

The 4th Psycholinguistics Postgraduate Conference

**June 2nd – 3rd, 2008
S1, 7 George Square**

Programme and Abstracts



**Language, Cognition and
Communication**

**Psychology, PPLS
University of Edinburgh**

Invited speakers

Chuck Clifton (*University of Massachusetts*), **Roger Van Gompel** (*University of Dundee*), **Mark Steedman** (*University of Edinburgh*), **Martin Corley** (*University of Edinburgh*)

Chairs

Fernanda Ferreira, Sarah Haywood, Patrick Sturt, Richard Shillcock, Holly Branigan, Louise Kelly, Martin Pickering, Julia Simner

Speakers

Philip Collard, Lisa Kinsella, Zeynep Ilkin, Helene Kreysa, Marina Kraeva, Cyprian Laskowski, Jenny Bell, Ya-Shyuan Jin, Zuzanna Fleischer, Moreno Coco, Michaela Mior, Marina Papoutsis, Michael Schnadt, Paul Brocklehurst, Suzy Moat, Chun-ching Chang, Robert M Maier, Yi-feng Lu, Jens Apel, Wan-Yu Hung, Mikel Santesteban, Yu-Hsien Wang, Francesca Filiaci, Mateo Obregón

Programme

Notes: Only the presenter's name is printed; there may be other co-authors for the talks.

Monday, June 2nd (9.00 – 17.30)

Session 1 (9.00 – 10.30)

Chair: Fernanda Ferreira

9.05 Philip Collard

Filled pauses orient attention, but for how long?

9.35 Lisa Kinsella

Using the visual world paradigm to investigate the online integration of local prosodic cues into the global prosodic contour in sentence comprehension

9.50 Zeynep Ilkin

Processing of negative noun phrases

10.20 Chuck Clifton (Guest commentator)

Comments on the talks in Session 1

10.30 Coffee break (basement concourse)

Session 2 (11.00 – 12.40)

Chair: Sarah Haywood

11.00 Helene Kreysa

Gaze projection: Coordinating visual attention between listeners and speakers

11.30 Marina Kraeva

Priming, dialogue and audience design

11.45 Cyprian Laskowski

The impact of social coordination of lexical categories on individual categorisation

12.15 Jenny Bell

Children's beliefs about shared information and their effects on audience design in referential communication

12.30 Chuck Clifton (Guest commentator)

Comments on the talks in Session 2

12.40 Lunch (basement concourse)

Session 3 (13.40 – 15.20)

Chair: Patrick Sturt

13.40 Roger VanGompel (Invited speaker)

Structural priming in comprehension and production

14.25 Ya-Shyuan Jin

Translation takes place before utterance in a reading for translation task -- Evidence from a self-paced reading study

14.55 Zuzanna Fleischer

Syntactic representations in bilinguals: Evidence from cross-linguistic priming

15.10 Chuck Clifton (Guest commentator)

Comments on the talks in Session 3

15.20 Coffee break (basement concourse)

Session 4 (15.50 – 17.15)

Chair: Richard Shillcock

15.50 Moreno Coco

Competition of visual and linguistic resources. Effects of intonational breaks and saliency on the interpretation of structurally ambiguous sentences

16.20 Michaela Mior

Investigating presupposition using the visual world paradigm

16.35 Marina Papoutsis

From Phonemes to Articulation: an fMRI study on the neuroanatomical substrates of phonemic-to-articulatory code mapping and the role of Broca's area

17.05 Chuck Clifton (Guest commentator)

Comments on the talks in Session 4

17.15 Wine reception (basement concourse)

Tuesday, June 3rd (9.00 – 17.30)

Session 1 (9.00 – 10.30)

Chair: Holly Branigan

9.00 Mark Steedman (Invited speaker)

Implications of Computational Linguistics for Psycholinguistic Models

9.45 Michael Schnadt

Modelling disfluency production through logistic mixed effects models

10.15 Paul Brocklehurst

Exploring the relationship between perfectionism, speech errors and disfluencies

10.30 Coffee break (basement concourse)

Session 2 (11.00 – 12.30)
Chair: Louise Kelly

11.00 Suzy Moat

Exploring the interface between phonological encoding and articulation

11.30 Chun-ching Chang

Cross-language syntactic priming in Chinese-English bilingual production

11.45 Robert M Maier

Syntactic Persistence from L2 in Sentence Translation

12.15 Yi-feng Lu

Lexical access in bilingual speech production: Language specific or nonspecific?

12.30 Lunch (basement concourse)

Session 3 (13.30 – 15.15)
Chair: Martin Pickering

13.30 Mikel Santesteban

Object-verb agreement encoding in speech production: Evidence from Basque

14.00 Yu-Hsien Wang

Gender differences in visual recognition of Chinese characters: Evidence from repetition blindness for characters and subcharacter components

14.15 Jens Apel

The speaking eye: An investigation of name-related gazes

14.45 Wan-Yu Hung

Different writing systems can induce different synaesthetic patterns: Evidence from Chinese characters and their transcribed spellings

15.15 Coffee break (basement concourse)

Session 4 (15.45 – 17.30)
Chair: Julia Simner

15.45 Martin Corley (Invited speaker)

What the tongue tells us about speaking

16.30 Francesca Filiaci

Null and Overt Subject biases in Italian and Spanish: a cross-linguistic comparison

17.00 Mateo Obregón

Stereo visual behaviour in eyetracking a holographic image

Abstract

Monday June 2nd 9.05 – 9.35

Philip Collard

Filled pauses orient attention, but for how long?

(Abstract yet to be submitted)

Abstract

Monday June 2nd 9.35 – 9.50

Lisa Kinsella

Using the visual world paradigm to investigate the online integration of local prosodic cues into the global prosodic contour in sentence comprehension

Recent work has highlighted the importance of prosodic cues in facilitating the online resolution of syntactic ambiguity (Snedeker and Trueswell, 2004). In the current study, we use the visual world paradigm to explore the claim that prosodic boundaries are interpreted not in isolation but in relation to each other as proposed in the Informative Boundary Hypothesis (IBH) of Clifton et al. (2002). By measuring participants' anticipatory eye movements while listening to syntactically ambiguous sentences, we will gauge the temporal grain with which local prosodic cues are integrated into the global prosodic contour. The length of prosodic boundaries that precede and follow an ambiguously attached modifier will be systematically varied across three conditions (cooperating, conflicting, same-size) and the influence these manipulations have on online ambiguity resolution will then be measured.

Zeynep Ilkin**Processing of negative noun phrases**

According to the Active Filler Hypothesis (AFH; Frazier and Clifton, 1989), fillers are preferentially associated with the first available gap site. However, as pointed out by Aoshima et al (2004), in strongly head-final languages such as Japanese, Korean or Turkish, the AFS does not necessarily guarantee the earliest thematic interpretation of the filler, in contrast to languages like English. This is because, in verb-final configurations like 1a, the subordinate verb (V2) precedes the main verb (V1), and therefore Gap2 is the first gap position that will allow a thematic role assignment of the filler, even though it is structurally most distant from the filler.

1a. [Filler ...Gap1?... [... Gap2?... V2] ...V1]

Aoshima et al showed that Wh-fillers were preferentially associated with embedded complement clauses in Japanese (i.e. Gap2 in 1a), a result which is at odds with the AFH, and they argued that this is the result of a preference to interpret fillers as early as possible. However, in a later study Aoshima et al. (2005) found that non-Wh sentence-initial fillers do not show any preference to associate with the embedded clause, although their design did not allow them to check for a corresponding main-clause association.

Here we report two word-by-word self-paced reading experiments exploring scrambling in Turkish, a verb-final language which freely allows scrambling of arguments both within and between clauses (corresponding to local and long-distance scrambling respectively). We exploit the fact that Turkish exhibits negative agreement: a negative NP (e.g. “Nobody”) requires its licensing verb to bear negative morphology. This means that if a sentence-initial negative NP is long-distance scrambled, there will be processing difficulty if the embedded verb lacks negative morphology, but if the negative NP is interpreted as a main clause argument, a similar effect should be found at the main verb.

Experiment 1, which is summarized in (1 and 2), orthogonally manipulated the form of the sentence-initial dative NP, (“Nobody” vs. “Somebody”), and the form of the subordinate and main verbs (if subordinate verb was negative, the main verb was affirmative, and vice-versa). The results at the subordinate verb showed only a main effect of verb form (negative verbs, which are longer in Turkish, were read more slowly than affirmative verbs), and no trace of an interaction. Thus there was no evidence that people were attempting to do long-distance scrambling. However, the main verb showed an interaction (p 's < .05): affirmative verbs were read more slowly when the sentence began with “Nobody” than when it began with “Somebody”, and the opposite tendency was seen for the negative verbs. Thus, the results show a clear preference for the local-scrambling analysis of the sentence initial dative NP, in accordance with the AFH.

In experiment 2, which is summarized in (3) we tested the same phenomena with in-situ negative dative noun phrases; using the same design as experiment 1. The results indicated a similar pattern as experiment 1, there was no effect of interaction in the embedded verb and reading times for negative verbs was longer. However the main verb showed an interaction (p 's < .05). Incidentally, the complete lack of an effect at the embedded verb in both experiments suggests that people were not interpreting the negation information in a superficial manner, but were making use of the syntactic information related to the clause subordination.

The lack of an effect at the embedded verb replicates Aoshima et al.'s (2005) null result for non-Wh sentence initial phrases. However, we also confirmed a reliable main clause scrambling preference (see also Kamide & Mitchell, 1999). In addition we also showed a similar parsing preference for in-situ dative phrases. These main clause effects are

unlikely to be driven by superficial priming of negation, because such an explanation would also have predicted a corresponding effect at the embedded verb in both experiments. Our conjecture is that the first two NPs in the sentence are strongly preferred to be interpreted as co-arguments, and the parser prefers not to revise this initial commitment, as predicted by the Reanalysis as Last Resort hypothesis (e.g. Sturt et al, 2001). Future work will examine how and whether this initial co-argument preference can be modulated.

1. Hiç kimse-ye/ Bazı kişilere Ahmet dün [Ayşe okulda kitap
Nobody-dat/Somebody-dat.. NP1-nom. yesterday NP2-nom school-loc. book
read/read-neg/past diye] belirtti/ belirt-medi.
okudu/oku-madı that] mentioned/mentioned-neg/past.

{nobody/somebody} Ahmet [informed/didn't inform] that Ayşe [read/didn't read] a book yesterday at the school.

2. a. Nobody-dat NP-nom Adv [NP-nom Adv NP-nom **V-neg/past** that] **V-past**.
b. Nobody-dat NP-nom Adv [NP-nom Adv NP-nom **V-past** that] **V-neg/past**.
c. Somebody-dat NP-nom Adv [NP-nom Adv NP-nom **V-neg/past** that] **V-past**.
d. Somebody-dat NP-nom Adv [NP-nom Adv NP-nom **V-past**. that] **V-neg/past**.
3. a. NP-nom Nobody-dat Adv [NP-nom Adv NP-nom **V-neg/past** that] **V-past**.
b. NP-nom Nobody-dat Adv [NP-nom Adv NP-nom **V-past** that] **V-neg/past**.
c. NP-nom Somebody-dat Adv [NP-nom Adv NP-nom **V-neg/past** that] **V-past**.
d. NP-nom Somebody-dat Adv [NP-nom Adv NP-nom **V-past**. that] **V-neg/past**.

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Helene Kreysa**Gaze projection: Coordinating visual attention between listeners and speakers**

In language production, eye movements precede object mention, so they contain useful information about future speech content. For this reason, gaze direction can act as a visual pointer to upcoming referents, even when speakers do not intentionally use it as a deictic cue (Hanna & Brennan, 2007). In the gaze projection paradigm, we record speakers' speech and their eye movements while they describe objects in a photographic scene. The sound files and a moving green dot representing the speaker's gaze are then played back to listeners, who are told to mouse-click on the objects the speaker describes.

In Experiment 1, listeners who were shown the moving dot fixated objects 1880 ms earlier than listeners who saw no dot. They were also twice as likely to perform anticipatory gazes to the objects (61% of trials vs. 33%), and roughly 2 seconds faster to click on them (all $p < .01$). In Experiment 2, we sought to manipulate listeners' interpretation of the moving dot, but found no top-down effect of this kind on either eye movements or clicks; for both kinds of instructions, mean latencies were comparable to the dot condition of Experiment 1. Experiment 3 addresses the role of the precise time lag between a speaker's gaze and mention (~800 ms in natural speech) with regard to the listener's prediction of upcoming content (cf. Griffin & Bock, 2000).

These results mean that the dot can be used to artificially coordinate visual attention between speakers and listeners. According to the Interactive Alignment account, this should facilitate coordination at other levels of representation as well (Pickering & Garrod, 2004). Implications of such visual alignment for language comprehension, production, and memory will be discussed.

References

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- Pickering, M. J., & Garrod, S. (2004). Toward a mechanistic psychology of dialogue. *Behavioral and Brain Sciences*, 27, 169-226.

Marina Kraeva**Priming, Dialogue & Audience Design**

Social psychologists demonstrated that sometimes our impressions, feelings and even actions can be activated in an automatic way (Bargh & Chartrand, 1999; Bargh & Ferguson, 2000; Gazzaniga & Heatherton, 2003). This was discovered using priming paradigms. If people can be primed to be more intelligent, conforming or achieving (Bargh, Chen & Burrows, 1996; Dijksterhuis & Knippenberg, 1998; Epley & Gilovich, 1999), why not prime one to be a better and successful interlocutor? The effect of non-conscious priming on audience design is the focus of the present study. The objective of a successful audience design is the successful and fruitful communication. It is the way interlocutors design and tailor their utterances, knowledge and beliefs towards each other (Clark & Carlson, 1982; Horton & Gerrig, 2002, 2005). We assume that subliminal priming to be a helpful or unhelpful interlocutor in a dialogue will result in different effects on the quality of communication.

This study will report an experiment, where two groups of participants non-consciously primed to be either helpful (A1) or unhelpful (A2), will be asked to read a short story and then retell it to two groups of listeners (B1 and B2 respectively). The main prediction is that the group primed to be helpful will retell the story better and in more detail for their interlocutors, than that primed to be unhelpful. In addition the interlocutors (B1 and B2) will give their version of the heard story. The final variants of the same story produced by groups A and B will be compared. Here we predict that the versions of the stories by groups A1 and B1 will be similar and better in quality and accuracy, than those by groups A2 and B2. Our main idea is that priming will improve the degree of audience design in the “helpful” condition. Speakers will be more attentive to the needs of their interlocutors and contribute to successful communication.

Cyprian Laskowski

The impact of social coordination of lexical categories on individual categorisation

In a cross-linguistic study involving sorting and naming pictures of everyday objects, Malt et al (1999) found evidence for a dissociation between linguistic and non-linguistic categorisation. Provisional results from my recent replication reproduce their basic findings.

However, given that every usage of a word is an act of categorisation and that members of a community share a common language, it seems unlikely that language and "non-linguistic" categorisation are generally independent. One particular possibility, inspired by dialogue studies in which participants align their linguistic expressions (e.g., Clark 1992), is that a process of negotiated linguistic categorisation between pairs of people could bring together their individual categorisation, at least temporarily. In the bulk of my talk, I will present an empirical and computerised framework I have developed, which is adapted from Malt et al (1999) and based on free classification tasks with morphed pictorial stimuli. Statistical issues remain, however, for which opinions would be most appreciated.

References

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Jenny Bell

Children's beliefs about shared information and their effects on audience design in referential communication

Previous studies have shown that older children's performance improves across trials in referential communication (e.g. Krauss & Glucksberg, 1969; Garrod & Clark, 1993). This indicates that children collaborate with their interlocutor in order to accumulate common ground, and subsequently use this information to design their next utterance. However, we do not know what happens when a child is faced with a new interlocutor – are children able to alter their descriptions based on their beliefs about the information they share with this new communicative partner?

In an experiment carried out with adults, Wilkes-Gibbs and Clark (1992) found that speakers communicated with silent side-participants in a similar manner to how they communicated with their original partner; whilst they communicated with overhearers similarly to naïve participants. These results suggest that speakers designed descriptions based on their beliefs about common ground.

The present study will adapt Wilkes-Gibbs and Clark's in order to see whether children's beliefs about common ground affect their communication with a new interlocutor. Children will take part in a referential communication game, in which a director will describe a series of tangrams to two matchers (A and B) in succession. After 4 trials with A, the director will play another 4 trials with B, who will have previously been a side-participant, an overhearer or a naïve participant.

If children do have beliefs about shared information with different partners and use these to design descriptions, then we would expect to see a difference in efficiency and reference type when the matchers are switched. Reference will also be compared across conditions, to investigate whether children's beliefs are similar to adults or if they are more egocentric.

Abstract

Monday June 2nd 13.40 – 12.25

Roger VanGompel

Structural priming in comprehension and production

(Abstract yet to be submitted)

Abstract

Monday June 2nd 14.25 – 12.55

Ya-Shyuan Jin

**Translation takes place before utterance in a reading for translation task --
Evidence from a self-paced reading study**

One of the most intuitive questions that can be asked about spoken translation is how translators' sentence processing can be mediated by the word order difference between two languages. We report a self-paced reading study designed to test the hypothesis from Ruiz et al. (in press) that longer reading times for text in which word order differs between source and target languages suggests that partial sentence reformulation takes place in the target language during source language comprehension. We not only aimed to replicate their finding but also attempted to explore the relation between participants' working memory and reading time. In a within-subject design, we recorded 16 Chinese-English late bilinguals' reading times under four conditions: reading two types of sentences (those that required word re-ordering vs. those that did not) for two purposes (repetition vs. translation). In addition, we also measured their Chinese reading span. Our results seem to support the Ruiz et al. (in press) hypothesis, but working memory span and reading time did not correlate.

Abstract

Monday June 2nd 14.55 – 15.10

Zuzanna Fleischer

Syntactic representations in bilinguals. Evidence from cross-linguistic priming

Studies on bilingualism have mainly examined whether lexical representations are stored separately or are shared between languages. Recently, research has addressed the issue of the degree of integration of syntactic information. The present project aims at investigating the integrated model of lexical-syntactic representation in bilinguals. It investigates whether typologically different languages can produce similar results to the ones found in studies of more related languages. Polish-English bilinguals will describe cards in a dialogue game. The study will test whether hearing a sentence in Polish (L1) will lead to the repetition of that structure type during picture description in English (L2).

Moreno Coco

Competition of visual and linguistic resources. Effects of intonational breaks and saliency on the interpretation of structurally ambiguous sentences

Visual world experiments have shown that speech processing and visual attention are closely timelocked, and that both visual and linguistic information can be used for disambiguation during utterance comprehension (e.g., Tanenhaus et al., 1995; Crocker, 2006). However, it is currently unclear how these two sources of information interact; it is conceivable, for instance, that low-level visual information is used rapidly, before any linguistic knowledge can be brought to bear. Alternatively, an interactive view is possible that assumes all information sources are used concurrently.

We present two visual world studies that address this issue by investigating the assignment of referents in a syntactically ambiguous context. Experiment 1 tested the role of intonational breaks in the resolution of PP attachments ambiguities in sentences such as “The girl will put the orange on the tray in the bowl”. These sentences were presented in a fully ambiguous visual context (depicting, e.g., an orange on the tray, a tray in the bowl, and a tray). The design crossed the number of visual referents (one or two oranges) with the position of the intonational break, either at the NP modifier (break after “orange”) or at the PP goal modifier (break after “on the tray”). The results show that the intonational information facilitates the resolution of the attachment ambiguity, both in the one-referent and in the two-referent condition.

Experiment 2 tested the effect of visual saliency on ambiguity resolution. Saliency (e.g., Itti et al., 1998) is a low-level measure of visual prominence. It can be computed automatically based on image features such as color, intensity, and orientation. This experiment crossed the one/two referent condition from Experiment 1 with a saliency manipulation analogous to the intonation condition: either the NP modifier or the PP goal modifier were visually salient. A no-saliency baseline was also included.

The results show that saliency influences ambiguity resolution, though its effect differs from that of intonation. Intonational breaks mainly influence the time course over which competing syntactic representations are maintained, while saliency resolves the competition using its information to anticipate possible continuations of syntactic structure. This finding is predictive for a model in which low-level visual features are used before linguistic information such as intonation is brought to bear.

References

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Michaela Mior**Investigating presupposition using the visual world paradigm**

This study uses the visual world paradigm to examine the effects of presupposition resulting from different syntactic structures. By further extending Hornby's (1974) study of 'surface structure and presupposition' I intend to explore how perceptual errors result from differential presupposition in descriptive sentences. Two experiments employ eye-tracking to determine whether the subject looks at the focus or presupposition within a picture. The participants' eye movements will be used as a measure of their visual processing of the scene. This will then indicate whether a discrepancy is noticed within the sentence-picture combination. Experiment 1 is an exact replication of Hornby's 1974 study analysing presupposition and surface structure, with the subjects allowed to see the picture for 50ms, but participants' eye movements will be continuously monitored. Experiment 2 however will allow 'free view' of the picture for 7000ms.

Hornby found that more errors occurred when the misrepresentation involved the presupposition than when it involved the focused proposition. He suggests that this results from whether the presupposition is taken for granted by the subject, or that the subject failed to notice the discrepancy, or because the subject's attention was drawn to the focus. My study aims to further investigate these issues through measuring the subject's eye-gaze within the sentence-picture combination.

Marina Papoutsis**From Phonemes to Articulation: an fMRI study on the neuroanatomical substrates of phonemic-to-articulatory code mapping and the role of Broca's area.**

A well-known effect in lexical production is the "word frequency effect", i.e. the fact that words with infrequently used (onset) syllables have longer response time. Their articulatory codes are therefore thought to be compiled on-line, when compared to their high-frequency counterparts, which are thought to be retrieved from a "Mental Syllabary". We used event-related functional magnetic resonance imaging (fMRI) to identify the anatomical substrates of a phonemic to articulatory code mapping, while subjects perform a delayed, auditory phonological repetition task. Subjects were presented and asked to repeat pseudowords that varied both in syllable frequency and in syllable length. The measurements received allowed us to clearly identify regions related to the process of phonemic-to-articulatory translation, independent of semantics, and to identify those regions in the lexical production system that are specifically involved in the articulatory code generation. Based on prior research on the role of the posterior, ventrolateral Inferior Frontal Gyrus (IFG), a.k.a Broca's Area (BA44), in phonological processing, we hypothesized that this area will show increased blood-oxygen level dependent signal for low frequency pseudowords and will be one of the key areas in the articulatory code generation. Analysis of the fMRI data confirmed our hypothesis and revealed higher activation of the IFG for low v.s. high frequency pseudowords. This activation was also accompanied by differences in other premotor areas such as the Precentral Gyrus and the SMA, providing further support to the role of premotor areas in speech perception and the involvement of the IFG in a sensory-to-motor mapping network.

Abstract

Tuesday June 3rd 9.00 – 9.45

Mark Steedman

Implications of Computational Linguistics for Psycholinguistic Models

(Abstract yet to be submitted)

Abstract

Tuesday June 3rd 9.45 – 10.15

Michael Schnadt

Modelling disfluency production through logistic mixed effects models

In many fields of Psychology, analysis of variance (ANOVA) is the standard method of statistical data analysis. However, the modelling of proportionate data based on categorical outcomes violates ANOVAs assumption of homogeneity of variance, which can lead to spurious results. In a recent paper, Jaeger (in press) argued for the inadequacy of ANOVA for the analysis categorical outcome variables and suggested the use of logit mixed models (Breslow & Clayton, 1993), as an alternative, statistically valid method of modelling proportionate data. These models combine the advantages of ordinary logistic regression with the ability to model random subject and item effects. In this talk, I will discuss the application of logit mixed models to a dataset of spontaneously produced disfluency using the statistical software package, R (R Development Core Team. 2005), to highlight the utility of such models in the analysis of data based on both categorical and continuous independent variables.

Abstract

Tuesday June 3rd 10.15 – 10.30

Paul Brocklehurst

Exploring the relationship between perfectionism, speech errors and disfluencies

Previous research has suggested that stuttering may be related to a perfectionistic approach to speaking and that stuttering-like disfluencies are a side-effect of hyper-vigilant attempts to avoid and/or repair perceived speech errors. The proposed project will test whether a relationship between perfectionism and disfluencies can also be demonstrated in normal (non-stuttering) speakers. Regression analyses will be used to determine the extent to which the 6 dimensions of perfectionism as measured by the Frost Multidimensional Perfectionism Scale (FMPS) are predictive of participants' speech rates, speech-error rates, and speech error repair rates while reciting tongue-twisters. An online version of the FMPS will also be sent to people who stutter to determine whether they score abnormally highly on any of the scale's 6 dimensions and whether these are the same dimensions that are predictive of disfluencies in normal speakers.

Abstract

Tuesday June 3rd 11.00 – 11.30

Suzy Moat

Exploring the interface between phonological encoding and articulation

Current psychological models of word production (e.g., Dell, 1986; Levelt, Roelofs, & Meyer, 1999) only detail how we plan the phonological content of words, and not how we articulate them. To understand how these models may be extended, we must determine how information flows between phonological encoding to articulation. For example, does activation cascade from unselected phonological representations? And do articulatory representations feed activation back to phonological encoding? So far, the clearest support for cascading at this interface has come from the finding that erroneously produced phonemes exhibit characteristics of the intended phoneme (Goldrick & Blumstein, 2006). However, our initial computational investigations of this result revealed that models both with and without cascading from phonological encoding to articulation can simulate this result at some activation spreading parameter settings. Here I will report on an extensive exploration of these frequently ignored parameter settings to try and clarify their effect on information flow between phonological encoding and articulation, and outline plans for further simulations which we hope may be able to provide clearer evidence against architectures without strong interactivity at this interface.

Chun-ching Chang**Cross-language syntactic priming in Chinese-English bilingual production**

Although syntactic priming has been obtained in many cross-languages syntactic priming studies, the question whether the shared syntactic representations could be generalized to typologically-different languages is not clear. The present study will exam the shared or independent representations of verb argument structure of Chinese-English bilinguals and the contribution of sentence structure and order of thematic role in these representations.

In Mandarin Chinese, ba-DO constructions provide an opportunity to investigate the contribution of sentence structure and order of thematic role. It is because ba-DO constructions share the same syntactic structure with DO but not order of thematic role. In contrast, the ba-DO constructions share the same order of thematic role with PO constructions but not syntactic structure. In two production tasks, Chinese (L1) advanced learners of English (L2) will be presented with L1 prime fragments (Experiment 1: prepositional object (PO) and double object (DO); Experiment 2: PO, DO, ba-DO) before completing L2 target sentences (PO or DO only).

Abstract

Tuesday June 3rd 11.45 – 12.15

Robert M Maier

Syntactic Persistence from L2 in Sentence Translation

(Abstract yet to be submitted)

Yi-feng Lu**Lexical access in bilingual speech production: Language specific or nonspecific?**

The aim of the study is to investigate whether lexical access of bilingualism is language-specific or non-specific especially when the participants are high proficient bilinguals who speak two totally different languages (Chinese vs. English). According to language-specific hypothesis, bilingual speakers produce words in their intended language and prevent the interference of non-response language by only considering lexical nodes in the target language for selection (Costa & Caramazza, 1999; Costa, Miozzo & Caramazza, 1999). On the contrary, the language non-specific hypothesis claims both target lexical node and its translation equivalent compete for the lexical selection, but the activation of the lexical node in nonresponse language will be suppressed by the inhibitory mechanism (de Bot, 1992; Green, 1986; Poulisse & Bongaerts, 1994). Two picture-word interference experiments are conducted to explore Chinese-English bilingual's performance when they are asked to name pictures either in their L1, Chinese or in their L2, English, while ignoring the distractor words superimposed on the pictures. The condition of interest is the different-language identity condition in which participants have to name the picture in one language (e.g., Chinese: plane) while ignoring the its translation equivalent distractor word (e.g., English: plane). The language-specific hypothesis predicts the naming latencies are faster in different-language identity condition than in the unrelated. However, language-nonspecific hypothesis predicts the naming latencies will be slowed down in the different-language identity condition because both the lexical nodes in two languages compete for lexical selection. The two predictions are evaluated in the present study.

Mikel Santesteban

Object-verb agreement encoding in speech production: Evidence from Basque

Is object-verb agreement computed like subject-verb agreement? Experimental research on verb-agreement production has provided compelling evidence that the number of a noun included in a modifier to the subject head (the agreement source) can interfere with the agreement process resulting in S-V number agreement errors (so-called “attraction errors”; Bock & Miller, 1991). Attraction errors may occur both when a local noun linearly intervenes between the subject and the verb, and when it does not (*The helicopter for the flights are safe/*Are the helicopter for the flights safe? Vigliocco & Nicol, 1998). Likewise, object noun phrases (NP) and pronouns can also induce attraction errors (Hartsuiker, Antón-Méndez & van Zee, 2001; Franck, Lassi, Frauenfelder & Rizzi, 2006; *Le professeur les lissent/*C’est les negociations que le minister suspendent). These findings suggest that (i) it is not a necessary condition for the attractor to be embedded in the subject-NP to induce agreement errors, and (ii) errors can also be induced by elements that intervene between the subject and the verb at intermediate sentence representations but not at a sentence’s final word order. But, do these factors influence the computation of object-verb agreement? The present study investigates attraction errors in O-V agreement and replicates some studies of attraction errors in S-V agreement. The language of interest is Basque, a language with rich verb morphology (the verb agrees in number with subject, object and dative complements) and flexible word order.

Basque speakers were presented with an uninflected verb and were asked to complete sentence preambles that contained a subject-NP and an object-NP. Independent variables were *sentence word order* (canonical SOV vs. non-canonical OSV), *subject-number* (singular vs. plural), and *object-number* (singular vs. plural) (see table). The results showed larger subject-verb and object-verb agreement errors in sentences where subject- and object-NPs mismatched in number than when they matched. Analysis of attraction errors of singular and plural interveners over singular subject- or object-NPs showed that plural object-NPs attracted subject-verb errors both in SOV and OSV sentences. Plural subject-NPs also attracted object-verb errors, though only in OSV sentences. Thus, we replicated previous findings showing that object-NPs attract errors both when they linearly intervene between the subject and the verb (SOV) and when they do not (OSV); this suggests that it is not a necessary condition for the attractor to linearly intervene between the two elements (though the attraction errors in OSV might also be caused by the prominent early non-canonical position of the plural object-NP). Interestingly, plural subject-NPs attracted object-verb agreement errors **only** when the attractor linearly intervened between the object and the verb (OSV), but not when it did not (SOV). This finding can be explained by arguing that the attractor should have been in an intervening position at some point of the derivation. All in all, our results suggest that both subject- and object-verb agreement computations can be affected by similar syntactic factors. Implications of our findings for various models of agreement implementation will be further discussed.

Sentence Preamble**(verb+auxiliary) Word (%)**

order error)

1. [Artzain batek]-S_{SG} [mendizale hori]-O_{SG} ... SOV (0.0 %)
2. [Mendizale hori]-O_{SG} [artzain batek]-S_{SG} ... (ikusi DU) OSV (0.3 %)
A shepherd has seen that mountaineer
3. [Artzain batek]-S_{SG} [zortzi mendizaleak]-O_{PL} ... SOV (1.9 %)
4. [Zortzi mendizaleak]-O_{PL} [artzain batek]-S_{SG} ... (ikusi DITU) OSV (4.2 %)
A shepherd has seen the eight mountaineers
5. [Hiru artzainek]-S_{PL} [mendizale hori]-O_{SG} ... SOV (0.6 %)
6. [Mendizale hori]-O_{SG} [hiru artzainek]-S_{PL} ... (ikusi DUTE) OSV (5.8 %)
The three shepherds have seen that mountaineer
7. [Hiru artzainek]-S_{PL} [zortzi mendizaleak]-O_{PL} ... SOV (4.7 %)
8. [Zortzi mendizaleak]-O_{PL} [hiru artzainek]-S_{PL} ... (ikusi DITUZTE) OSV (1.4 %)
The three shepherds have seen the eight mountaineers

Abstract

Tuesday June 3rd 14.00 – 14.15

Yu-Hsien Wang

Gender differences in visual recognition of Chinese characters: Evidence from repetition blindness for characters and subcharacter components

Repetition blindness (RB) is the failure to report the second occurrence of a repeated word, when words are displayed in rapid serial visual presentation (RSVP). Most of previous studies with repetition blindness paradigm focused on the circumstance that RB would occur or whether it could be found for nonwords. No work has looked at gender difference in RB. However, gender differences in lexical processing and memory have been reported in previous works on false memory, functional literalities, and foveal splitting. Thus, it is plausible to hypothesise that there is gender difference in RB. In the experiment, two factors are manipulated: repetition (repeated, nonrepeated, repeated component) and lag (0, 1), which stands for whether an intervening character between the two critical characters (lag 1) or not (lag 0). The aims of this study are to show gender difference in RB for characters and subcharacter components and, also, to investigate whether these types of RB are more likely to occur in female, since female brain is less lateralized and tends to process information as a whole.

Jens Apel**The speaking eye: An investigation of name-related gazes**

Speakers fixate objects for more than 500ms before naming them (Meyer, Sleiderink, & Levelt, 1998). Single objects can be recognized in less than 170ms (Potter, 1975), which leaves 330ms unaccounted for. Why are these name-related gazes so long? In the current study we looked closer at two hypotheses proposed by Griffin (2004): the effort and the interference avoidance hypotheses.

We showed subjects three objects distributed in a two-by-two grid. The fourth position remained empty. The subjects were asked to describe the spatial relation of two marked objects in the grid (e.g. “The chair is above the pen”). However, objects were visible only for 300ms and then replaced by another array of objects. In this array we either didn’t change the position of the objects, the objects appeared at different positions but the spatial relations remained the same or both the position and the spatial relation changed. Following the effort hypothesis, speakers should look at the critical objects independent of their position. According to the interference-avoidance hypothesis, speakers should look more to the empty position in the grid than to the unrelated filler object.

We did not find clear evidence for either the effort or the interference-avoidance hypotheses. However, we found evidence that the predicate of the produced sentence influences gazes to the critical objects.

Wan-Yu Hung**Different writing systems can induce different synaesthetic patterns: Evidence from Chinese characters and their transcribed spellings**

In Chinese character-colour synaesthesia, it has been suggested that characters with identical initial letters or initial vowels in their transcribed spellings tend to have the same synaesthetic colours (Hung, 2006). The present study extends this finding in two ways. First, we strengthened our test of genuineness with a 6-month (rather than 8-week) test of consistency, and improved our statistical techniques with Monte Carlo analyses. Second, we compared synaesthetic colours from characters, versus synaesthetic colours from their transcribed spellings (using the Chinese system of spelling known as Pinyin/Bopomo). We examined (1) whether characters and their Pinyin/Bopomo spellings were coloured the same, (2) whether the test-retest performance was equally consistent in both writing systems, and (3) whether the initial letter/vowel influences (if any) were also matched across these two systems. This was analysed in relation to native (L1) versus non-native (L2) Chinese speaking synaesthetes. The result shows that most of our L2 synaesthetes ($n = 2$ out of 3) performed consistently across characters and Pinyin/Bopomo spellings, while conversely our L1 synaesthetes ($n = 3$ out of 4) showed an apparent discrepancy not only in their colouring of character-and-Pinyin/Bopomo pairs, but also in the initial letters/vowels effects. Collectively, our findings of L2 support that synaesthetic colours are transferable across writing systems; on the other hand, our L1 results highlight that for native Chinese speakers, their synaesthetic colours for characters can be written-form specific.

Abstract

Tuesday June 3rd 15.45 – 16.30

Martin Corley

What the tongue tells us about speaking

(Abstract yet to be submitted)

Francesca Filiaci**Null and Overt Subject biases in Italian and Spanish: a cross-linguistic comparison**

The present study addresses the question of the distribution of null and overt subjects (NS and OS) in Spanish.

Different theories (i.e. Centering theory, Accessibility theory) associate the possibility to drop a constituent with the relative prominence of its antecedent in the discourse. Recently, Carminati (Carminati, 2002) proposed the Position of Antecedent Strategy (PAS) for intra-sentential anaphora resolution in Italian, which associates the salience of an antecedent with its syntactic position. According to the PAS, a NS looks for an antecedent in a structurally prominent position (the SpecIP), whereas its overt counterpart needs to find it in a less prominent position. Carminati argues that the preferences encoded by the PAS are motivated by universal pragmatic principles based on Accessibility theory. More precisely, she claims that the NS bias should hold universally, but we could in principle expect variation concerning the relative distance between NS and OS, which could result in a lack of OS bias in a given language.

In my study, I replicated four of Carminati (2002) self-paced reading experiments and I subsequently adapted and translated the materials into Spanish to obtain comparable data under the same experimental conditions for the two languages. The first experiment replicated Carminati's results for Italian; in Spanish it confirmed the presence of a strong NS bias towards a prominent antecedent but a lack of bias for the resolution of the OS. The second experiment, involving a manipulation of the antecedent position (preverbal vs. post-verbal subject), failed to replicate Carminati's finding for Italian and produced the same results for Spanish and Italian. A third experiment introduced a disambiguation by gender features. The Italian results replicate Carminati's findings, whereas the Spanish data show a significant facilitation effect for the OS in ambiguous contexts compared to unambiguous ones, suggesting that its gender features contribute to the resolution of the anaphora.

My preliminary conclusions are that unlike other Romance languages (see Mayol, 2008 for Catalan) Spanish OSs do not encode a topic change, or reference to a nonsalient antecedent, and their occurrence can be better predicted by the way other features such as gender (but probably also person and number) contribute to the identification of the referent.

References:

Carminati, M. N. (2002). *The Processing of Italian Subject Pronouns*. University of Massachusetts Amherst.

Mayol, L. (2008). *Overt Pronouns in Catalan: information, discourse and strategy*. Unpublished dissertation proposal. University of Pennsylvania.

Abstract

Tuesday June 3rd 17.00 – 17.30

Mateo Obregón

Stereo visual behaviour in eyetracking a holographic image

We know that there is an advantage for using two eyes in reading, even though there is no 3-D information from text presented on a surface. Recent binocular studies have shown that our eyes do not always conjointly land on the same places in text. Can we use eye-tracking technology to explore what the two eyes are looking at when presented with 3-D information at arm's length? Will participants also show non-conjoint fixation behaviours?

To ascertain that people were able to make conjoint fixations on the surface of the hologram plate, participants observed nonius line pairs with polarised glasses while being binocularly eye-tracked. We then explored binocular landing patterns while they were instructed to look at different parts of the high quality hologram.

While people used both eyes in a conjoint manner to initially explore the hologram, they tended to subsequently show non-conjoint fixations when revisiting different parts of the 3-D image. Results will be discussed in light of possible advantages for non-conjoint fixations.