East Asian Psycholinguistics Colloquium

The Ohio State University

October 13 & 15, 2012
Organizers
Institute for Chinese Studies
Graduate Association of Chinese Linguistics
Institute for Japanese Studies

Sponsors
Institute for Chinese Studies
Institute for Japanese Studies
Department of East Asian Languages and Literatures
Division of Arts and Humanities, College of Arts and Sciences
East Asian Studies Center
(U.S. Department of Education Title VI Grant)
Graduate Association of Chinese Linguistics
Department of Linguistics
Department of Psychology
Buckeye Language Network
(Arts and Sciences Innovation Grant for the Study of Language Variation)
Department of Spanish and Portuguese

Organizing Committee
Zhiguo Xie (co-chair)
Seth Wiener (co-chair)
Marjorie K.M. Chan
Mineharu Nakayama
Yutian Tan
Jeffrey Chan
**Friday, October 12, 2012  (4:00 - 6:00 pm)**

**East Asian Studies Center reception**  
Venue: Thompson Library 11th Floor Campus Reading Room, 1858 Neil Avenue Mall

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**Saturday, October 13, 2012**  
Venue: Mershon Center Room 120, 1501 Neil Avenue

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| 9:30-10:30am | Pei-Fen Du and James H-Y. Tai  
(National Chung Cheng University, Taiwan)  
*The Position of Demonstrative ‘NAGE’ and the Processing of Chinese Relative Clauses*  
Chair: Marjorie K.M. Chan (The Ohio State University) |
| 10:30am | Break                                                                 |
| 10:45-11:45am | Kiwako Ito (The Ohio State University)  
*Processing Prosodic Prominence in Japanese*  
Chair: Seth Wiener (The Ohio State University) |
| 11:45-1:30pm | Catered Lunch & Graduate Student Poster Session                      |
| 1:30-2:30pm | Ming Xiang (The University of Chicago)  
*Constructing Covert Dependencies -- Online Processing of Chinese Wh-in-situ Questions*  
Chair: Etsuyo Yuasa (The Ohio State University) |
| 2:30pm  | Break                                                                 |
| 2:45-3:45pm | Puisan Wong (The Ohio State University)  
*Factors Affecting Inter-rater Reliability in the Judgment of Monosyllabic Mandarin Lexical Tones*  
Chair: Chao-Yang Lee (Ohio University) |
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**Monday, October 15, 2012**
Venue: Hagerty Hall, Room 46, 1775 College Rd

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<td>Chair: Mineharu Nakayama (The Ohio State University)</td>
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Graduate Poster Session: 11:45 am – 1:30 pm, October 13
Venue: Mershon Center Room 120 and Lounge, 1501 Neil Avenue

Stroop Interference on Hanzi, Pinyin, and English Orthography
Litong Chen
The Ohio State University

Perceptions of Discourse Particle Use and Speaker Identity in Mandarin Chinese
Nicki Dabney and Chien-Jer Charles Lin
Indiana University

Cohesion and Syntactic Individuation: A Comparison of Mandarin and English
Jessica Harding and Chien-Jer Charles Lin
Indiana University

The Effect of Mandarin Transcription System on Phonological Awareness
Yu-Jung Lin and Chien-Jer Charles Lin
Indiana University

Taiwanese Tone Sandhi in Loanwords
Jung-Yueh Tu
Indiana University

Detailed Syllable Frequency Information in Mandarin: Evidence from Lexical Decision
Seth Wiener and Rory Turnbull
The Ohio State University
9:30am-10:30am, October 13

The Position of Demonstrative ‘NAGE’ and the Processing of Chinese Relative Clauses

Pei-Fen Du and James H-Y. Tai
National Chung Cheng University

In Chinese nominal phrases containing relative clauses (RCs), the demonstrative + classifier 那个‘NAGE’ can either precede or follow RCs as shown in (1).

(1) a. NAGE in pre-SRC:

nage | jintian | chengzan | duzhe | de | zuojia | yaoqing le | jizhe
Det-CL today praised readers DE writer invited ASP reporters
‘The writer who praised the readers invited the reporters today.’

b. NAGE in post-ORC:

jintian | duzhe | chengzan | de | nage | zuojia | yaoqing le | jizhe
today readers praised DE Det-CL writer invited ASP reporters
‘The writer who the readers praised invited the reporters today.’

Different analyses have been proposed since Chao (1968). Lin (2004) has shown that they are both restrictive relative clauses. Huang, Li and Li (2009) also hold the same view, and further propose that when NAGE precedes the RCs, it has a deictic function (‘that one’), and when it follows the RCs, it has an anaphoric function (‘the’).

From the point view of processing, the word order of NAGE with respect to RCs can be sensitive to the internal structure of RCs. Based on a Chinese spoken corpus, Sheng and Wu (2012) conducted a sentence-production experiment, and found an asymmetric distribution of NAGE between Chinese subject-extract relative clauses (SRCs) and object-extracted relative clauses (ORCs). NAGE tended to occur at the left edge of SRCs (1a); but at the right edge of ORCs (1b). We inquire whether the asymmetric pattern also appears in a reading comprehensive task.

We examined the distribution of NAGE in SRCs and ORC employing the self-paced reading experiment (N=20). Two variables were manipulated including RC types (SRCs vs. ORCs) and the positions of NAGE (pre-RCs vs. post-RCs). The sentences were divided into eight regions (1). The filler sentences were also included under a non-RC environment. A comprehension question appeared after reading a sentence.
**Accuracy rates.** It shows that NAGE in pre-SRCs (92%) were comprehended more correctly than NAGE in post-SRCs (86%), whereas NAGE in post-ORCs (90%) were comprehended more correctly than NAGE in pre-ORCs (86%) (p > .05).

**Reading time data.** In ORCs, except region 1, all regions of NAGE in post-ORC took shorter reading time than NAGE in pre-ORC (p < .05). In SRCs, each region of NAGE in pre-SRC took shorter reading time than NAGE in post-SRC except R3 and R4 (p < .05).

The findings were consistent with the asymmetric pattern between NAGE in SRCs and ORCs reported by Sheng and Wu’s (2012) production experiment. The distinctive distribution of NAGE in Chinese RCs appears to reflect the parsers’ tendency to process the different internal structure of relative clauses. However, the functional distinction between deictic ‘that one’ and anaphoric ‘the’ as proposed by Huang, Li and Li (2009) cannot be inferred from the findings by Sheng and Wu nor from our findings.

10:45am-11:45am, October 13

**Processing Prosodic Prominence in Japanese**

Kiwako Ito  
The Ohio State University

Japanese is known as a pitch accent language, in which the presence or absence of a pitch accent is lexically specified for the majority of words. The intonation pattern of a given phrase or sentence is considered largely predictable from the lexical accential properties of the words that construct the phrase/sentence, although the sizes of pitch expansions for emphasis and the pitch excursions toward the end of phrases (a.k.a. boundary pitch movements) are primarily driven by the pragmatic contexts. Thus, for an efficient oral communication, Japanese listeners have to not only identify lexically determined pitch shapes for processing the words’ lexical semantics but also interpret the dynamic changes in pitch according to the discourse context.

In this talk, I would like to review some of my past and ongoing work on online comprehension of pitch expansion in Japanese. A series of eye-tracking experiments have investigated how a pitch expansion
that may signal contrast guides referential resolution and how it interacts with the representation of referential salience in Japanese children and adults. Another set of ongoing collaboration research investigates how listeners interpret phrase-internal pitch range reset in the discourse context that primes either the left- or right-branching structure. The findings of these studies suggest that interpreting emphasis from a pitch movement in Japanese is not a simple task, presumably due to the multi-dimensional use of pitch information in the language. Children show their sensitivity to pitch expansions by the time they start going to school, yet it may take years before they achieve adult-like competence to comprehend the pragmatic functions of contrast-marking intonation in Japanese.

1:30 pm – 2:30 pm, October 13

Constructing Covert Dependencies -- Online Processing of Chinese Wh-in-situ Questions

Ming Xiang
The University of Chicago

Processing wh-dependencies in English-type languages necessarily involves retrieving a wh-filler from working memory, because the wh-phrase is linearly dislocated from its argument position. However, in wh-in-situ languages like Mandarin Chinese, the wh-phrase remains in a canonical argument position. The structural adjacency of a wh-phrase to its role assigner raises the possibility that no memory retrieval is necessary and hence the comprehension of such wh-questions is less demanding. On the other hand, syntactic theories generally posit that a dependency between the in-situ position and a clause-initial syntactic operator must nonetheless hold at Logical Form, rendering wh-in-situ languages and wh-movement languages abstractly similar. Therefore it may still be necessary to retrieve information about the clause-initial position to correctly interpret a wh-dependency. Very little prior work have experimentally demonstrated whether the processing of Mandarin wh-in-situ
questions indeed involves constructing a long distance dependency; and if so, whether this process is similar to processing overt long distance dependencies. This talk will present results from three experiments to address these issues.

2:45 pm – 3:45 pm, October 13

Factors Affecting Inter-rater Reliability in the Judgment of Monosyllabic Mandarin Lexical Tones

Puisan Wong
The Ohio State University

Psycholinguistic research that examines speech sound acquisition in typical and atypical native and second-language learners usually determines production accuracy of the speaker by perceptual judgment. Inter-rater reliability is used to index the degree of agreement among the judges and to ensure that the ratings of the judges are valid. This talk will present a study that examined inter-rater reliability on the categorization of monosyllabic Mandarin tones by Mandarin-speaking adults growing up in China and Taiwan. Factors that may contribute to variations in the degree of agreement among judges in their perceptual rating of speech sounds and implications of the findings on experimental design will be discussed.
Asymmetries in the Comprehension and Production of Chinese Relative Clauses

Chien-Jer Charles Lin
Indiana University

The processing of relative clauses has been of critical theoretical interest to sentence processing researchers. In previous research on head-initial relative clauses (such as those in English and other Indo-European languages), relative clauses that involve subject extractions have been found to be processed with greater ease in both comprehension and production. This talk focuses on several processing asymmetries (and commonalities) in the comprehension and production of Chinese relative clauses, where relative clause constructions are head-final—i.e., relative clauses precede rather than follow the head nouns they modify.

Data from my lab showed that different factors (e.g., expectation-based effects and the effect of thematic role orders) account for the comprehension processes in the prenominal and postnominal regions of subject and object extracted relative clauses in Chinese. In addition, comparisons between the comprehension and the production data demonstrate that different factors are at work in the comprehension and production of head-final relative clause like those in Chinese.

Such asymmetries contrast with the universal processing advantage for subject extractions in head-initial relative clauses, where similar processing effects have been reported in both comprehension and production. The processing factors that get teased apart by studying Chinese relative clauses allow us to reconsider the processing differences between head-initial and head-final structures, and the relation between sentence comprehension and sentence production in general.
5:15 pm – 6:15 pm, October 13, 2012

Processing Difficulty and Structural Uncertainty in Relative Clauses across East Asian Languages

Zhong Chen and John Hale
Cornell University

The distinctive pre-nominal positioning of relative clauses in Chinese, Japanese and Korean presents a challenge for theories of human sentence processing. An emerging body of work suggests that subject-extracted relative clauses (SRC) are easier to understand than their object-extracted cousins (ORC) in all three languages. If SRCs are in fact universally easier than ORCs, why should this be?

This talk offers an answer to this question. We use information theory to formalize the notion that a comprehender expends greater effort in resolving sentence-medial ambiguity in ORCs. Working out weighted expectations for particular syntactic analyses at the word-by-word level, this theory provides a detailed explanation of observed reading-time contrasts.

2pm – 3pm, October 15, 2012

On the Acquisition of Well-formedness in the Poverty of Stimulus

Tetsuya Sano
Meiji Gakuin University

In this talk, I discuss how children acquire well-formed (i.e., grammatical) expressions when there is virtually no positive evidence in the input from adults. First, I will show that Japanese-speaking children know at an early stage that their negation-sensitive item (e.g., nani-mo) is negative concord (i.e., Japanese-type, as opposed to negative polarity (English-type, e.g., anything)), although crucial input is extremely rare in the input from adults. Second, I will show that Japanese-speaking children know at an early stage that a Japanese dative-marked phrase (i.e., NP-ni) in a non-accusative sentence pattern (i.e., NP-ni NP-ga AP) can be an antecedent of a reflexive pronoun zibun, which is subject-oriented, although crucial input for the subjecthood of the dative-marked phrase is again extremely rare in the input from adults. Based on these observations, I will suggest that some innateness plays a role in such cases of well-formedness acquisition.
Stroop Interference on Hanzi, Pinyin, and English Orthography

Litong Chen
The Ohio State University

This paper investigates writing systems’ interference with color naming in Chinese and English in the Stroop test and proposes a two-stage mechanism to account for the nature of the interference.

Five tests are designed. The interference effect of three orthographic systems (Hanzi, Pinyin, and the Roman alphabet of English) is examined. Sixteen native speakers of Mandarin Chinese (eight male and eight female) and eleven native English speakers (six male and five female) participate in the tests. The subjects are presented with the stimuli and respond to the stimuli in each test. The stimuli are word matrices, each consisting of 30 color words, namely, red, blue, yellow, brown, and black. Each word is printed in one of the five
colors.
In Tests 1 and 5, all color words are written in *Hanzi* and English respectively, and in the same colors that the words stand for. They are the control groups. Each word in Test 2, also written in *Hanzi*, is randomly printed in one of the other four colors. Words in Test 3, written in *Pinyin*, are also in mismatched colors. Test 4 consists of English color words written in Roman alphabet, with meaning-color mismatches.

The results show a clear interference of the writing systems on the subjects’ color naming. The ranking of reaction time (RT) for Chinese speakers is: English incongruent (Test 4, the longest RT) > *Hanzi* incongruent (Test 2) > *Pinyin* incongruent (Test 3) > *Hanzi* congruent (Test 1, the shortest RT). The results also show that in response to the same English stimuli in Test 4, the mean value of RT of the Chinese speakers (33.34s) is almost identical to that of the English native speakers (33.24s).

It is proposed here that the interference of the writing systems occurs in two separate stages of information processing towards pronunciation: perception and production.

They should be examined individually. In Stage 1, the subject perceives the information of the stimuli through two paths. The first path is to recognize the color in which the word is printed; the second path is to identify the word by its spelling (in a phonographic system) or stroke layout (in a logographic system). Stage 2 is called production. Here, the subject is ready to speak out the information perceived at the first stage through either path. The source of pronunciation can be either from the concept or from the graph, depending on which path provides the input faster. The figure on the right shows the relationship between the two stages and the two paths.

The degree of interference depends on how familiar a person is with the writing system (at the perception stage) and with the spoken language (in the production stage). This is the mechanism at work: in Stage 1, a more familiar writing system will give rise to a longer RT and will more strongly impede the color naming; in Stage 2, a more familiar language can lead to a shorter RT and will more strongly facilitate the color naming. The results from the tests are re-analyzed. The data obtained are consistent with the two-stage hypothesis.
Perceptions of Discourse Particle Use and Speaker Identity in Mandarin Chinese

Nicki Dabney and Chien-Jer Charles Lin
Indiana University

Although the topic of discourse particles is one that has been heavily explored by linguists, the research done on discourse particles has traditionally been descriptive, providing theoretical examples of how these particles may be used. With the rising popularity of conversational and discourse analysis in the last decade, corpus studies have been conducted in attempt to analyze how these particles are actually used in natural speech. The majority of corpora, however, consist of natural speech data collected from either mainland China or Taiwan, thus it is difficult to find a balanced corpus that provides data from both regions. Nevertheless, some scholars have pointed to what appear to be regional differences in trends regarding discourse particle use. Wu (2004) found that the unmarked *ou* was used predominantly by speakers from Taiwan, and Callier (2007) found that *me* was used more commonly among speakers with southern accents.

Very little research has been done on how the use of discourse particles relates to the speaker’s identity. A number of studies have revealed effects of gender (Hu, 1981; Shih, 1984; Chan, 1997; Chan, 2001), but none to date have compared regional differences. Starr’s (2011) research on variation in sentence-final particle use in Taiwanese Mandarin television dramas analyzed discourse particle use from the perspective of character portrayal, providing one of the only sociolinguistic analyses of Mandarin discourse particles to date.

The goal of the present study is to investigate how Chinese and Taiwanese native Mandarin speakers’ perceptions of other native speakers are influenced by their use of discourse particles. Our primary purpose is to identify what particles are associated with a Mainland Chinese or Taiwanese identity, but in doing so, we also want to understand what characteristics are associated with these particles and how their usage shapes speaker identity.

A reading and rating task in the form of a questionnaire will be conducted to determine the influence that the presence of discourse particles has on participants’ perceptions of the speaker. The decision to present stimuli visually was made to eliminate any confounding effects of voice quality and accent that could arise from auditory stimuli. Participants will be presented with a number of short dialogues that include the targeted discourse particles. The content of dialogues will be selected from soap operas broadcasted both in
Mainland China and Taiwan. Following the dialogues, participants will be presented with a question relating to a specific characteristic of one of the speakers and asked to make a rating based on a 5-point Likert scale. Items for the rating task will largely be adapted from the characteristics Starr identified in her 2011 study and include, age, gender, social status, personality, and region (Mainland China vs. Taiwan). ANOVA will be conducted to determine if there are significant differences between Mainland Chinese and Taiwanese participants’ ratings, and Pearson’s r will be calculated to determine if any correlation exists between region and any other variables.

Preliminary results will be presented as well as plans for continuing research.

Cohesion and Syntactic Individuation: A Comparison of Mandarin and English

Jessica Harding and Chien-Jer Charles Lin
Indiana University

The linguistic individuation of nouns is achieved in English with count syntax and in Mandarin with numeral classifiers. Research has shown that speakers of English, a count syntax language, respond differently to label extension tasks than speakers of Japanese, a numeral classifier language. (Imai and Gentner, 1997; Imai and Mazuka, 2007). Conversely, speakers of English and Japanese show no cross-linguistic effects in judging the quantity of physical entities (Inagaki and Barner, 2009), suggesting that the core factors involved in familiar object construal are not influenced by the type of language that is learned.

While previously used quantity judgment tasks are successful in determining how entities are individuated without the use of syntactic cues, they fail to consider other factors that might influence individuation, such as cohesion, boundedness, and rigidity (Spelke, 1990). Cohesive entities are described as “connected bounded unit(s)” by Cacchione and Call (2010), and cohesion is considered to be a
crucial factor for perceiving entities as discrete, persisting objects (Cheries et al., 2008; Cacchione and Call, 2010).

The present study aims to investigate the nature of entity individuation in the context of the cohesion principle, while also examining how this process may (or may not) vary in regard to cross-linguistic differences in syntactic systems of individuation (i.e., count syntax and numeral classifiers).

Participants in this study completed a judgment task to ascertain how English and Chinese syntactic individuation lead speakers to respond to cohesion violations. The target items were photos of common foods that took count syntax in English, and the general classifier \textit{ge} in Mandarin. The task was presented in questionnaire form, each target question containing one descriptive sentence and four separate photos. For target items, the four photos were of (1) an intact item, (2) an intact item about to be cut with a knife (3) the item dissected into four separate pieces, all of which were in close proximity, and (4) the four separate pieces of the item spaced farther apart. Participants used a Likert scale to rate the appropriateness of the descriptive sentence “There is one [item] on the plate/ \textit{Panzishang yige [item]}” for each of the four photos.

Our preliminary results suggest that English speakers are more likely to accept a count-syntax description when foods are not in a cohesive state than Mandarin speakers are to accept a general classifier description in the same situation. These results suggest that English count syntax is less affected by cohesion violations than the Mandarin general classifier.
The Effect of Mandarin Transcription System on Phonological Awareness

Yu-Jung Lin and Chien-Jer Charles Lin
Indiana University

The present study addresses the questions of, when literary phonetic differences are taken into account, whether (a) the vowel information is available faster than the tonal information when Mandarin syllable is perceived and (b) the acoustic nature of sounds still play a role during the perception of the Mandarin syllables. A tone-vowel detection task similar to Ye and Connine’s (1999) and Lin and Lin’s (2010) experiments was conducted in Taiwan. During the experiment, the subjects needed to decide if they heard /i/ with the 4th tone after each Mandarin syllable was played. Their reaction time and accuracy were recorded and compared between the types of the stimuli. The results demonstrated that rime-mismatched syllables were rejected faster than tone-mismatched syllables, which showed vowel information is available earlier than the tonal information. Furthermore, although the acoustic nature of sounds played a role during the perception, the literary system influenced the speed of the tone-vowel detection process.

Taiwanese Tone Sandhi in Loanwords

Jung-Yueh Tu
Indiana University

This study aims to examine Taiwanese tone sandhi in loanwords, that is, tone sandhi as it occurs in the normal phrasal context. It is well-known that Taiwanese Southern Min (TSM) has one of the most complicated tone sandhi systems. Taiwanese tone sandhi describes a pattern of tone alternations conditioned by the boundaries of prosodic phrase built on the syntactic constituents like NP and VP (Tsay, Myers, and Chen, 1999). TSM is typical of a right-dominant tone sandhi system, in which it is the final syllable in the tone sandhi domain that preserves its citation tone while non-final syllables undergo tone sandhi (Zhang, 2007).

Unlike TSM native words with the “one-morpheme-per-syllable” tendency, loanwords consist of polysyllabic monomorphemic words. One may wonder if tone sandhi also occurs in the loanwords as they occur in a phrase, and if so, how tone sandhi rules apply to the loanwords. To explore this issue, the current study examines the Japanese loanwords into TSM. Between 1895 and 1945, Taiwan was a colony of the Empire of Japan. During this Japanese colonial period,
an influx of Japanese words was borrowed into the local languages in Taiwan, including TSM, Hakka, and Austronesian languages (Hsieh, 2006). Japanese has a pitch accent system, which can be superimposed on polysyllabic words to make phonemic contrasts. Thus, the Japanese loanwords in TSM include polysyllabic monomorphemic words, such as su.ɕiʔ HM ‘sushi,’ tʰɔ.la.kʰuʔ MHM ‘truck’ and o.tɔ.baiʔ MHHإل ‘motorcycle.’

In the current investigation, the participants are requested to use the loanwords embedded in a sentence, where the loanwords occur both in sandhi and non-sandhi positions. Preliminary results show that in the Japanese loanwords, non-final syllables in sandhi contexts do not undergo tone sandhi while the final syllables of these words generally undergo tone sandhi when they are in sandhi contexts. That the non-final syllable does not change in loanwords is consistent with the understanding of TSM tone sandhi as being syntactically determined. The findings are discussed in terms of the application of tone sandhi on the loanwords as well as those rare cases of native polysyllabic monomorphemic words.

We report data from a lexical decision task designed to assess Mandarin speakers’ knowledge of syllable frequency. The stimuli were monosyllables, designed to compare words with high vs. low syllable frequency and words with high vs. low tonal frequency. An additional set of stimuli consisted of lexical syllables that only occur when conditioned by tone sandhi – presented in an isolated, non-sandhi-conditioned environment.

Our results show significant effects of frequency on participants’ reaction time. Of primary interest is participants’ significantly slower reaction time to lower tonal frequency on the same syllable. For instance, reaction times to the low tonal frequency word ‘ai2’ are significantly delayed relative to the high tonal frequency word ‘ai4’. Furthermore, we found that participants’ reaction time to the sandhi-conditioned nonwords were significantly slower compared to lexical words with similar frequencies and compared to structurally similar nonwords.
Given these findings, we infer that native speakers are tracking the frequency of 1) segmental strings, independent of tone; 2) tones conditioned by syllable; and 3) tokens of words affected by sandhi environments, independent of the unaffected forms. These results are discussed in terms of spoken word processing, lexical access and lexical representation.