking immigration contexts are frequently presented as fast language shifters (e.g. Klatter-Folmer & Kroon, 1997). Turkish immigrants, on the other hand, are portrayed as language maintainers. The policy of the host society towards immigrant groups has been taken as an important indicator either supporting or discouraging language maintenance in the literature on language maintenance/shift and acculturation studies (Bourhis et al. 1997). In order to see the effect of the receiving society policies on the actual language use, choice and acculturation orientations of immigrants, two different groups are compared in this presentation. Language use and acculturation orientations of Dutch immigrants in the German city of Kranenburg are compared to Turkish speakers in a number of German cities. The conceptual framework of the study is based upon Berry (1997) and Bourhis et al. (1997). Two surveys were conducted among 265 Turkish informants and 166 Dutch informants in Germany. Both groups were compared for their attitudes towards multiculturalism, language use, choice, preference and attitudes. On the basis of acculturation orientations analyses, both groups emerge as own-group oriented. There are differences between the two groups however due to a number of factors but most basically the Dutch group has emerged as highly own language oriented as opposed to the findings reported in other immigration contexts. Our presentation will enable a deeper discussion of the role of ethnicity, language background and host society policies on immigrant integration. The issue of ‘cultural distance’ will be critically evaluated on the basis of our comparative findings.

Language Education Policy in Maryland: District Decisions on Program Selection for Bilingual Learners
Qin Yao, Steven Sharp, Yu Bai and Jeff MacSwan

"Immigration to the U.S. has traditionally disproportionately impacted California, Illinois, New Jersey, Texas, New York, and Florida. However, beginning in about 1990, a shift to “new destinations” began. New destination states include Maryland, Virginia, North Carolina, Tennessee and Georgia (Clotfelter, Ladd, & Vigdor, 2012). This shift occurred for several reasons, including growing employment opportunities in new destinations (Growley, Lichter, & Qian, 2006), such as high demand for low-wage, semi-skilled labor and changes in border enforcement policy (Massey & Capoferro, 2008), including selective hardening of the southern border in the West which made entry into traditional destinations more difficult. Previous research has examined publically available data regarding the growth of immigrant populations in schools as well as language diversity and language program diversity in Maryland (National Center for Educational Statistics, 2013; Bai et al., 2013), finding that despite a high percentage of bilingual learners in the state, no school system reported using a program model that provided heritage language support.

This situation is compelling from a language policy perspective because research has established that heritage language support contributes significantly to immigrant children’s school success (August & Shanahan 2006; Rolstad, Mahoney, & Glass, 2005), and Maryland, like other new destination states, now has adequately many bilingual learners enrolled in schools to practically implement heritage language support.

In an effort to probe more deeply into the language program demography of Maryland, the present proposed poster presentation will report findings from a survey of county and district administrators responsible for immigrant student program oversight, detailing enrollment counts, types of language programs used and considered, and rationale for programmatic choices. Quantitative analysis regarding student and language program demography as well as qualitative analysis of open-ended questions will be included."

Bilingualism and cultural ethos: a sociolinguistic analysis of the stories of elderly Korean-Americans
Keumsil Kim Yoon
"This paper represents a sociolinguistic analysis of stories related by elderly Korean Americans, specifically in what concerns bilingualism and cultural ethos. The analysis is based on an investigation of episodic stories of Korean-Americans who came to the US between 1965 and the 1980s. This period is significant in that there was an influx of a large number of Korean immigrants as a result of the Immigration Act of 1965. During this period however, bilingualism was still seen as rather disadvantageous, and the maintenance of the heritage language and culture of immigrants was not encouraged. Today, we can raise a question as to what cultural ethos would mean to those who have lived several decades with two languages of unequal status, one being a public code and the other a private one. This question becomes more interesting when observing contemporary South Korean culture (a phenomenon known as the “Korean Wave,” or Hallyu in Korean) that has become popular in many parts of the world.

The stories were collected from audio-taped interviews of twelve Korean-Americans of various backgrounds. The interview was semi-structured in that the interviewers had been pre-informed of its nature, content, and approach. The interview questions were centered around high, low, and turning points of their life, life challenges, and future plans. They were asked to describe episodes, scenes, and/or moments in their life that stand out. Each description was followed by further questions: why he/she thinks that episode was so good, terrible, and/or critical; what he/she was thinking and feeling at that time; how his/her daily use of English and Korean affected the particular event or incident, and what the story may say about who he/she is as a person now. In regards to their future, they were asked to describe any current or immediate project and its importance for self and/or others. Finally they were asked a few questions about their fundamental beliefs and values and about the meaning in their lives of two languages and cultures.

The analysis of the stories is comprised of three parts. In the first part, the paper addresses a broad-spectrum question as to the extent to which their stories are built on cultural assumptions about what is expected in life; what the norms for a successful life are, and what special belief systems are necessary to establish coherence in a life with two languages. The second part involves an examination of linguistic characteristics exhibited in the stories. It explores how Korean culture-bound words/concepts (e.g. HAN/regret, JEONG/feeling, HYO/filial piety), which are regarded as being untranslatable are used and/or embedded in their stories. It further examines patterns of code-mixing occurring in storytelling, with said examination focusing on functions of code-mixing. In the third part, the paper portrays an overall picture of these interviewees’ ways of gaining a sense of self and dignity, discusses what Korean cultural ethos means to elderly Korean-Americans whose life involves two languages, and finally presents a view of bilingualism from a perspective of cultural ethos."

Uncovering Multilingualism at School. Empowering the disempowered through plurilingual practiced policies.

Andrea Young, Latisha Mary, Timea Kadas Pickel and Lisa Winstead Thematic session Session 48

Multilingualism has long been ignored and sometimes even outlawed within the assimilationist, monolingual approaches all too often practiced in French public schools (Escudé, 2013; Lorcerie, 2012; Young, 2014). As complex, multimodal forms of linguistic and cultural diversity emerge and develop in the 21st century, some teachers are questioning their practices and developing new forms of communication and learning support with emergent bilingual pupils and their families (Hélot & Ó. Laoire, 2011).

In this thematic session, three interrelated papers will present data which reveal some of the personal and educational consequences of such practiced language policies. The contributors to this session examine, through a variety of ethnographic approaches, how multilingualism can be silenced, disempowering the learner or, to the contrary, harnessed as a learning resource through innovative, inclusive practiced policies which allow the learner to build on previously acquired skills and knowledge encoded in languages other than the language of instruction. Our three papers combined span across the early years of a child’s life through mandatory schooling and into young adulthood, proposing insights into the powerful position of educators and the key role they play as policymakers through their everyday social practices in the classroom (Menken & García, 2010).

The first paper contributes to a temporal understanding of a non-European immigrant educational experiential adjustment to the French schooling system and society through a case narrative analysis of two young immigrant adults.

The second paper focuses on the case of newcomer students attending a public lower secondary school. The researcher proposes an analysis of the official language in education policy directed at these students, a critique of the language policies based on the republican principles of equality which are practiced with little understanding of the
bilingual learning process and makes a convincing case for empowering, transformative research conducted “on, for and with” the community being researched (Conteh, 2005).

The final paper examines how policy is practiced (Spolsky 2004; Bonacina-Pugh, 2012) by a pre-school teacher as she welcomes and supports three year old children and their families from the moment of their first contact with the public education system and throughout the first year of public schooling. The data (primarily video recordings) analysis and the social practices developed whilst viewing key clips with the teacher explore how what the teacher thinks, knows, and believes (teacher cognition, Borg, 2003) relates to what she does in the classroom.

We hope that by presenting examples of creative, inclusive practices, this presentation will make a positive contribution to the conference theme of uncovering multilingualism, providing evidence of how teachers’ plurilingual practiced policies can make pupils’ languages visible and build on their linguistic and cultural competences to extend their knowledge further.

Bilingualism and Its Effects on Attitudes towards Foreign Language Learning

Süleyman Sercan Yüksek Paper Session 27

"The aim of this study is to find out the significant differences between the attitudes of the monolingual and bilingual students who are learning English as a Foreign Language. For this reason, the Language Attitude Questionnaire which was developed by Cook and composed of six clusters of social, psychological and personal monolingualism and social, psychological and personal bilingualism was applied to them.

The participants of the study were selected from the Preparatory School of Çağ University students who were studying English. Only eighty students were selected for the study and forty of those eighty students are bilinguals and the other forty of them are monolinguals.

After the collection process, the data was analysed through Chi-square and descriptive statistics. The findings clearly show that bilinguals have more positive attitudes towards foreign language learning. For this reason, different teaching approaches can be developed for such foreign language learners."

Language and Literacy Behaviors of ELLs from Low SES: Language Disorder or Lack of Language Proficiency.

Elena Zaretsky Paper Session 70

"As the population of ELLs in U.S. public schools grows, ELLs may be disproportionally represented in special education. There is paucity of research examining the relationship between early literacy and language behaviors of ELLs in their L2 (English) compared to the monolingual peers and children with SLI (Goldstein, 2006). While ELLs may perform similarly to their monolingual peers on decoding and spelling, oral language complexity consistently lags behind (Uchikishi, 2005; Ucelli & Páez, 2007), which is especially noticeable in children from low SES attending urban Title I schools. Absence of identifiable discriminating factors in language and literacy acquisition among ELLs leads to over-identifying ELLs as language disordered.

The present study examined early literacy and narrative development of ELLs attending kindergarten in Title I school in order to differentiate ELLs from SLIs. Narratives are considered an important predictor of academic achievements among school-age children and establish a foundation for future literacy development (August & Shanahan, 2006), making it a valid assessment of oral language proficiency, an area of concern among children from different linguistic backgrounds. There are also common assumptions regarding the relationships between reading precursors, i.e., phonological awareness (PA), alphabet knowledge, phonological memory (PM) and vocabulary (Yesil-Daglii, 2011; Schatschneider et al., 2004; Muter, Hulme, & Snowling, 2004) and early reading achievements.

30 kindergartners participated in the study (Mage=5;7, SD=0.3). All children were assessed on reading precursors, as well as on early reading measures, i.e., sight words recognition, decoding and invented spelling. All children also produced recalled and elicited narratives based on picture stories. The narratives were recorded, transcribed and analyzed for type/token ratio (TTR) and Mean Length of Utterances (MLU), as measures of vocabulary knowledge and grammatical complexity.

Our results showed similar reading precursor profiles and early reading achievements between ELLs and monolingual peers of the same age, except for Rhyming task [(recognition and production) (t(58)=6.77, p=<.0001)]. Rhyming skills are known to relate to vocabulary development (Muter, Hulme & Snowling, 2004), suggesting that ELLs
have significant deficits in vocabulary knowledge. Both, PA and alphabet knowledge added significantly to decoding and encoding in ELLs group (t=3.84, p=.0001 and t=5.52, p=<.0001 respectively), as seen in children with SLI, while monolingual peers relied on alphabet knowledge only (t=4.52, p=.0001) (Zaretsky & Kuvac, in preparation). The results of narrative analysis suggested that recall paradigm is easier for ELLs than elicited narratives in terms of vocabulary items (F(3)=65.25, p=.0001), with significantly larger TTR (t(46)=7.19, p=.0001). However, MLU was higher for elicited narratives (t(46)=2.62, p=.01). Close examination of the use of grammatical morphemes suggested strong similarities with SLIs, as pointed out by Pradise (2005), and therefore possibility of mistaking ELLs for SLIs.

These results suggest that although ELLs show the same pattern of grammatical morpheme acquisition and reliance on PA for reading tasks as SLIs, they do not show deficits in nonword repetition (PM), considered to be a clinical marker for SLI (Conti-Ramsden, 2003). The difference in underlying psycholinguistic skill may differentiate ELLs from SLIs, as they perform on this task similar to monolingual peers."

Language switch training increases proactive control in bilinguals

Haoyun Zhang, Chunyan Kang and Taomei Guo

"A constant challenge for bilinguals is the need to switch between two languages. Recent research indicates that this constant switching may enhance cognitive control. Many of the previous studies examined the bilingual advantage by comparing bilinguals to demographically-matched monolinguals. What remains poorly understood is whether the differences observed in executive function between bilinguals and monolinguals truly reflects bilingualism or some uncontrolled difference between the two groups. One way to investigate this issue is to focus on bilinguals themselves and to ask whether cognitive control can be enhanced through training.

In the present study, we recruited two groups of Chinese-English bilinguals who were matched on education, SES, and self-rated Chinese and English proficiency. The experimental group trained for 10 days on a language-switching task in which participants named pictures in each language, while the control group received no training. Both groups were tested on the AX-CPT (Servan-Schreiber et al., 1996) prior to training and after 10 days (Fig. 1). The AX-CPT has been widely used as a measure of cognitive control as participants are required to respond to event contingencies (e.g., yes to X after A but no to Y after A and no to X after B). Because the AX condition is the most frequent sequence (70% of the trials), the assumption is that the presentation of the A will cue the X response. So when A is followed by Y, or when B is followed by X, there should be a response conflict. Behavioral performance on the AX-CPT can be used to generate indices of proactive and reactive control (Braver et al., 2009). We also used ERPs to measure the N2 component elicited by the cue and probe stimuli, as these have been interpreted in past electrophysiological studies to reflect proactive and reactive control, respectively (Van Wouwe et al., 2011; Lamm et al., 2013). We hypothesized that training on language switching would increase cognitive control and that those changes would be reflected in performance on the AX-CPT task.

Picture naming results showed that training reduced the language switching cost, indicating successful training. Behavioral results for the AX-CPT indicated that our measure of proactive control increased significantly in the training group, while there was no difference for the control group (Fig. 2). ERP results showed that for the experimental group, the mean amplitudes of the N2 components elicited by the cue and the probe were significantly larger after training. However, for the control group, there was only a significant difference for the N2 associated with the probe (Fig. 3). These results suggest that participants paid more attention to the cue after training, indicating a shift toward increased proactive control. Together with other recent studies that catch the consequences of language processing on the fly as they emerge over time (e.g., Blumenfeld & Marian, 2011; Pivneva, Mercier, & Titone, 2014; Wu & Thierry, 2013), the present study suggests that there is a link between tasks that are uniquely bilingual and the benefits that they confer to cognition more generally."

Object omission in Cantonese-English Bilingual Children

Jiangling Zhou, Ziyin Mai and Virginia Yip

"Bilingual children acquiring different language pairs often omit objects in early development. Protracted delay has been observed in recent research on the acquisition of object realization in bilinguals acquiring different language pairs (e.g., Müller & Hulk, 2001; Pirvulescu et al., 2014; Yip & Matthews, 2000, 2005). Questions arise as to (i) what leads to protracted delay (if any) in bilingual acquisition of object realization; and (ii) how bilingual children unlearn non-target
object omission. This paper aims to contribute to a better understanding of these two issues by investigating the null objects in Cantonese-English bilingual children’s early production of English. We look closely into omitted objects for both obligatorily (e.g., put) and optionally transitive verbs (e.g., eat), and the discourse pragmatic contexts in which object omission occurs. In addition, the role of input was evaluated by examining the extent to which object omission in bilingual children patterns with that of their parental input. Our data include spontaneous speech of two new Cantonese-English bilingual children and their parents with video recordings that go beyond the Hong Kong Bilingual Child Language Corpus (Yip and Matthews, 2007). Data of the two children covered the period from 1;07 to 3;11 and 2;10 to 3;11, respectively.

Results show that both children omitted objects more frequently in obligatory contexts (over 20% on average for each child) than monolingual English-speaking children (e.g., 4.8% as reported in Ingham, 1993/1994). They omitted objects particularly when the object referent was present in the physical context, and/or was mentioned in the prior discourse. A comparison of parental input and the child’s production reveals two major differences with respect to patterns of object omission: (i) around 50% non-target object omission in each bilingual child occurred with obligatorily transitive verbs that were invariably used with an overt direct object in the parental input; (ii) a majority of the omitted objects were referential (see examples in (1)) in the production of bilingual children although most direct objects of optionally transitive verbs omitted by parents were non-referential. The rate of non-target object omission dropped at the age of around 3 (less than 8% on average afterwards) with one child but the decrease was not obvious in the other child across the periods under investigation. The finding might be (partly) accounted for by different language dominance patterns given that the latter child was consistently Cantonese-dominant whereas the former child was balanced between the two languages in terms of MLU differentials (Yip & Matthews, 2006). Qualitative analysis of the different cases of object omission shows that some of them bear a trace of Cantonese (see examples in (2)).

The findings of the present study provide new evidence of protracted delay in bilingual child language acquisition of linguistic constructions at the syntax-pragmatic interface. The protracted delay can be attributed to cross-linguistic influence. Children might have unspecified representation of omitted objects open to both referential and non-referential readings as Pérez-Leroux, Pirvulescu, and Roberge (2008) suggested and they might learn to identify and interpret omitted objects by means of discourse contexts.

Examples:

(1) Non-target object omission in Cantonese-English bilingual children’s English
   a. FATHER: do you want <the soup> [] have the cheese in one piece or do you want me to cut it down into little pieces?
      CHILD: I want to eat myself in a big piece.
      FATHER: big piece, okay.
      Situation in the video: the child wants to eat a piece of cheese and her father asks her how she would like to eat the cheese. (Janet 3;08.04)
   b. MOTHER: this is a small bag for you.
      MOTHER: Darren.
      MOTHER: do you like that?
      CHILD: mm, mm.
      MOTHER: ah.
      CHILD: take out, take out.
      Situation in the video: the child receives a school bag and he would like to take it out of the wrapper. (Darren 2;00.10)

(2) Object omission that bears a trace of Cantonese
   a. this I like to drink.
      [Intended: I like to drink this; this = some sort of drinks in a cup] (Janet 3;08.25)
   b. this one cannot eat, they are mines.
      [Intended: nobody can eat the chewing gum as they are mine.] (Janet 3;09.08)
How Bilingualism and Cognitive Control Impact L2 Reading Comprehension: Evidence from ERPs

Megan Zirnstein, Janet G. Van Hell and Judith F. Kroll
Poster 22-May

"When bilinguals read or speak in one of their languages, the language not in use is also active (Dijkstra, 2005). As a consequence, conflicting information from the non-target language often affects performance (L2; see Kroll & Dussias, 2013). Successfully negotiating cross-language activation, then, is a necessary part of communicating and comprehending for bilinguals. Repeated practice in resolving cross-language conflict has been hypothesized to lead to changes, and possibly advantages, in bilinguals’ cognitive control ability. Although these effects are most prominently observed for older adults (Gold et al., 2013), when constraints due to cognitive decline are present, it may be possible to reveal this pattern in young adults when they are engaged in the demanding task of reading in the L2.

In order to investigate how control processes may be recruited during online reading, we examined a phenomenon that has been widely studied in the language processing literature: semantic prediction. Recent neurocognitive research has shown that English monolinguals tend to predict the meaning of upcoming words, especially when sentences are highly constraining (Federmeier, 2007; Van Berkum, 2008). This has been shown to lead to processing benefits, such as a reduced N400 response to expected words in ERP measures, suggesting that predicting the features of expected words facilitates later integration. However, when unexpected, though plausible, words are encountered, processing costs are incurred (i.e., a large and late frontal positivity). In past research we have shown that, for English monolinguals, cognitive control ability attenuates the amplitude of this response. Monolingual readers with higher control appeared to have greater success in resolving the conflict between a previously formed prediction and the unexpected word they encountered.

Based on this finding, we asked whether bilinguals make use of their cognitive control ability to resolve conflict while reading in L2. In the current study, Chinese-English and Dutch-English bilinguals read sentences in the L2 while their EEG was recorded. Sentences were manipulated to have more or less contextual support for a later target word that varied in expectedness (see Table 1). Participants also performed the AX-CPT (Cohen et al., 1999) as a measure of cognitive control ability.

Results from the Chinese-English bilinguals indicate that bilinguals are capable of generating predictions in the L2 (reduced N400), but also incur costs when those predictions are not verified (larger frontal positivity). Performance on the AX-CPT predicted the magnitude of this latter effect, where higher control individuals showed virtually no effect. These data indicate that bilinguals recruit control processes when reading for comprehension in the L2. However, L2-immersed bilinguals, who have practice in inhibiting their dominant L1, may be advantaged when reading in the L2. If so, then bilinguals immersed in an L1-dominant environment may pattern differently. Results with Dutch-English bilinguals are preliminary, but suggest that they have less overall difficulty with prediction costs than the immersed Chinese-English readers. Taken together, the results suggest that, even in an L1 context, if language switching occurs frequently enough, bilinguals are able to rely on their enhanced control ability to negotiate conflict during L2 reading."
Abdollahi, Effects of L1 Farsi on L2 English sentence processing in Farsi-English bilinguals: Behavioral and electrophysiological evidence, poster May 23

Abed Ibrahim, Sentence repetition in the majority language German: Which error types and structures can identify bilingual children with specific language impairment (SLI)², sess. 60

Abutalebi, Bilingualism and aging: neurocognitive and neurolinguistics perspectives, sess. 46

Abutalebi, Language switching in multilinguals: Adaptive Control, sess. 39

Adams, Cognate effects in visual and auditory lexical decision in child and adult bilinguals: Do phonological cues constrain lexical activation to one language? , sess. 83

Aguirre, A COMPARATIVE STUDY OF STUDENT PARTICIPATION IN TWO BILINGUAL EDUCATION PROGRAM MODELS IN THE UNITED STATES, sess. 27

Aldoney, Early Bilingual Development and Well-Being: Insights from a New Subfield of Research, sess. 44

Amengual, Convergence of the vowel systems in the production and perception of early Spanish-Galician bilinguals, poster May 23

Anderegg, How Alphabets can Alter Perception: Orthography’s Influence on the Mental Representation of Phonological Information, poster May 21

Anema, Language immersion and early effects on suprasegmental features during oral reading, poster May 22

Archila-Suerte, Speech sound learning depends on individual’s ability, not just experience, poster May 21

Arteagoitia, The contribution of Spanish vocabulary knowledge to the English reading comprehension skills of Latino adolescent students in the U.S., sess. 70

Asaid, The Impact of Pre- and Post-cuing in Language Switching on Switching Costs and Global RTs, sess. 14

Babcock, The nature versus nurture of simultaneous interpretation, sess. 8

Baird, Bilingual language dominance and prosodic focus marking in the K’ichee’ of Spanish-K’ichee’ bilinguals, sess. 18

Ballweg, A Sense of Belonging – The Role of Language in the Negotiation and Construction of Identity in Multilingual Families, sess. 24

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