

School of Philosophy, Psychology and  
Language Sciences  
— University of Edinburgh —

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**Session 1 (Wednesday 20<sup>th</sup>, 10:30-11:30)**

Dave Hawkey

**Evolutionary Models of Meaning**

Many, if not most, modern linguistic theories view the relationship between linguistic signal and meaning on the model of reference. That is to say, the common assumption that linguistic signals are mapped onto some kind of thought representation is akin to the idea that a name stands in for what is named. The evolutionary origin of the thought-side representations has received little attention: many models which employ a meaning representation [Kirby, 2002, Smith, 2004, Smith, 2003, Vogt, 2003] assume at least the possibility of these meaning representations prior to language. Hurford [Hurford, 2003] is explicit in his assumption that the meaning-side of language is a prelinguistic adaptation, and even locates brain processes corresponding to logical analyses of language in non-linguistic animals. Talk of non-existent things (such as unicorns) is generally thought to be grounded in real sensory experience [Harnad, 1990].

However, in a much cited but, in my opinion, rarely understood essay, Quine [Quine, 1960] tests this model of empirical meaning to the limit and finds it insufficient to account for some basic features of meaning in natural language. This essay is reviewed and the implications for evolutionary models of language are mulled.

*References:*

- Harnad, S. (1990). The symbol grounding problem. *Physica D*, 42: 335-346.
- Hurford, J. (2003). The neural basis of predicate-argument structure. *Behavioral and Brain Sciences*, 26(3): 261-83.
- Kirby, S. (2002). Learning, bottlenecks and the evolution of recursive syntax. In *Linguistic Evolution through Language Acquisition: Formal and Computational Models*, chapter 6. Cambridge University Press.
- Quine, W. V. O. (1960). Translation and meaning. In *Word and Object*, chapter 2, pages 26-79. MIT.
- Smith, A. D. M. (2003). Intelligent meaning creation in a clumpy world helps communication. *Artificial Life*, 9(2): 175-190.
- Smith, K. (2004). The evolution of vocabulary. *Journal of Theoretical Biology*, 228(1): 127-142.

- Vogt, P. (2003). Iterated learning and grounding: From holistic to compositional languages. In Kirby, S., editor, *Proceedings of Language Evolution and Computation Workshop/Course at ESSLLI*, pages 76-86, Vienna.

Vipas Pothipath

### **Typology and possible evolution of numeral-noun constructions**

The presentation aims at demonstrating the types and possible evolution of numeral-noun constructions of plurality (henceforth NNCpl), a syntactic construction basically consisting of a cardinal numeral greater than one and a noun (e.g. Tartar *utiz kitap*, 'thirty books'). The work is based on a sample of 70 languages across the globe. It is found that the types of NNCpl can be categorized into 12 types (or 16 subtypes) according to STRUCTURES and RESOURCES. There are many factors constituting the variety of NNCpl. These include the use of various RESOURCES, namely plural markers, numeral classifiers, noun class markers, and genitive/partitive case markers, as well as the use of double marking, and the numeral affixes.

Regarding the evolution of NNCpl, it is conjectured that it probably occurs in three stages. According to the theory of grammaticalization, the evidence from old languages and language acquisition, type 4d N,Num[-Pl/-Clf], a bare numeral-noun construction with no plural marker or numeral classifier, is speculated to be the type at the first stage. Later, at the second stage, through the process of grammaticalization, type 4d N,Num[-Pl/-Clf] might have split into many types due to the fact that the non-core elements in NNCpl (e.g. plural words) have developed into grammatical forms, typically plural markers and numeral classifiers. Again, through the process of grammaticalization, the small numbers (e.g. one and two) changed to grammaticalized forms of the numerals. Finally, at the third stage, owing to language contact and the process of agreement, the NNCpl gets more complicated in terms of RESOURCES, and grammatical markings respectively.

### **Session 2 (Wednesday 20<sup>th</sup>, 12:00-1:00)**

Stefan Hoefer

#### **Is syntactic ambiguity an adaptation to the learning bottleneck?**

The Language Evolution and Computation Research Unit (LEC) at the University of Edinburgh has developed the iterated learning model to investigate the cultural evolution of language. Recent computational studies have provided evidence that language evolves to be learnable. We combine these findings with the claim made by computer scientists and researchers in the field of grammar induction that ambiguous grammars are conciser and therefore easier to learn than their unambiguous counterparts.

If language evolves to be learnable, and ambiguous grammars are easier to learn than unambiguous grammars, one should think that language evolves towards syntactic ambiguity.

In order to corroborate, or falsify, this hypothesis we elaborate on its premises. What makes a grammar learnable? When is it ambiguous? What do we mean by the conciseness of a grammar? Apart from learnability, what other pressures impact the evolution of language? The answers to these questions lay the foundations for computational models to test our hypothesis. If we succeed in simulating the evolution of language towards ambiguity in an iterated learning model, we may have found evidence that syntactic ambiguity is an adaptation to the learning bottleneck.

Dan Dediu

#### **Simulating language and genetic (de)correlations - general problems**

What is the best way to simulate language and genetic correlations? Are agent-based versus population-based approaches equivalent? What model for the language(s) to use? But for the genetic markers? What are the basic constraints to be met in a realistic simulation? Finally, what meaning can we attribute to the results of such simulations?

I will try to approach these problems from two perspectives: modelling the broader human expansions and the indo-european particular case.

## Session 3 (Thursday 21<sup>st</sup>, 10:30-11:30)

Mark McConville

### Towards a performance theory of the CCG lexicon

To the extent that syntactic theory is concerned with the search for a suitably restrictive grammar formalism – one whose generative capacity is the class of natural languages, and where the grammars of languages belonging to statistically common types are less ‘marked’ than those of languages belonging to statistically uncommon types – the combinatory categorial grammar (CCG) formalism of Steedman (2000) represents a promising starting point for investigations. CCG is powerful enough to capture what formal linguists agree are the most complex syntactic phenomena found in natural languages (e.g. the cross-serial dependencies in Dutch subordinate clauses), but not so powerful that formally conceivable but empirically unattested dependencies can be generated (e.g. unbounded long distance scrambling). In addition, CCG predicts certain correlations among distinct parameters of language variation which are supported by data from typological studies (e.g. the observation of Ross (1970) that VSO languages are generally right-gapping languages whilst SOV languages are generally left-gapping).

However, there are some well-known generalisations about language variation which CCG does not predict. Examples are the general preference for languages to consistently place heads in the same position within their projections, and the cross-linguistic tendency for heavier constituents to occur later in the sentence. Hawkins (1994) explains these phenomena in functional terms – the language faculty systematically prefers those grammars which prioritise fast access to information about immediate constituency. This talk will discuss the implications of such functional explanations for a theory of the CCG lexicon.

#### References:

- Hawkins, J. (1994). *A Performance Theory of Order and Constituency*. CUP.
- Ross, J. (1970). Gapping and the order of constituents. In M. Bierwisch and K. Heidolph (Eds.), *Progress in Linguistics*, pp. 249–259. Mouton: The Hague.
- Steedman, M. (2000). *The Syntactic Process*. MIT Press.

Sasha Calhoun

### Modelling Semantic and Phonetic Weight - NP Case Studies

Much work, in different linguistic disciplines, on the relationship between discourse semantics and prosody assumes a direct correspondence between semantic status and pitch accenting. For instance, it is generally held that new entities are accented, while old entities are deaccented. However, taking a lead from metrical phonology, I contend that this is too strong, and that in fact semantic status is rather a strong constraint on an independent structure of prosodic prominence, affected by other constraints such as phrase length and speech rate. I suggest that this may have been downplayed in previous work because it was based on short, constructed examples. Instead, I illustrate how prosodic prominence might be captured by the notion of combined semantic and phonetic weight, using linear regression models of three NP structures taken from the Switchboard corpus.

## Session 4 (Thursday 21<sup>st</sup>, 12:00-1:00)

Stavros Assimakopoulos

### Ad hoc context, context selection and relevance

In this talk I will discuss the issue of context selection in utterance interpretation, providing a refined version of a relevance-theoretic pattern of context selection as an amendment to previous work on the topic (Assimakopoulos 2003). I will propose a notion of *ad hoc* context that is not only parallel the notion of *ad hoc* concept, but seems able to substitute it. Apart from the standard assumptions from Relevance Theory (Sperber and Wilson 1986/1995), some input from the theoretical implications of Dynamic Syntax (Kempson, Meyer-Viol and Gabbay 2001) will provide an improved model of context selection that is psychologically-real and successfully addresses cognitive rationality by employing the relevance heuristic to the interpretation process.

Merilin Miljan

### Morphological object marking in Estonian – how to account for it?

The paper presents a puzzle of Estonian (belongs to the Finnic group of the Finno-Ugric language family) morphological object marking, and

points out the expectations and challenges that any (case) theory should be able to meet in order to offer a plausible and illuminative account of the distribution of the Estonian objective cases.

In Estonian, three morphological cases – genitive, partitive, and nominative - are used for object marking. In general, the choice of a particular case is semantically conditioned, either by the properties of the verb, or of the object NP, although some 'syntactic' generalizations can be made. A number of apparently plausible accounts have been offered with regard to both Estonian and Finnish that postulate either a certain semantic feature for an assignment of a certain case, e.g. aspectual feature [+COMPLETED] (Vainikka & Mailing 1996); or argue that the telicity is grammaticalized in Estonian and Finnish (Ackerman & Moore 1999); or assume that a single case marks several functions on a case-marked term, that of aspectual oppositions (VP-related) and quantitative (in)determinacy (NP-related) (Kiparsky 1998, 2001). I will show that the semantic contrast(s) associated with case-marking alternations are not absolute but subject to variability, and that the *nature* of the semantic contrast also varies according to context. In terms of syntax, it cannot be ignored that both nominative and partitive are also the subject cases in Estonian. Thus I hold that a model is needed that takes into account the underspecification of Estonian morphological cases as well as demonstrates how a certain morphological case contributes to the overall meaning of a clause.

## **Session 5 (Thursday 21<sup>st</sup>, 2:00-3:00)**

Corinne Maxwell-Reid

### **Using contrastive rhetoric to compare Spanish and English discourse**

Contrastive rhetoric, the comparison of how texts are realised in different languages, has been accused of cultural stereotyping or even racism, with early studies assigning a fixed pattern of use to the language examined, and suggesting the so-called linear structure of English discourse was more direct and logical than that of other languages. However, while such simplifications are rightly rejected, there are valid reasons for wishing to establish similarities and differences between languages beyond sentence level.

The most common argument put forward in support of contrastive rhetoric is its usefulness in English as a Second or Foreign Language writing classes. Nevertheless, insights from contrastive rhetoric may also contribute to the wider debate over the role of English in the world

today. While the spread of English accompanying globalisation is often seen as providing an opportunity for progress, its possible effect on other languages and cultures also causes concern. This concern may be particularly relevant to countries such as Spain, where English is beginning to be used as the medium of instruction in state schools. Contrastive rhetoric could inform the study of the effect of English Medium of Instruction (EMI) schooling on Spanish speakers by providing a basis for examining changes in students' rhetorical practices.

This talk will look at ways of avoiding some of the limitations of contrastive rhetoric, and, in the context of a comparison of Spanish and English discourse, discuss possible avenues for research.

Vasuki Walker

### **From 'variant' to 'variance': contextualising phonology**

This presentation looks at the reasons why representationalist accounts of linguistic behaviour exclude certain features of speech merely as 'performance factors' using examples from Sri Lankan English. It argues that expressing the ability to speak as embodied cognition offers a possibility to account for such 'excluded features'.

In a representationalist account of language, particular instances of speech can be expressed only in terms of pre-established categories. The establishment of such categories is based on a 'fixed-code' account of language in which language is seen as a system of signs that are expressed as determinate form-meaning pairs. The logic of representationalism operates by obviating the contextual, and by abstracting particular features (of form and meaning) and presenting them as invariants.

A small component of varying phonetic features is captured by representationalism as 'variants' of a category. Phonetic substance is thereby subordinated by phonological categories which are defined in terms of determinate word meaning. Thus, while some variation in phonetic substance is captured in the representations, phonological knowledge is expressed in terms of decontextualised categories and phonetic substance as physical implementation or performance. This is highlighted particularly in the phonemic theory. The hierarchy is shown to correlate with the Cartesian mind-body divide. Within this discourse, 'performance' can only be suppressed.

It is proposed that a phenomenological explanation of phonological knowledge can explain speech in a way that certain features of speech are not excluded or 'absent' and neither is meaning expressed as a unified entity that corresponds to an invariant form. Knowledge that involves the ability to speak and understand is expressed as embodied cognition.

Context can then be incorporated as an inherent component of the capacity to speak. Thereby, there is no need to rely on determinate meanings and forms to explain phonological knowledge.

## **Session 6 (Thursday 21<sup>st</sup>, 3:30-4:30)**

*Phaisit Boriboon*

### **'Third space' materials and EFL learners' linguistic markers of affective involvement**

In order to test the hypothesis that the discourse of foreign, western-compiled textbooks works in ways that project identities sufficiently disconnected from EFL learners' lived experiences, adversely affecting their language learning experience, I have created 'third space' materials to be used for investigation. The dominant discourse in foreign, western-compiled textbooks leads to learners' perception of illegitimacy of that discourse, hence their lack of motivation and unwillingness to communicate. This condition also deprives learners of opportunities for local creativity and voice construction that will help them develop the kind of social identities that will make their language learning meaningful and useful to them. Following Lin and Luk (2005) who have taken up Bakhtin's (1981) notions of 'authoritative discourse' and 'internally persuasive discourse', the 'third space' materials I have designed attempt to bring about the 'internally persuasive' as opposed to the 'authoritative' imposed on learners by foreign, western-compiled materials. The 'internally persuasive' discourse of the 'third space' materials is thus hypothesised to draw more affective involvement from learners than the 'authoritative' of foreign, western-compiled materials can. EFL learners' affective involvement is expected to be manifested linguistically in the forms of distinguishable locally creative and marked dialogic means of meaning-construction. I will talk about the theoretical framework in which the 'third space' materials are set, and will present some examples from these materials as well as some examples of linguistic markers of affective involvement. I will finish by talking about the methods I will use for this investigation.

#### *References*

- Lin, A. M. Y. and J. C. M. Luk (2005). Local creativity in the face of global domination: Insights of Bakhtin for teaching English for dialogic communication. In I. J. K. Hall, G. Vitanova, and L. Marchenkova (Eds.), *Dialogue with Bakhtin on second and foreign language learning: New perspectives*, pp. 77–98. Mahwah, New Jersey: Lawrence Erlbaum.

*Onnicha Sudachit*

### **Task Evaluation in an EFL Reading Course for Thai University Students**

In this presentation, I will discuss about tasks-in-process evaluations which will be conducted with particular groups of Thai university students using the designed tasks in a 'Reading for Information' course. Tasks-in-process evaluation has become a central issue in language teaching and learning, because evaluating tasks in the classroom can reveal the learners' learning processes as well as suggest ways to improve the learning and teaching of language in the future. The term task in the context of my study is defined as any language learning exercises or activity which is designed to improve the learners' reading performance. All tasks in the materials have explicit goals, giving the learners a purpose in completing the task they are performing. The tasks, in addition, contain a clear outcome, intended to motivate the students. Tasks-in-process evaluations tend to represent the way both the teacher and the learners reinterpret pre-designed tasks (or 'tasks-as-workplans') based on their own knowledge, experiences and familiarity with the tasks. Consequently, what actually happens to the tasks-in-process may or may not be what the task designer has expected. A task-in-process evaluation should be carried out during or immediately after the task has been completed, in order that the data received from the learners will be as fresh as possible. In my study, the evaluation will involve five major components of tasks-task objective(s), task content, task procedures, learner contributions, and task situation. In these ways, I hope to investigate to what extent my reading tasks have worked with particular groups of Thai university students.

## **Session 7 (Friday 22<sup>nd</sup>, 10:00-11:30)**

*Timothy Mills*

### **An endoscopic study of glottal opening in normal and whispered voicing contrasts**

In normal speech, the vocal folds are abducted (drawn apart) from their voiced position for voiceless sounds. In the current study, I ask whether there are glottal abduction gestures in whispered speech. The small existing body of literature on whisper is divided on this question - some (Sweet 1906, Catford 1964, Laver 1994) assume there are such gestures in whisper; others (Perkins et al 1979) assume there are not. No systematic empirical study has yet been conducted to directly resolve the question. Using nasal endoscopy to obtain direct visual data on vocal fold behaviour during production, I hope to be able to provide this resolution. Analysis is currently in the early stages. In this talk, I will review the methodology developed for quantitative analysis of this data medium. I will then present initial results and some surprising patterns that are already emerging.

*Lukas Wiget*

### **Sublexical representations in spoken word recognition: a repetition-priming study**

The topic of my PhD is whether spoken word recognition is direct or mediated by a sublexical (phonemic) level of processing. I have planned to address this question with a repetition-priming task that uses stimuli containing non-native speech sounds. Currently, I am assessing whether a bilabial vs. labiodental fricative contrast can serve this purpose. At the conference, I will give an overview of my methodology and sketch its theoretical background. I will also try to briefly indicate how my current exploratory study fits into this overall scheme.

*Emi Sakamoto*

### **L2 production and perception in Japanese phonological contrasts: From the methodological point of view**

The purpose of this study is to investigate how the L2 perception and production abilities on prosodic contrasts are related to each other in the course of L2 phonological acquisition. In particular, I am focusing on the

question of how the relationship between the L2 perception and production abilities changes as learners gain more experience with the target language.

The main issue that has been discussed in the literature is the question of whether L2 production ability is dependent on L2 perception ability. There are basically two positions regarding above question: one is affirmative and the other is negative position. The majority of the studies on L2 segmental contrasts affirm that L2 production is dependent on L2 perception abilities. Nevertheless, there are a few studies which concluded otherwise. However, the former position is more likely the case for the question of the L2 perception-production relationship at the segmental level in that the former position has been confirmed by the results of wider variety of types of contrasts.

On the other hand, studies on L2 prosodic contrasts such as duration or pitch accent contrasts have not received much attention with regard to this main issue and no consistent results were found so far. Thus, we need further investigation on prosodic contrasts regarding the issue of the relationship between the two L2 modalities. In this presentation, I will focus on the methodological issues based on some production data.

## **Session 8 (Friday 22<sup>nd</sup>, 12:00-1:00)**

*Inga McKendry*

### **Tone Shift in Mixtec Languages**

This paper presents preliminary evidence to substantiate the claim that in a number of Mixtec languages, tones have shifted one tone-bearing unit to the right. One of the results of this shift is the emergence of floating tones, which then associate to syllables to the right of their sponsoring morpheme. Optimality theory provides a framework to describe these phenomena. It is posited that the re-ranking of certain constraints can account for the resultant output forms.

*Fiona Kenney*

### **Using the Bayesian Information Criterion to segment speech into sub-word units**

Most automatic speech recognition (ASR) systems are based on phones (or di-phones, tri-phones, etc) as the sub-word unit. These phones are typically modelled by hidden Markov models (HMMs). However, (1) phones may not be the optimal unit for HMMs in ASR, and (2) it is diffi-

cult to determine the optimal topology and complexity for HMM models for a given task. My approach is a step towards jointly solving these two problems. The Bayesian Information Criterion (BIC) provides a complexity score for a given model and data, penalising models with larger numbers of parameters. Maximum likelihood alone is not a useful score, since it will always choose the most complex model.

I use BIC to choose a model with the best (in terms of BIC score) number of states for given data, each state representing a sub-word unit, thus simultaneously finding good sub-word units and a parsimonious model. Experiments using data from the OGI Numbers corpus are described, with examples of the types of units found.

## **Session 9 (Friday 22<sup>nd</sup>, 2:00-3:00)**

*Annabel Harrison*

### **Semantic effects subject verb agreement: do L2 speakers differ from L1 speakers?**

Attraction in subject verb agreement (e.g., "And if **one** of those jobs are created, we must have a system which trains people for the jobs which actually exist." - George W. Bush, 2003) is a well established phenomenon, especially for plural local nouns (e.g., Bock & Miller, 1991).

Some accounts assume that attraction errors reflect syntactic influences exclusively (e.g., Bock & Miller, 1991). Under those accounts, because the distinction between "two" and "many" in English is semantically but not syntactically encoded in English, this distinction should not affect attraction error rates. Other accounts (e.g., Vigliocco et al., 1995) suggest that semantics are available. According to Bock's MMM theory (2004), there is restricted semantic input: only the semantic properties of the head noun (*one*) or the whole noun phrase (*one of those jobs*), not those of the local noun alone (*jobs*) can influence the agreement of the whole NP.

Cross-linguistic variation has been proposed to account for the differences between many of the findings. Recent research indicates that when producing subject verb agreement, competent L2 speakers are also sensitive to semantics, but not differentially so in different languages (e.g., Hoshino et al., 2004).

Native and Slovene speakers of English performed a sentence completion task in which they produced subject verb agreement under time pressure. Sentences differed in semantic and/or syntactic complexity. I shall present evidence of semantic influences in subject verb agreement and show that L1 and L2 speakers differ in their sensitivities.

### **References:**

- Bock, J.K. & Miller, C.A. (1991). Broken agreement. *Cognitive Psychology*, 23, 45-93.
- Bock, J.K. (2004). Psycholinguistically Speaking: Some Matters of Meaning, Marking, and Morphing. In Ross, B.H. (ed.) *The Psychology of Learning and Motivation. Vol 44. Advances in Research and Theory*. San Diego, CA: Academic Press.
- Hoshino, N., Dussias, P., & Kroll, J.F. (2004). The interaction of syntax and semantics in the production of subject-verb agreement in monolingual and bilingual speakers. Poster presented at the 4th International Conference of the Mental Lexicon, Windsor, Ontario.
- Vigliocco, G., Butterworth, B., & Semenza, C. (1995). Constructing subject-verb agreement in Speech : The role of semantic and morphological factors. *Journal of Memory and Language* 34, 186-215.

*Manon Jones*

### **Investigating the cause(s) of dyslexia: do aberrant visual processes slow performance on time-pressured letter naming tests?**

The Rapid Automised Naming task (Denckla & Rudel, 1976) demonstrates that dyslexics are slower at naming speed than non-dyslexic readers. There is controversy, however, concerning the cause of this deficit: is it a phonological difficulty in accessing graphemic information (e.g. Wagner et al. 1993) or does it involve aberrant visual processes, such as saccadic eye-movements, (advocated by the magnocellular hypothesis; Stein and Walsh, 1997; Wolf and Bowers, 1999.) To investigate this, a group of dyslexic and non-dyslexic readers were tested on a repeated measures 3 condition design, reflecting different components of the RAN. Condition one involved original RAN format, allowing saccades and parafoveal view. Condition two involved individual letter presentation, no parafoveal view but required saccades analogous to the first condition. Condition three eliminated both parafoveal view and saccadic eye movements, letters presented in an identical screen location. The results showed a main effect of GROUP, with dyslexics performing slower across all tasks than controls ( $F(1,30) = 15.49$ ,  $p < 0.01$ ). There was also a main effect of LETTER POSITION ( $F(2,60) = 4.214$ ,  $p < 0.05$ ), a t-test demonstrating within-group difference between conditions one and two in the controls ( $t = -2.805$ ,  $N = 16$ ,  $p < 0.05$ ). Dyslexics, however, showed similar performance across all conditions, suggesting general difficulty in accessing graphemic information. There is no evidence of aberrant

saccadic eye movements, but it is suggested that in contrast with non-dyslexics, they fail to make use of parafoveal information.

## **Session 10 (Friday 22<sup>nd</sup>, 3:30-5:00)**

Catherine Dickie

### **Phonological representations in dyslexia**

The Phonological Representations Hypothesis for dyslexia (Snowling 2000) says that the literacy difficulties seen in dyslexia are caused by poor phonological representations. My study will take a closer look at two aspects of this hypothesis. Firstly, I will consider the precise way in which we can characterise dyslexic phonological representations as 'poor', arguing that this description needs to be substantiated by testing with materials that control for relevant phonological variables, so that we can come to a better understanding of how dyslexic phonology differs from non-dyslexic phonology in a conceptually coherent way. In particular, it is of interest to determine whether dyslexic representations are more coarse-grained than non-dyslexic representations, or less distinct. Secondly I will consider whether the direction of causality is as straightforward as the hypothesis suggests. Since there is a great deal of interaction between language and literacy abilities, it is important to recognise the influence of literacy development on language development, rather than assuming that the influence is altogether one-way. I will argue that we need to ascertain whether phonological impairments in dyslexia affect all aspects of phonology, rather than being restricted to those aspects which are directly implicated in literacy, in order to ensure that the Phonological Representations Hypothesis can adequately account for the linguistic deficits in dyslexia.

Hannele B.M. Nicholson

### **Disfluency & Eye-Gaze: "You ehm You don't see that?"**

Repetitive speech repairs have been described as a strategic device for intentionally signalling to an interlocutor that the speaker is committed to an utterance under construction (Clark & Wasow, 1998). An alternative view describes all disfluency, regardless of type, as an automatic effect of cognitive burdens, particularly of managing speech production during other tasks (Bard et al., 2002). A recent paper by Pickering & Garrod (2004) predicts disfluency rate will increase when interlocutors are misaligned. By analysing time-aligned eye-gaze and disfluency channels of the speaker's performance during a Map Task experiment, this paper

proposes to test these claims and determine whether speakers were more or less disfluent following attention to listener feedback.

36 subjects were asked to participate in a Map Task experiment. During a trial subjects described a pre-drawn route on a cartoon map to a distant listener. The confederate listener provided three types of feedback: none, single-medium (either visual or verbal) and dual-media visual and verbal feedback. Verbal and visual feedback could be either affirmative or negative with respect to the last-mentioned landmark: hence, listener feedback could be concordant (both visual and verbal either positive or negative) or discordant (eg. positive visual but negative verbal feedback). Time-pressure was also implemented on half of all trials.

The analysis of disfluency and eyegaze shows that Givers were most disfluent after they had gazed at the listener ( $F(1,34)=6.00$ ,  $p = .02$ ). Further results showed that Givers were most disfluent after attending to discordant listener feedback ( $F(1,34) = 7.24$ ,  $p < .02$ ). Such results indicate an association between misaligned interlocutors, attention to the listener and disfluency rate.

Susanna Flett

### **Acquisition of Syntactic structures and Preferences in L2 Speakers**

People tend to repeat syntactic structures across sentences (e.g., Bock, 1986). I report three experiments investigating whether word-order priming in L1 and L2 Spanish speakers is influenced by preferences of intransitive verbs for specific word orders. In Spanish, in neutral contexts, unergatives strongly prefer subject-verb (SV) word order whereas unaccusatives allow verb-subject (VS) or SV order (Lozano, 2004).

Participants alternately matched Spanish phrases to pictures, and produced Spanish picture descriptions. All three experiments manipulated the Prime description's word order (SV vs. VS). Experiments 1 (unergative verbs) and 2 (unaccusative verbs) manipulated whether the same verb appeared in prime and target. Experiment 3 used unaccusative and unergative primes for unaccusative targets, to investigate whether repeated verb-type increased priming. Our dependent variable was the word order that participants produced for a subsequent target picture.

Results showed word-order priming and a priming boost with verb-repetition (e.g., Pickering & Branigan, 1998). In L1 speakers this priming effect was sensitive to lexical preferences for particular orders: for unergative verbs, the strong SV preference makes VS order hard to prime, whereas VS is easier to prime with unaccusative verbs. L2 speakers over-generalise VS order to unergatives, as reflected in equal priming for Ex-

periments 1 and 2. There was also no boost to priming when the prime and target were from the same verb class, supporting that the priming is of linear word order and not underlying syntactic structures proposed in the UH.

## Posters

Lynn Clark

### **Investigating t-glottaling and th-fronting in Fife: evidence from an ethnographic study of an adolescent community (of practice?)**

The object behind using ethnographic methodology in sociolinguistic research is to "understand the dynamics of the community from the perspective of the community itself" (Wolfram and Schilling-Estes, 1996: 106). This paper presents the results of an ethnographic pilot study into the sociolinguistic behaviour of a group of 16 adolescents who play in a local pipe band.

The paper examines the patterning of two phonological variables: t-glottaling and th-fronting. T-glottaling is a well-established feature of Modern Scots. Th-fronting is an incoming innovation.

This first section of this paper will detail the methodological choices involved in the data collection and the consequences of this. I will then present the results of the linguistic variation found between individual speakers in the group. Using a combination of quantitative and qualitative techniques, and invoking aspects of social network analysis, I will attempt to explain the significance of the variation. Finally, I will explore the behaviour of the group within a community of practice framework (Meyerhoff, 2002) and examine the usefulness of this framework in understanding the social practices of this group.

#### References:

- Meyerhoff, M. (2002). Communities of practice. In J. K. Chambers, P. Trudgill, and N. Schilling-Estes (Eds.), *The Handbook of Sociolinguistics*, pp. 526–548. Oxford: Blackwell.
- Wolfram, W. and N. Schilling-Estes (1996). Dialect change and maintenance in a post-insular community. In E. Schneider (Ed.), *Focus on the USA*, pp. 103–48. Amsterdam: Benjamins.

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## **It's not just what you say, it's also how you say it: Disfluency in speech affects the comprehension process.**

Everyday speech is littered with disfluency. Theories of natural speech production suggest that disfluency plays an active role in language, indicating a speaker's difficulty retrieving a word or concept. Despite this, theories of language comprehension typically focus on the written word, or on idealised fluency speech, treating disfluency as passive. Here we use Event-Related Potentials (ERPs) to provide an on-line measure of the processing of realistic speech in an experiment which manipulated word predictability and fluency. The N400 effect (relative negativity peaking 400ms from word onset and maximal over centro-parietal scalp regions), which correlates inversely with word predictability, was reduced in disfluent utterances. Furthermore, a surprise recognition memory test revealed superior memory for words preceded by disfluency. Thus, disfluency is not ignored and has direct effects on the comprehension process: listeners are less likely to predict, and more likely to remember, words which are preceded by disfluency.

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## **The Linguistic Characteristics of Korean Students' English Writing**

A new English writing course, aiming to take account of trends such as the increasing popularity of Internet and e-mail, was recently introduced for secondary-school students in Korea. Issues now arise concerning the appropriate assessment for this course, and to resolve these it is necessary to analyse students' written English. This study investigates the linguistic characteristics of Korean secondary school students' English writing in order to develop guidelines for appropriate assessment of their writing as well as for the effective teaching of written English. The data consist of 390 samples of students' written work collected from 195 first and second year students at a secondary school in Korea in 2003. The students were asked to complete two kinds of writing tasks over two sessions. The samples were assessed by three raters, English teachers at secondary schools in Korea, in order to divide students' written work into six proficiency groups based on their subjective judgment. These samples were then analysed using a framework developed specifically for this study, which takes account of accuracy, fluency and organisation. The categories contain 84 features to help identify the characteristics of

each proficiency group. According to the results, the learners at beginner level make many errors in sentence construction, local grammatical aspects and the mechanics which result in unintelligibility of the passage; are poor at extending sentences to express themselves fully; sequences of sentences are disconnected, which leads to incoherence; show difficulty in topic nomination; and handle the content insufficiently. Meanwhile, those at advanced level show a good command of grammar, text cohesion, and logical development both between and within paragraphs following information structure rules; extend sentences fluently; develop the content sufficiently with clear topic nomination.