LAGB

LINGUISTICS ASSOCIATION OF GREAT BRITAIN

LAGB Annual Meeting 2014

Abstracts Booklet

The Queen's College, University of Oxford

Monday 1 – Friday 5 September 2014

Linguistics Association of Great Britain
Annual Meeting 2014

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Contents

Henry Sweet Lecture 2014

The semantics and embedding and the syntax of the left periphery

Angelika Kratzer

My lecture will take up the topic of the workshop that precedes it. The left periphery of a sentence is charged with at least two semantic/pragmatic jobs: it has to host the elements that make it possible for sentences to be embedded (that is, complementizers, moods, embedded modals) and it has to provide positions for the representation of various notions related to information structure. How does the semantic interpretation system exploit the relatively simple syntactic architecture of the left periphery of a sentence to simultaneously accomplish two complicated semantic/pragmatic jobs?

Association Lecture 2014

Generalizing phonological patterns with phonetic and featural biases

Adam Albright

As with most linguistic input, the data that children receive about phonological patterns is rife with ambiguity. For example, children hearing voicing alternations in German ([diːp] [diːbə] 'thief-sg./pl.', [briːf] [briːvə] 'letter-sg./pl.') receive no evidence as to whether a single final devoicing process affects all word-final obstruents, or just the subset of obstruents that German happens to have, or whether separate processes affect different subsets of segments. Thus, the data radically underdetermines the analysis (poverty of the stimulus), and learners must employ prior biases in order to favor one analysis over another. By observing how speakers extend alternations to novel words, strings, and segments, it is possible to gain insight into these biases—e.g., a preference for simpler rules may lead them to generalize devoicing to as broad a class of segments as possible, while a preference for typologically common rules favor generalization of devoicing to other obstruents, but not to sonorants. In this talk, I present experimental evidence test three types of bias: (1) a bias against alternations, favoring uniform paradigms (McCarthy 1998); (2) a bias in favor of alternations that target broader classes of segments (Peperkamp et al. 2006); (3) a substantive bias against perceptually salient alternations (Steriade 2001).

Learners' biases were probed using Artificial Grammar experiments, in which adult English speakers were taught singular plural pairs in a "Martian language", and were then asked to produce or rate plural forms. In the artificial languages, obstruent-final stems exhibited voicing or continuancy alternations (dap dabi, brup brufi). By manipulating the amount of data that learners receive, and by varying the frequency of alternations across different segments, it is possible to test how generalization changes with increasing amounts of data. For example, if learners are biased to expect non-alternation, we expect fewer alternating responses for languages with less data about obstruents, and for rarer segments within a language. If learners expect alternations to apply to broad classes of segments, we expect processes affecting attested segments to be generalized to unattested or rarer segments. Finally, if learners are biased to expect certain alternations (e.g., voicing) over others (e.g., continuancy), we expect participants to generalize preferred alternations at higher rates than dispreferred alternations. The experimental results confirm all three expectations.

These results can be modeled accurately using a maximum entropy (maxent) grammar of weighted constraints. Three properties of maxent models make them well suited to modeling the observed biases. First, the set of prior/innate constraints is a parameter of the model, and by including correspondence (faithfulness) constraints in the grammar, it is possible to model an expectation for non-alternation. By specifying prior distributions over constraint weights, we can model an initial bias to obey certain constraints (such as faithfulness) at the expense of others. Finally, it is possible to specific different distributions for different constraints, reflecting the fact that learners demote some constraints more readily than others. This allows us to model the fact that participants favor alternations that target broad classes of segments, and favor certain alternations over others.

Workshop on the Semantics of Embedding and the Syntax of the Left Periphery

Organised by David Adger and Angelika Kratzer

Syntactic work on the structure of the left periphery of the clause has, since Rizzi's seminal 1997 paper, provided a great deal of descriptive evidence for the idea that there is a rich and fine-grained series of elements arrayed at clausal edges, often covert, but also often overt as complementizers or verbal inflections. An important subset of these elements encode different aspects of the semantic `force' of the embedding (Saito 2012, Belletti 2013, Aboh 2010, Haegeman and Hill 2013). At the same time, semantic work on clausal embedding has begun to converge on the notion, due originally to Stowell (1982), that at least some clausal complements are not semantically embedded as an argument by their matrix selector (e.g Moulton 2009) and that clausal complementation may involve modal or reportative operators (e.g. Bhatt 1999, and much recent work on the syntax and semantics of evidentiality, e.g. Faller 2007). Putting these ideas together, one potentially fertile perspective is to take embedded clauses as being combined with their matrix predicate through conjunction (following the general model of Pietroski 2005) of the situation described by the matrix clause and a modally nuanced version of that described by the embedded clause (Kratzer's 2009 Context and Content Jean Nicod lectures).

This workshop seeks to explore some of the issues surrounding the connections between clausal complements their embedding predicates focussing on the semantics of that relationship and the syntactic and morphosyntactic means by which this connection is grammatically expressed. Core questions are: is clausal complementation always mediated by a modal or evidential operator? If so, what semantic and syntactic mechanisms are exploited by such operators? If not, what other means of complementation are available? What are the relationships between syntactic categories in complementation and the semantic interpretation of that complementation? What kinds of semantic concepts enter into embedding in general (Rothschild 2013)? How are these semantic concepts of knowledge, fact, belief and supposition recruited by and restricted by the grammatical systems?

Plenary speaker

- Angelika Kratzer (UMass Amherst) - 'The semantics of embedding and the syntax of the left periphery'

Invited speakers

- Adriana Belletti (Sienna) - 'Syntactic structures and the functional ingredients of (some) clausal complements'
- Enoch Aboh (Amsterdam) - 'Relatives, eventives and clausal complements in Kwa'
- Daniel Rothschild (UCL) - 'Embedding epistemic modals'
- Martina Faller (Manchester) - 'Do speech act evidentials embed after all?'

Workshop on Learning Biases in Natural and Artificial Language Acquisition

Organised by Andrew Nevins and Adam Albright

What expectations or biases do learners bring to the task of learning phonological grammars? Work on language typology, diachronic change, and evaluation metrics for learning algorithms has identified a number of factors that might encourage learners to favor one hypothesis over another. These include preferences based on formal properties of the grammar, such as a bias for featurally simpler or more general processes, or a bias towards certain type of interactions. They also include substantive biases for certain types of processes, such as a preference for processes that target phonetically difficult structures, or a bias against processes that lead to perceptually salient alternations, or even limitations that make some processes completely unlearnable.

Until recently, the argument that learners favor some patterns over others has largely been based on indirect evidence: learning biases can provide an account of how grammatical preferences shape acquisition errors, language change, and typology. The past decade has seen a rapid rise of interest in studying learning directly in the lab, both among infants and adults. This work has studied the time course of acquisition of natural language (L1) patterns by children, as well as the rate or readiness with which infants and adults learn artificial grammars. The goal of this workshop is to bring together researchers employing a variety of techniques to study this kind of phonological learning “in the lab”. The workshop aims to foster a dialogue on questions such as: how can we relate performance in an artificial lab task to natural language acquisition? What kinds of biases have actually been supported by experimental results, to date? What kinds of biases do these techniques allow us to test, and what kinds of biases can only be observed within the context of a full-blown linguistic system with qualitatively and quantitatively more complex training, longer timescales of learning, and learning within richer semantic contexts? What is the contribution, if any, of participants’ L1 to the task of artificial grammar learning? We hope that the invited talks and the posters, selected from an open call for papers, will shed light on these and other questions through a range of theoretical and empirical contributions.

Plenary speaker

- Adam Albright (MIT) - 'Generalizing phonological patterns with phonetic and featural biases'

Invited speakers

- Ruben van de Vijver & Dinah Baer-Henney (Düsseldorf) - 'Learners’ little helper'
- Alex Cristia (CNRS) - 'Linguistically relevant information in the implicit abstraction of sound patterns from speech: Infant and adult data'
- Sara Finley (Pacific Lutheran University) - 'Shedding light on phonological representations through adult learning experiments'
- Elliott Moreton (University of North Carolina) - 'Phonological concept learning: Experiments and models'

Older children's acquisition of natural and unnatural phonological stress

Angela Carpenter

Recent research into adult learning of natural and unnatural pairs of artificial languages have demonstrated that it is easier to learn a phonological rule that is based on naturalness in language than a similar, but unnatural, version of the same rule. This effect has been seen in a variety of phonological research (e.g. Moreton 2008; Pater & Tessier 2005; Zhang & Lai 2010, Author 2010). These experiments build on the premise that two patterns of language that are formally similar, but differ as to phonetic or phonological naturalness should be equally learnable. If the natural version is learned better than the unnatural, then a possible implication is that some bias, specific to language, aids the learning process.

Research in the area of infants' learning of natural and unnatural phonology (Gerken & Bollt 2008; Seidl & Buckley 2005), has provided mixed results regarding the infants' ability to learn natural and unnatural patterns of phonology. Seidl & Buckley (2005) found no preference for a natural over an unnatural pattern among infants aged 8-9 months, while Gerken & Bollt (2008) found that 9 month-olds were able to generalize a natural stress pattern but not an unnatural one. However, at 7.5 months infants showed no preference between the natural and unnatural pattern since they were able to generalize both patterns. There has been little work done with older children to investigate whether they exhibit a learning bias that favors natural phonological patterns over unnatural ones.

The present ongoing study focuses on English-speaking older children's learning of a natural and unnatural version of a stress rule based on vowel height. Previous research has shown that both English-speaking and French-speaking adults are able to more accurately learn a natural phonological rule where stress occurs on a low vowel than when stress occurs on a high vowel (Author 2010). The stress pattern for the natural version requires the first syllable with a low vowel to be stressed, while the unnatural version requires the first syllable with a high vowel to be stressed. Children in the 9-10 year age range are being tested on a shorter version of the same experiment with one group learning the natural rule and another the unnatural rule. Preliminary results indicate that the two groups of children learn the training words equally well (Natural M = .69, Unnatural M = .69, p = .976), but the children in the unnatural group are significantly worse at generalizing the stress pattern to novel words than those in the Natural group (Proportion correct: Natural = .52, Unnatural = .42, p = .008).

A study of how older children learn natural and unnatural stress patterns is important as it bridges the gap between infants and adults, allows comparison with both groups, and perhaps may shed some insight on the interaction between a general cognition, which allows learning of patterns in many areas, and a language-specific one, which perhaps influences learning of a natural pattern over an unnatural one.

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Biased learning of long-distance sssimilation and dissimilation

Gunnar Ólafur Hansson and Kevin McMullin

The cross-linguistic typology of consonant harmony (Hansson 2010) reveals a dichotomy with respect to locality relations. Attested cases are either strictly "transvocalic", affecting consonant pairs within an adjacent-syllable window (…CV.C…), or else unbounded, affecting consonants at any distance (…C…C…). Interaction at greater-than-transvocalic distance thus entails interaction in transvocalic cases, but not vice versa. One possible *diachronic* explanation for this asymmetry is that all non-adjacent dependencies originate in relatively short-range contexts, and all attested cases of unbounded dependencies represent extensions of these by learner error (overgeneralization). Alternatively, a *learning bias* may render the unattested patterns *synchronically* disfavoured or impossible: in terms of the hypothesis space and heuristics available to learners, such patterns are simply inaccessible.

Current theoretical models of consonant harmony as correspondence-based agreement (Rose & Walker 2004, Hansson 2010) embody the latter approach by privileging correspondence (and hence agreement) in adjacent syllables or CVC sequences and thus encoding the implicational universal directly into the factorial typology. However, the extension of the correspondence model to *dissimilation*, interpreted as "correspondence avoidance" (Bennett 2013), makes locality predictions which differ from those for harmony. Specifically, the inclusion of a constraint requiring that correspondents be syllable-adjacent (PROXIMITY in Rose & Walker 2004; CC-SYLLADJ in Bennett 2013) means that dissimilation beyond the transvocalic window does not entail dissimilation at shorter distances. In other words, certain locality patterns should be possible (and hence learnable) for dissimilation but not assimilation.

We report on a series of artificial language learning experiments designed to probe adult English speakers' capabilities of learning patterns of long-distance consonant assimilation and dissimilation at different levels of locality. In their training, subjects are exposed to artificial verb paradigms consisting of trisyllabic "stems" in isolation and with each of two "suffixes", which can trigger an alternation in the stem, given the right co-occurrence of stem and suffix consonants (e.g. [bi**l**egi], [bi**l**egi-**l**i], [bi**ɹ**egi-**ɹ**u]). The testing phase is a 2AFC task where subjects choose between suffixed forms with or without alternation (e.g. [keku**l**o]: [keku**l**o-**ɹ**u] or [keku**ɹ**o-**ɹ**u]?). For sibilant contrasts (/s/ vs. /ʃ/), previous studies using similar designs have demonstrated that learners exposed to an *assimilatory* dependency only at a medium-range distance (cvCvcv-Cv) will interpret this as an unbounded dependency, generalizing to short-range (cvcvCv-Cv) and longer-range (Cvcvcv-Cv) contexts (Finley 2011, 2012, McMullin 2013). We replicate this finding using a different segmental contrast (/l/ vs. /ɹ/) and extend it along two dimensions: (a) learning of *dissimilatory* dependencies; and (b) learning of a dependency at one locality level given overt evidence *against* that dependency at a different locality level (e.g assimilation in /cvLvcv-Rv/ but faithful preservation in /cvcvLv-Rv/).

Our findings show the same patterns of generalization for liquid harmony as previously established for sibilants. Notably, this extends to liquid dissimilation as well. Learners exposed to dissimilation at short range tend not to extend this pattern to further distances. More importantly, learners do elevate an observed medium-range-only dissimilation pattern to an unbounded dependency, counter to the predictions of the correspondence model. Furthermore, the same applies even when learners are exposed to evidence that the dependency in fact *does not* hold in short-range contexts; these groups either fail to learn any dependency whatsoever or else learn an unbounded one, in direct contradiction to the training pattern. This suggests a strong (perhaps absolute) bias against the learning of phonotactic dependencies that hold at longer distances only but not between adjacent syllables, entirely consistent with the attested typology of consonant harmony. The fact that the same learning bias is evident for dissimilation argues against the way locality relations are referenced in correspondence-based analyses of consonant harmony and dissimilation (Rose & Walker 2004, Bennett 2013) and weakens the case for Bennett's (2013) "mismatch prediction" regarding these two types of phenomena.

The ambiguous status of laryngeals in nasal consonant-vowel harmony

Yu-Leng Lin

In recent phonological research, an artificial grammar (AG) paradigm (e.g., Finley 2011, Nevins 2010, Moreton 2008, Wilson 2003) has been used to test language universals. This paradigm allows the study of aspects of proposed universals that can be hard to test with real language. My research examines one universal, the relationship among nasal harmony, the sonority scale and the sound /h/, using AG. /h/ is of interest since it has ambiguous patterning – it is treated as a fricative and as a laryngeal sonorant (e.g., Botma 2011, Chomsky & Halle 1968, Mielke 2007, Parker 2011, Trubetzkoy 1969, Vaux & Miller 2011).

Walker (2012) proposes a universal implicational nasalized segment scale based on evidence from typological frequency, Vowels > Laryngeals > Glides > Liquids > Fricatives > Stops. She argues that if a more marked blocker class blocks harmony (vowels are least marked targets, so least likely to be blockers, and most likely to be targets), so do the less marked blocker classes (stops are most marked targets, so most likely to be blockers, and least likely to be targets). I address whether a pattern that is predicted by this implicational universal is easier to learn than one that is not. In particular, I investigate if it is easier to make a generalization when a more marked blocker (vowel)/target (stop) is presented during training and a less marked blocker (stop)/target (vowel) in testing rather than vice versa.

To test the hierarchy, I generated six groups of AGs, tested with speakers of Min. Group 1 were exposed to **[h]** as a **fricative blocker** in the study phase, and were tested on whether they generalized to **[k]** as a blocker. If the predictions of the hierarchy are correct – blocking by the more marked fricative implies blocking by the less marked stop – participants should treat stops as blockers even though they were not present in the study phase (Fricative > Stop). Group 2 were exposed to **[k]** as a blocker and were tested on **[h]**. Participants were not expected to generalize from [k] as a blocker to [h] as a blocker since blocking of [k] does not imply blocking of [h]. The same logic applies to Groups 3 (**[h]** as blocker, tested on **[s]** as blocker) and 4 (other way around); Group 5 (exposed to **[w]** as a target, tested on **laryngeal [h]** as a **target**), and 6 (other way around). The grammars of groups 1, 3, and 5 are expected to be learned significantly better than their counterpart groups 2, 4, and 6.

The results show significant differences between Groups 5 and 6, but failed to find a significant difference between Groups 1 and 2 or between Groups 3 and 4. Based on these results, the status of /h/ is indeed ambiguous. When /h/ was a blocker (1, 2, 3, 4), it patterned with obstruents /s/ and /k/; thus, fricatives and stops were treated as a class. When /h/ was a target, it patterned as a laryngeal on the hierarchy, mirroring the implicational universal between laryngeals and glides. This raises an interesting question. Why, in the typology of nasal harmony, is /h/ always a target and never a blocker? If the experimental results are correct, we must return to the typology to see if it is upheld or if /h/ ever is a blocker. If /h/ is never a blocker, why did /h/ pattern with /s/ and /k/ in the experiment? The role of learnability in shaping typology will be examined to understand the patterning of /h/.

Adults' implicit learning of consonant-vowel and talker-vowel co-occurrences

Elise Michon, Emmanuel Dupoux, Paula Fikkert and Alejandrina Cristia

Adults are able to learn new constraints on sound patterns in artificial grammars presented in the laboratory, although not all constraints are equally easy to learn and to generalize to novel items (Moreton & Pater, 2012). This research aims to shed light on the cognitive biases that may shape natural language acquisition and, in consequence, the kinds of patterns observed cross-linguistically.

One recurrent question concerns how talker information is treated during phonological learning. Whereas some believe that listeners keep track of different grammars for different talkers (Weiss et al., 2009), others have shown that a phonotactic pattern that is specific to one voice is not reflected in the listener's production (Onishi et al., 2002). Onishi et al. measured latency as listeners repeated syllables they heard over headphones. When different phonotactic patterns were presented for male and female voices, no reduction in latency was observed for “legal” voice-consonant combinations over “illegal” voice-consonant combinations. However, listeners may have *encoded* the pattern, but not used it during production. Here, we investigated this question further by using a perceptual task.

We recorded video sequences of 2 female and 2 male talkers producing consonant$_1$-vowel-consonant$_2$ words, where consonant$_1$ could be a stop /p,t/ or a fricative /f,s/, vowel front /i,e,ɛ/ or back /u,o,ɔ/, and consonant$_2$ /l,m,n/. Participants in the **C$_1$-V condition** saw a subset of the stimuli where one class of consonants always co-occurred with one class of vowels (e.g., *sim$_F$ pum$_M$ fem$_M$*, the subscript indicates the talker's sex). Participants in the **T(alker)-V condition** were exposed to items in which one talker sex always co-occurred with one class of vowels (e.g., *sim$_F$ pum$_M$ fem$_F$*). Notice that the pattern arises from the selection of stimuli shown to a given participant but, across participants, all stimuli are seen.

There were 3 experiments; 1 and 2 had basically the same procedure, and 3 differed only in the test phase. In all experiments, participants were told they would watch educational videos, and would later answer questions about them. During the exposure phase, all participants were presented with 5 repetitions of 24 training items. Half of each group (N=12 in all cases but one) was exposed to the C$_1$-V co-occurrence, the other to the T-V co-occurrence. At test, participants in Exp. 1 and 2 were presented with a pair of novel items, one legal and the other illegal, and they were asked which was more familiar (Exp. 1) or more frequent (Exp. 2). Those in Exp. 3 were presented with one item at a time and they rated its frequency of occurrence, from 1 (very rare) to 6 (very frequent). All groups heard 24 *novel, untrained* items during test (12 pairs, *or* 24 singletons).

In all experiments, performance was significantly ($\alpha=0.05$) better in the C$_1$-V than the T-V condition [Exp. 1 $t(11)=6.5$, Exp. 2 $t(11)=3.6$, Exp. 3 interaction in ANOVA $F(1,40)=4.1$]. In the C$_1$-V condition, preference differed from 0.5 chance level in Exp. 1 $t(11)=22.9$, and Exp. 2 $t(11)=5.2$, and ratings were higher for legal than illegal items in Exp. 3 $t(10)=2.4$. In contrast, for the T-V condition, preference did not differ from chance in Exp. 1 $t(11)=0$, or 2 $t(11)=0$, and ratings did not vary between legal and illegal items in Exp. 3 $t(11)=-0.1$.

Our results overwhelmingly support the view that talker-vowel co-occurrences are not as learnable as consonant-vowel co-occurrences, even when a perceptual task is used. This outcome would come about if learners are biased to ignore talker information when learning sound patterns, and such a bias could explain why it is exceedingly rare that languages have markedly different phonotactic patterns for males and females (or any other social division). Naturally, explanations other than learning biases remain, some of which we are exploring in ongoing work.

Is there a preference for vowel raising in synchronic chain

Nick Neasom

Introduction: Despite the term 'synchronic chain shift' being widely used, there are very few concrete predictions made about the kinds of chain shifts we should be able to observe beyond a basic schematic, in which underlying A surfaces as B, whilst in the same context underlying B surfaces as a further distinct form C (see, e.g. Łubowicz 2011). Parkinson (1996, p.76) asserts that all synchronic chain shifts involving vowel height are based on raising (low → mid → high) as opposed to lowering (high → mid → low). This suggests that there may be a bias of some kind towards raising, a suggestion amenable to typological and experimental study.

Typology: Building on Parkinson's survey of vowel height effects (1996) and Moreton's compendium of synchronic chain shifts (2004), a sample of 62 putative shifts was collected. Even when certain of Parkinson's examples are rejected, eight of these 62 shifts (14.22% of the sample) exhibit two-step vowel raising effects, whilst only one, in the Chadic language Pero (see Frazjyngier 1989), exhibits the reverse lowering effect. Moreover, there are reasons to reject this process from the sample (e.g., restricted environment, counterexamples). Overall, raising seems to be preferred, but the absence of lowering effects may simply be an accidental gap.

Experiment: In the first of a series of Artificial Grammar Learning experiments, 72 participants (all English speakers, though not all native speakers) were divided into three conditions and taught an 'alien' language, in which singular CəCCVl stems were affixed to create dual {-k} and plural {-ʒ} forms. In the raising condition (*n*=29), low stem vowels were realized as mid in the plural. In the same context mid vowels were realized as high (a → e, e → i). In the lowering condition (*n*=23), exactly the reverse pattern was presented (i → e, e → a). These patterns differ in typological frequency but, as they both involved one step movement along one featural parameter (height), were equally complex. An unattested control condition (*n*=24) featured a more complex pattern involving backing, then raising *and* fronting (e → o, o → i). Participants were first exposed to aural and orthographic stimuli for stems, duals, and plurals. Later, only stems were provided and participants typed in their approximations of dual and plural forms.

Hypotheses: 1. Only complexity effects can affect learnability (as argued in Moreton & Pater 2012). The well-attested raising and rarely-attested lowering conditions will be equally learnable, both more so than the more complex control condition.

2. Typological frequency *and* complexity can affect learnability (as in Finley & Badecker 2012). Therefore, raising will be more learnable than lowering, which will in turn be more learnable than the control condition.

Discussion: No statistically significant differences were found in this study. However, participants in the raising condition were very slightly better at correctly applying the patterns taught than those in the lowering condition, who outperformed those in the control condition (61.49% raising, 59.41% lowering, 58.68% control). A similar but more restrictive experiment, including more stringent controls on the length of stimuli, more trials per participant and a restriction on the native language of participants is currently being run to ascertain whether the three-way split observed above is robust. If so, it suggests that there is some bias in favour of a very specific kind of synchronic chain shift, to the exclusion of very similar effects.

Prosody vs. segments in laboratory learning of category-specific phonology
Jennifer Smith

Evidence from phonological typology shows that **when a phonological pattern is sensitive to lexical category** (is, for example, noun- or verb-specific), it is much more likely to be a **prosodic** pattern, involving stress or tone, than a **segmental** one, involving segmental phonotactics or alternations (Smith 2011). But why? Is there a learning bias against category-specific *segmental* phonology? Past work suggests that adult English speakers have productive knowledge of noun/verb stress differences (Kelly 1992) but *not* of noun/verb segmental ones (Albright 2008), a difference that parallels the typological asymmetry. However, **this paper is the first to look for a learning bias directly by means of a laboratory-learning paradigm**.

In this experiment, adult English-speaking participants are randomly assigned to one of three artificial-language conditions. The conditions differ as shown in (1). In the *Prosodic* language, modeled on (simplified) Spanish, N have either trochaic or iambic stress while V have trochaic stress (this is the reverse of the English preference for V to be iambic, so sensitivity to the pattern indicates true learning and not transfer from English). In the *Segmental* language, a typologically unattested pattern, nouns (N) have a larger vowel inventory than verbs (V). In the *Control* language, N and V do not differ phonologically.

(1)		*Segmental language*	*Prosodic language*	*Control language*
vowel inventory	N: V:	**[i e a o u]** **[i a u]**	[i e a o u] [i e a o u]	[i e a o u] [i e a o u]
stress pattern	N: V:	trochaic, iambic trochaic, iambic	**trochaic, iambic** **trochaic**	trochaic, iambic trochaic, iambic

The test phase of the experiment is the same for all three conditions: participants hear a pair of "words," neither of which occured in the training phase, and are asked to choose which word in the pair is more likely to be a verb. Word pairs hold one of the two properties constant, while the other property is manipulated, as shown in (2).

(2)	Both words are:	Words vary by:	Which word is the V?		
			Segmental lg	*Prosodic lg*	*Control lg*
(a)	trochee	[iau] vs. [ieaou]	**[iau]=V**	either could be	either could be
(b)	iamb	[iau] vs. [ieaou]	**[iau]=V**	neither could be	either could be
(c)	[iau]	trochee vs. iamb	either could be	**trochee=V**	either could be
(d)	[ieaou]	trochee vs. iamb	neither could be	**trochee=V**	either could be

If participants in the Segmental language condition have learned that N have a larger vowel inventory than V, then in the test phase, given words differing in vowel inventory (2ab), they should choose the [iau] word as the V more often than participants in the other two conditions. Likewise, if participants in the Prosodic condition have learned that N have more stress options than V, then in the test phase, given words differing in stress (2cd), they should choose the trochaic word as the V more often than participants in the other two conditions. This paradigm therefore **tests whether category-specific phonological patterns can be learned in the lab more easily when prosodic than when segmental**. If yes, then the typological asymmetry between segmental and prosodic patterns in category-specific phonology likely has its roots in a learning bias. If no, the typological asymmetry may have some other source.

Infant learning of phonological alternations is biased by phonetic similarity

James White, Megha Sundara, Yun Kim and Adam Chong

We know that infants are capable of using distributional information to learn phonological alternations (White et al., 2008). However, several researchers have suggested that learners are biased to prefer mappings between sounds that are phonetically similar (Steriade, 2001; Peperkamp et al., 2006; Wilson, 2006; White, 2014). We present two infant studies, one looking at artificial language acquisition and one looking at natural language acquisition, indicating that 12-month-olds are indeed biased in this way.

In the first study, we tested whether 12-month-old infants' generalization of newly learned alternations depended on the phonetic similarity of the sounds involved. Using the Visual Fixation procedure (Werker et al., 1998), monolingual English-learning 12-month-olds (n=40) were familiarized to phrases consisting of a "function" element (*na* or *rom*) and a CVCV word in an artificial language (e.g., *rom poli, na voli…*). For each infant, sounds at one place of articulation (labials or coronals) were in complementary distribution (e.g., [p] always occurred after *rom* and [v] always occurred after *na*), providing evidence for an alternation. Sounds at the other place were contrastive, appearing after both *rom* and *na.* Infants in the DISSIMILAR condition were familiarized to alternations between phonetically dissimilar sounds (either [p~v] or [t~z], counterbalanced) whereas infants in the SIMILAR condition were instead familiarized to alternations between similar sounds ([b~v] or [d~z]).

At test, infants heard novel CVCV words. Infants who were familiarized to alternations between dissimilar sounds generalized their learning to new pairs of sounds at the same place of articulation that were more similar (e.g., those familiarized to [p~v] generalized to [b~v]). However, infants familiarized to alternations between similar sounds did not generalize to pairs of dissimilar sounds (e.g., those familiarized to [b~v] did not generalize to [p~v]). This asymmetry in generalization (from less similar to more similar, but not *vice versa*) suggests that infants are biased by phonetic similarity.

In the second study, we investigated the acquisition of the tapping alternation in American English, where /t/ and /d/ are both realized as a tap [ɾ] in certain contexts (e.g., *patting* and *padding* are both realized as [ˈpæɾɪŋ] with a tap). A search of infant-directed speech in the Brent corpus (Brent & Siskind, 2001) shows that infants hear far more cases of taps derived from /t/ than taps derived from /d/. Thus, based on lexical statistics alone, infants would be expected to learn the [t ~ ɾ] alternations before the [d ~ ɾ] alternation. However, because tap is more phonetically similar to /d/ than to /t/ (Herd et al., 2010), if infants are biased by phonetic similarity, the opposite direction is predicted (i.e., [d ~ ɾ] learned first).

We tested monolingual American English-learning 12-month-olds (n=48) using the Headturn Preference Procedure. Half of the infants were familiarized to passages containing the target words *cutting* and *meeting*, and half were familiarized to passages containing *patting* and *shooting* (all words produced with taps). Note that, for example, *pa[ɾ]ing* produced with a tap can be mapped either to *pat* or *pad*. At test, one group of infants were presented with isolated *cut*, *meet*, *pat*, and *shoot* (with fully released final stops). For this group, there was no significant difference in listening time to familiar words and novel words, suggesting that 12-month-olds have not yet mapped tap to /t/. A second group was familiarized to the same passages, but at test heard the *d*-final words *cud, meed, pad,* and *shood.* This group listened significantly longer to familiar words compared to novel words indicating that they successfully map tap to /d/.

Overall, these studies suggest that input statistics alone are insufficient for accounting for how infants learn phonological alternations. In particular, this learning appears to be biased by a preference for alternations involving phonetically similar sounds (e.g., Steriade, 2001; Wilson, 2006; White, 2014).

Themed session - Predication, modification, and word order in the DP

Convened by David Hall

Probing the internal structure of the DP has been one of the most vibrant areas of research in generative linguistics since the DP hypothesis was formulated (Abney 1987), and perhaps even before.

Each of the speakers at the proposed session is currently working on research related to the general topics of noun modification, the internal structure of the DP, and predication. The session will act as a way to discuss the intersecting points of all of these pieces of research. Tom Stanton's work on reduced relative clauses touches on predicativity and the distribution of different modificaiton structures in the DP; Fryni Panayidou's analysis of the polydefinite construction in Modern Greek involves the subtle interaction of predication, modification, definiteness and word order; Fangfang Niu's analysis of double nominal constructions in Mandarin Chinese relies on a predication structure which embeds a functional projection 'Dimension' above the main predicate (AP/VP); David Hall's talk discusses apparent freedom of order in modification structures in the DP, and how this is related to predicativity, definiteness, and number.

The session will raise some interesting points of debate related to the fine grained internal structure of the DP, the nature of noun modification, and the consequences of variations in the linear order of the subparts of the DP, intra- and cross-linguistically.

Head-movement and reduced relative clauses in Spanish and English

Tom Stanton

This talk will discuss the syntax of Reduced Relative Clauses in English and Spanish, and will primarily focus on the level of the Nominal Projection at which they are introduced into the structure. Reduced Relatives (RRs) in English and Spanish occur postnominally, irrespective of the ordering of attributive adjectives with respect to the noun.

(1) John bought [$_{DP}$ a red book [$_{RR}$ written by Dickens]]
(2) Juan compró [$_{DP}$ un libro rojo [$_{RR}$ escrito por Márquez]]

The analyses given in (Kayne 1994) and (Cinque 2010) propose that RRs are merged in a position higher than attributive adjectives. The linear precedence of the nominal is achieved via movement of a constituent containing the noun (an NP) to a higher position. This movement targets a position lower than Num in the nominal projection.

(Borer and Roy 2010) presents an analysis of pronominal 'uno' in Spanish whereby 'uno' enters the derivation at N, and undergoes sequential Head-Movement to the Num-head position (7). This blocks the introduction of the indefinite article or cardinals to the Num position, leading to the unavailability of (5) and (6). Under the Head-Movement Constraint (Travis 1984), 'uno' must move through all intervening heads between N and Num for the movement to be legitimate.

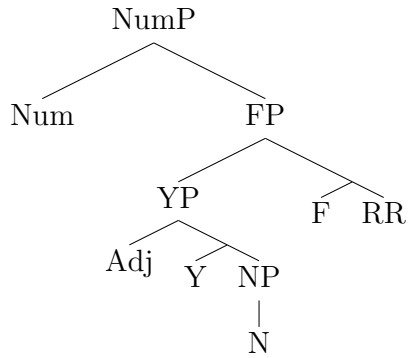
(3) Juan compró [$_{NumP}$ un [libro rojo]]
(4) Juan compró [$_{NumP}$ tres [libros rojos]]
(5) *Juan compró [$_{NumP}$ un [uno rojo]]
(6) *Juan compró [$_{NumP}$ tres [unos rojos]]
(7) Juan compró [$_{NumP}$ uno$_j$ [$\cancel{\text{uno}_k}$ rojo]]

The example in (8) requires 'uno' to undergo Head-Movement to Num and the NP containing a copy of 'uno' to undergo Phrasal Movement to a position lower than Num. If Head-Movement precedes Phrasal Movement the NP containing 'uno' must raise to the specifier of a head that contains a copy of 'uno'. This is problematic behaviour under a Feature-Checking Theory of Movement (Chomsky 1995). Alternatively, if Phrasal Movement precedes Head-Movement, we would be required to permit the movement of N out of a moved category. The literature contains proposals that disallow such a procedure (Ross 1967, among others).

(8) Juan compró [$_{NumP}$ uno$_j$ [$\cancel{\text{uno}_j}$ rojo]$_k$ escrito por Márquez [$\cancel{\text{uno rojo}}$]$_{\cancel{k}}$]
(9) *Juan compró [$_{NumP}$ un [uno rojo]$_k$ escrito por Márquez [$\cancel{\text{uno rojo}}$]$_{\cancel{k}}$]

I propose the following structure for Reduced Relatives in Spanish and English.

(10)



(11) *John bought [$_{NumP}$ one$_j$ [red $\cancel{\text{one}_j}$] written by Dickens
(12) John bought [$_{NumP}$ a [red one] written by Dickens]
(13) John bought [$_{NumP}$ one$_j$ [$\cancel{\text{one}_j}$] written by Dickens]
(14) *John bought [$_{NumP}$ a [one] written by Dickens]

The functional head that hosts adjectives (Y) blocks 'one' moving up to Num in English. This permits indefinites and cardinals to appear only when an adjective is also present.

Polydefinites and the distribution of demonstratives in Modern Greek

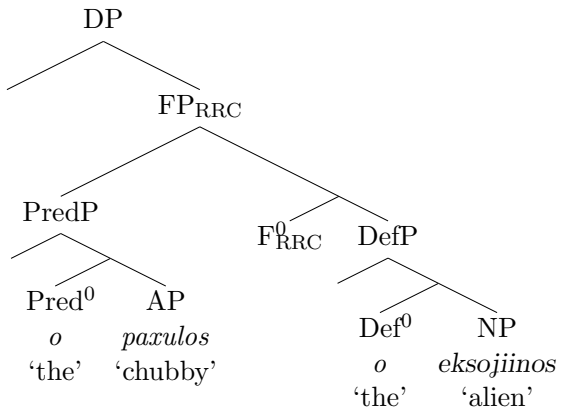
Fryni Panayidou

This talk will focus on the syntax of *polydefinite* constructions in Modern Greek (Alexiadou and Wilder 1998, Campos and Stavrou 2004, Lekakou and Szendrői 2012, among others). Adjectives in these constructions are freely ordered, both in a pre- and post-nominal position, and each adjective and the noun are accompanied by a definite article:

(1)	o	paxulos	o	mov	o	eksojiinos	(4)	o	mov	o	eksojiinos	o	paxulos
	the	chubby	the	purple	the	alien		the	purple	the	alien	the	chubby
(2)	o	mov	o	paxulos	o	eksojiinos	(5)	o	eksojiinos	o	paxulos	o	mov
	the	purple	the	chubby	the	alien		the	alien	the	chubby	the	purple
(3)	o	paxulos	o	eksojiinos	o	mov	(6)	o	eksojiinos	o	mov	o	paxulos
	the	chubby	the	alien	the	purple		the	alien	the	purple	the	chubby

Following Alexiadou and Wilder (1998), I propose an analysis in which polydefinites have a predicative nature, and claim that adjectives in these constructions are merged inside a reduced relative clause (RRC). The RRC—a PredP (Bhatt 2000)—is in the specifier of a functional head in the extended nominal projection, as in Cinque 2010. I will argue that the definite article which precedes the adjective in polydefinites is not a true article, but the realisation of the predication operator Pred^0 (Siloni 1995, Campos and Stavrou 2004):

(7)



As shown in the base structure in (7), I assume that the definite article which comes before the noun is located on a functional head labelled *Def*. Def^0 is associated with giveness in the discourse, and I will claim that the distribution of the demonstrative *aftos* 'this' provides further support for its existence. As shown in (8), when the demonstrative appears between the adjective and the noun, the presence of a second definite article results in unacceptability. However, in polydefinites with postnominal adjectives, an additional definite article is always required, even if a demonstrative is present between the noun and the adjective (9).

(8)	o	paxulos	aftos	(??o)	eksojiinos	(9)	o	eksojiinos	aftos	*(o)	paxulos
	the	chubby	this	the	alien		the	alien	this	the	chubby

Aftos in (8) is anaphoric, while in (9) it can only be read deictically. These facts suggest that Def^0 is phonetically realised as *aftos* in (8), but as the definite article *o* in (9). The present analysis can therefore account for the exclusion of the definite article in the former case.

This talk will focus on the syntax of the double nominal construction (DNC) in Mandarin Chinese. The two juxtaposed nominals, NP1 (normally an entity-denoting noun) and NP2 (usually a property-denoting noun or body-part), are interpreted as possessive:

(1) a. [Lili]$_{NP1}$ [(xingge)]$_{NP2}$ [hen wenshun]$_{AP}$. [NP1 + NP2 + AP]
Lili character very tame
'The character of Lili is very tame.'

b. [Ta]$_{NP1}$ [*(tou)]$_{NP2}$ [teng]$_{VP}$. [NP1 + NP2 + VP]
(s)he head ache
'Her/His head aches.'

Syntactically, there are three main characteristics of DNCs. Firstly, NP1 and NP2 are two separate constituents. This can be shown by the fact that adverbs can intervene between NP1 and NP2 (contra Yuan 1996 and Li 1998, which treat [NP1 + NP2] as a single constituent, with an invisible *de* in between):

(2) [Lili]$_{NP1}$ qishi [(xingge)]$_{NP2}$ [hen wenshun]$_{AP}$.
Lili actually character very tame
'The character of Lili is actually very tame.'

Secondly, NP1 shows characteristics of a subject rather than a topic (contrary to Li and Thompson 1981 and Xu 2000). For instance, NP1 can be *wh*-words and universal quantifiers, etc.. Also, NP1 is not deletable as [NP2 + AP/VP] cannot stand alone.

(3) *[xingge]$_{NP2}$ [hen wenshun]$_{AP}$.
character very tame

Finally, the unavailability of (3) also suggests that NP2 could not act as a subject, which raises problem for the Subject-predicate Predicate analysis (Teng 1974 and Shi 2000).

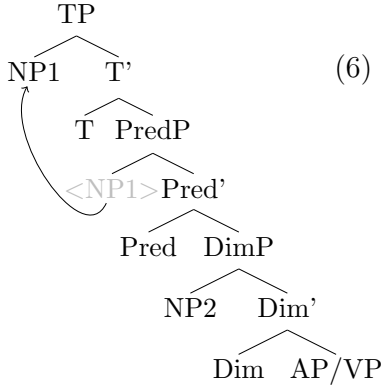
Semantically, an important feature of DNCs is that it must be possible to relate NP2 to NP1 and to AP/VP, so examples like (4) are unacceptable in out of the blue contexts:

(4) a. *[Zhe liang che]$_{NP1}$ [xingge]$_{NP2}$ [hen wenshun]$_{AP}$.
this CL car character very tame

b. *[Ta]$_{NP1}$ [tou]$_{NP2}$ [e le]$_{VP}$.
(s)he head hungry LE

I claim that NP2 denotes NP1's inherent properties/body parts, these can be understood as dimensions of NP1, and the AP/VP predicates NP1 along these dimensions. Examples (1a) and (1b) are paraphrasable as 'Lili is tame in character' and '(S)he aches in head', respectively. On this basis, a syntactic structure in which a functional projection Dim(ension)P is projected above PredP is proposed in (5). DimP modifies the predication relationship indicated by AP/VP: some individual (NP1) is in a state (AP/VP) restricted to its property/part (NP2). Provisional semantics for (5) are in (6):

(5)



(6) a. ⟦AP/VP⟧ = λx. x is tame
b. ⟦NP2⟧ = λx. x is a character
c. ⟦Dim⟧ = λf<e,t>. λg<e,t>. λx. ιy. g(y) = 1 and f(x) = 1 in dimension y
d. ⟦Dim'⟧ = λg<e,t>. λx. ιy. g(y) = 1 and x is tame in dimension y
e. ⟦DimP⟧ = λx. ιy. y is a character of x and x is tame in the dimension of character

DP-internal modifier positions in Mandarin Chinese

David Hall

Research into cross-linguistic regularities in the distribution of DP-internal elements (demonstratives, numerals, adjectives and nouns) has focused mainly on the ordering of those elements with respect to each other in unmarked cases, unmarked meaning 'having a neutral interpretation', or 'bearing neutral stress' (Cinque 2005, Abels and Neeleman 2012, a.o.). Greenberg (1963)'s Universal 20, and Cinque (2005)'s analysis thereof, predict that no language should exhibit Dem > A > Num > N, or A > Dem > Num > N in the unmarked case. While this generalization appears to hold cross-linguistically, a number of languages exhibit apparent freedom in ordering where there is a non-neutral interpretation. Mandarin Chinese (MC) is one such language: it exhibits both of the orders given above. I argue that the two 'marked' positions for adjectives must be analysed differently, and cannot uniformly be accounted for under a reduced relative clause (RRC) analysis, nor under a focus movement analysis (Cinque 2005).

I argue that there are two base generated positions for adjectives in the extended nominal projection, one above Num and one below Num, and that these modify a predicate of pluralities and a predicate of singularities respectively (following Ouwayda 2012). This gives rise to a difference in possible interpretation in (1); (a) can only have a distributive reading, while (b) most naturally has a collective reading (but can also marginally be distributive).

(1) a. wo dai le san ge hen zhong de daizi qu John jia
I carry PERF three CL very heavy DE bag go John house
'I carried the three heavy bags to John's house'

b. wo dai le hen zhong de san ge daizi qu John jia
I carry PERF very heavy DE three CL bag go John house
'I carried the three heavy bags to John's house'

I further argue that adjectives in the predemonstrative position move there from a lower position to check a [contrast] feature on a higher functional head, giving a contrastive reading. (2) is infelicitous where there is no set of alternative dogs of other colours (Wu 1999).

(2) huangse de nei zhi gou hen ke'ai
yellow DE that CL dog very cute
'The yellow dog is cute'

On the assumption that an RRC must be predicative, an RRC analysis of this predemonstrative position is untenable: non-predicative adjectives can appear in this position (Paul 2005).

(3) suowei de na ge shashou
alleged DE that CL murderer
'that alleged murderer'

(4) gongtong de na ge pengyou
common DE that CL friend
'that mutual friend'

Work in different syntactic theories tends to be somewhat isolated. This workshop aims to bring together proponents of major theories of syntax for a dialogue, based on some specific and challenging data, in order to evaluate the relative merits of the theories.

The specific area chosen is agreement, an essentially linguistic phenomenon. The language chosen is Archi, a Nakh-Daghestanian language where the agreement system is particularly rich. The syntactic theories being challenged with the Archi data are Head-Driven Phrase Structure Grammar (HPSG), Lexical Functional Grammar (LFG) and Minimalism. Archi proves to be problematic for some fundamental principles of the three syntactic theories under evaluation. To take just one instance, Archi appears to violate the principle that agreement must occur within syntactic domains. There are instances where there is no obvious syntactic link between target and controller: there is a postpositon in Archi which governs the lative case of its noun complement, but agrees with the absolutive argument of the clause. Another example of agreement outside the immediate syntactic domain is the agreement of the first person pronoun: in the dative case it has a morphological position for agreement and takes the absolutive of the clause as the controller despite belonging to a different phrase (PP in the following example):

(1) tuw w-ez χir w-eqˤi-ši i‹w›di
that-I.SG[ABS] I.SG-1SG.DAT behind I.SG-come.POT-CVB ‹I.SG›BE.PST
'He was going to go after me.'(woman speaking)

Here the personal pronoun *wez* refers to a woman (gender II in Archi) and takes the dative case, as determined by the postposition *χir* 'behind', but agrees with the absolutive of the clause, the pronoun *tuw* referring to a man (gender I in Archi).

These and other challenging phenomena presented by Archi agreement inspired the collaborative work between typologists and syntacticians. In January 2012 a project **From competing theories to fieldwork: the challenge of an extreme agreement system** started in the Surrey Morphology Group with collaboration between Essex, Harvard, Surrey and York. The main objective of the project was to provide a framework for comparing and evaluating syntactic theories: HPSG, LFG and Minimalism. During the lifetime of the project, experts representing these theories were challenged to give parallel syntactic accounts of the complex agreement facts of Archi. The proposed workshop brings together the results of this project.

The three syntactic accounts of the biabsolutive construction can serve as an example of the way theories coped with the complex data. To appreciate this construction we need to know that Archi is a morphologically ergative language, coding the subject of the transitive verb as the ergative and object as the absolutive. The absolutive also controls the agreement of all possible targets in the clause. But under certain conditions the following structure is allowed:

(2) But:a buq' b-e‹r›k'u-r-ši w-i
Butta(I)[SG.ABS] grain(III)[SG.ABS] III.SG-‹IPFV›sort-IPFV-CVB I.SG-be.PRS
'Butta is sorting grain.'

In (2) both subject (*But:a*, man's name) and object *buq'* 'grain' take the absolutive case. The periphrastic predicate *berk'urši wi* 'is sorting' agrees with both absolutives: the converb agrees with the object, the copula with the subject. The biabsolutive variant is available only for verbs based on the *imperfective* stem.

The Archi agreement facts are particularly interesting for the HPSG approach: since not only the verb, but also arguments and adjuncts agree with the absolutive of the clause; neither a constraint on ARG-ST lists nor a constraint on the features SUBJ and COMPS (used in

HPSG to define agreement) can provide a satisfactory account of the agreement. In this situation the Archi biabsolutives are a decisive factor for choosing a constraint on constituent structures over a constraint on order domains.

In LFG terms, syntactic agreement is about sharing or co-specification of f-structure features, and involves reference to f-structural relations. The agreement template in the biabsolutive construction is in accordance with the ordering of grammatical functions: the copula agrees with the highest absolutive argument, while the converb agrees with the lowest absolutive. Agreement of non-verbal targets may be captured by the use of inside-out constraints in this approach. Among the challenges posed by the Archi biabsolutive construction is handling the agreement of both absolutives: there is significant evidence that the Archi biabsolutive construction is monoclausal, and agreement targets involving different controllers may display interleaved ordering.

To account for the agreement facts of Archi biabsolutives, Minimalism suggests, first, that analyses which work for similar constructions in other languages (treating biabsolutives as pseudo-incorporation or as special kind of PP) do not work. The new proposal introduces an articulated vP structure where v heads can be null. Some v's have Case features and therefore account for case, agreement, and interpretation in the biabsolutive construction, and some v's have aspectual features, which accounts for a specific aspectual meaning characteristic of a certain type of Archi biabsolutives.

The papers proposed for the workshop are the papers from the typology team (Chumakina, Corbett), the three syntax experts (Borsley, Polinsky, Sadler) and a comparison team (Brown, Sells). The papers present the most interesting results of the project from the respective perspectives: the typology team will present previously unknown facts of Archi agreement obtained as a result of the fieldwork stimulated by the dialog with different theories; the syntax experts will present the specific challenges that Archi presented to their theory and how the solutions to these help moving the discipline along; the comparison team will discuss what the theories can learn about each other, including similarities hidden by notational differences, as well as points of divergence which were not so obvious before.

We provide the data on agreement in Archi (Nakh-Daghestanian) that are essential for understanding the following papers in the workshop. A first point is that agreement is pervasive in Archi, since every part of speech (except nouns) can be an agreement target:

(1) nena‹b›u χˤon b-ela‹b›u dit:a‹b›u χir a‹b›u
1.PL.INCL.ERG‹III.SG› cow(III)[SG.ABS] III.SG-1PL.INCL.DAT‹III.SG› quickly‹III.SG› behind ‹III.SG›make.PFV
'We quickly drove the cow to us (home).'

Archi is a morphologically ergative language, hence verb agreement is controlled by the absolutive argument. In (1) it is *χˤon* 'cow' (gender III singular). The verb *χir as* 'drive home', lit.: 'behind make' agrees with the absolutive. Other targets are more surprising:

- the adverb *dit:a‹b›u* 'quickly';
- the pronoun *nena‹b›u* 'we' (the first plural inclusive pronoun in the ergative case)
- the pronoun *b-ela‹b›u* 'to us' (the first plural inclusive pronoun in the dative case).

These all agree with the absolutive argument *χˤon* 'cow'.

While agreement is pervasive (the wide range of targets), it is also sporadic in that a limited number of items can show agreement (and this is lexically determined). For instance, only a minority of adverbs agree, but those adverbs which have the morphological capability of agreeing always do agree.

Of the various agreement targets in (1), the agreement of the dative pronoun is most interesting: the dative is an adjunct which can be omitted, and its syntactic connection to the verb phrase in general and the object of the verb (the absolutive) in particular is not easy to establish. Yet the dative pronoun *b-ela‹b›u* (1PL.INCL) agrees with the absolutive argument.

A second point of interest is the situation where the target belongs to a syntactic phrase different from that of the controller. This is shown by the agreement of the postposition:

(2) b-ez zulu b-oχo olo duχriqˤa-k e‹b›q'en
III.SG-1SG.DAT spring(III)[SG.ABS] III.SG-find.PFV [IV.SG]1PL.GEN village(IV).SG.INTER-LAT ‹III.SG›up.to
'I found the spring (somewhere) up to our village.'

The postposition *e‹b›q'en* 'up to' governs the interlative case of the noun (in (2) it is the gender IV noun *duχ:ur* 'village') and heads a postpositional phrase. The postposition has a morphological slot for agreement, and we could reasonably expect agreement to be within the postpositional phrase. However, the controller of the agreement is the absolutive of the clause, *zulu* 'spring', a gender III noun.

A third type of challenge is the agreement of the emphatic particle *-ej‹t'›u*. As all other targets in the clause, it agrees with the absolutive argument:

(3) jamu-t sːaʕal-li-tː-ij‹w›u uqˤa-li ju-w jem-im-me-s χir
that-IV.SG time(IV)-OBL-SUP-‹I.SG›EMPH I.SG. go.PFV-EVID this-I.SG[ABS] that.PL-OBL.PL-DAT after
'He went after them immediately.' (T26:37)

The particle attaches to the gender IV noun *s:aʕat* 'time'. The emphasis is on the phrase *jamut s:aʕallit* 'at that time', and in combination with the particle the meaning is 'at that very time'. Agreement, however, is with the absolutive *juw* 'he' (gender I pronoun). Thus the scope of the emphasis and the connection between controller and target do not correspond.

We have demonstrated that Archi agreement is pervasive in that almost all parts of speech can agree, but sporadic in that within the parts of speech many lexical items do not agree (compare the postpositions in (2) and in (3)). We have highlighted three syntactic constructions of particular interest: agreement between elements which have no direct syntactic connection, agreement outside the expected syntactic domain, and discrepancies between semantic scope and agreement domain. These challenges for syntactic theories of agreement are taken up in other papers proposed for the workshop.

HPSG and Archi agreement
Robert Borsley

Within Head-driven Phrase Structure Grammar (HPSG) there are a number of approaches to agreement. One possibility is that it reflects constraints on ARG-ST (ARGUMENT-STRUCTURE) lists, which encode the basic combinatorial properties of a word. In much HPSG work it is assumed that null subjects and unbounded dependency gaps are only represented in ARG-ST lists. Since these elements participate in agreement relations, work that adopts this view must assume that agreement involves ARG-ST lists. This approach is quite plausible where agreement involves a head and one or more of its arguments. In Archi, verbs agree with an absolutive argument, as illustrated in (1), but so do some other elements such as the dative argument in (2).

(1) buwa d-aqˤa
mother(II)[SG.ABS] II.SG-come.PFV
'Mother came'

(2) to-r-mi b-ez χˤošon a‹b›u
that.one-II.SG-ERG III.SG-1SG.DAT dress(III)[SG.ABS] ‹III.SG›make.PFV
'She made me a dress.'

It seems that any agreeing element agrees with an absolutive argument in the relevant domain. Neither a constraint on ARG-ST lists nor a constraint on the features SUBJ (SUBJECT) and COMPS (COMPLEMENTS), which encode the more superficial combinatorial properties of words and phrases, can provide a satisfactory account of this agreement. This suggests that a constraint on syntactic structures is required. There are two possibilities: a constraint on constituent structures, encoded by the DTRS (DAUGHTERS) feature, or a constraint on order domains, encoded by the DOM (DOMAIN) feature. Archi biabsolutives such as (3), with two absolutive NPs, one triggering agreement on a copula and the other triggering agreement on a converb, permit a choice between these two approaches.

(3) But:a buq' b-e‹r›k'u-r-ši w-i
Butta(I)[SG.ABS] grain(III)[SG.ABS] III.SG-‹IPFV›sort-IPFV-CVB I.SG-be.PRS
'Butta is sorting grain.'

The observable order of constituents is a reflection of order domains, but not necessarily of constituent structures since constituents may be discontinuous. An approach involving order domains allows agreement relations to be nested but does not allow them to cross. In biabsolutives, they may cross, as the following shows:

(4) tu-w q'onq' o‹r›kłin-ši w-i ez
that-I.SG.ABS book(IV)[SG.ABS] IV.SG.read‹IPFV›-CVB I.SG-be.PRS [IV.SG]1SG.DAT
'He is reading a book for me.'

Here *w-i* agrees with the first absolutive *tu-w*, and *ez* agrees with the second absolutive *q'onq'*. Such examples suggest that Archi clausal agreement must be the product of a constraint on constituent structures. This approach requires fairly flat constituent structures, but there is no objection to such structures in HPSG.

Agreement between arguments in Archi?

Maria Polinsky, Nina Radkevich and Marina Chumakina

We present and analyze a pattern of unusual agreement in Archi arguing that it follows from the presence of several *v* layers, some of which are phonologically null functional heads.

Archi is a Nakh-Dagestanian language spoken in Russia. It is head final; it has free word order in root clauses but verb-final order in embedded clauses; it has ergative-absolutive case alignment; it has four noun classes, which are indexed by agreement, and noun class agreement is determined by the absolutive argument. Besides agreement exponents on verbal constituents, agreement markers also appear on non-verbal XPs: dative, genitive and ergative 1st person pronouns, VP-adverbs, and the focus particle *-ij‹t'›u*. For example (unusual agreement in bold):

(1) Nena‹**b**›u b-is televizor dit:a‹**b**›u mu a‹b›u
1PL.EXCL.ERG‹III.SG› III.SG-1.SG.GEN TV.III.ABS quickly‹III.SG› be.good do-PFV‹III.SG›
'We fixed my TV quickly.'

Our analysis of Archi *narrow syntax* includes the following components: **(i)** The structure of *v*P is richer than in languages like English or Spanish, consisting of several layers of *v*P with the highest *v*P constituting a phase (cf. Bošković to appear; Wurmbrand to appear). **(ii)** All *v* heads have unvalued class features [uCL]; they may differ in their other feature specifications. **(iii)** Agreement can occur between functional heads (Collins 2003, Baker & Willie 2010). **(iv)** Ergative and dative are inherent cases, not available for agreement (cf. Woolford 2006; Landau 2010). In (1) the lowest *v* has its [uCL] feature valued by DPABS, while each higher *v* has its [uCL] valued by an adjacent head that bears a valued class feature. DPERG is not available to trigger agreement, but DPERG, the adverb and the auxiliary are in an 'agreement domain' with the absolutive DP as each is merged by a *v* head.

Our analysis of *the PF realization of agreement features* relies on several independently motivated assumptions: **(i)** agreement exponents can be overtly realized only if there is a phonologically overt host; **(ii)** in the absence of overt realization, agreement exponents undergo Local Dislocation (LD); **(iii)** LD happens before linearization and post vocabulary insertion (cf., Embick and Noyer 2001, Embick 2007), with the agreement exponent lowering to the closest specifier; if the closest specifier is empty, the agreement exponent is deleted. Applying **(i)-(iii)** to (1) we get (2). There are four relevant functional heads (*v*'s), given from lowest to highest:

(2) a. *v*1[IIICL] on V (*mu*): agreement exponent is → ∅ due to the properties of the verb (underived stative verbs do not have overt agreement)
b. *v*2[IIICL] on Adverb (*dit:a‹b›u*) : agreement appears
c. *v*3[IIICL] on DPERG (*nena‹b›u*): agreement appears
d. *v*4[IIICL]: on Aux (*a‹b›u*): agreement appears; no LD, because the auxiliary is overt

Thus the apparent agreement between XPs is simply a side effect of the presence of silent *v* heads. The overt realization of agreement on non-verbal elements serves as a diagnostic for the existence of silent *v*'s, and such agreement can aid a language learner in detecting extra functional heads. This analysis predicts that XPs outside the *v*P will never show apparent agreement with the absolutive because they are outside the local Agree domain. This prediction is confirmed: TP-level adverbs and high adjuncts never show agreement. Cross-linguistic support for the analysis proposed comes from several other North-East Caucasian languages (Radkevich & Polinsky 2013) and the Ariellese, Ripano and Sanvalentinese dialects of Italian (D'Alessandro 2013), which all show similar agreement patterns. The apparent agreement between the absolutive DP and non-verbal constituents follows from the presence of an articulated *v*P structure with silent functional heads.

Agreement in Archi: An LFG perspective

Louisa Sadler

In LFG terms, syntactic agreement is modelled as sharing or co-specification of **f-structure** features, and hence primarily involves reference to f-structural relations. In common with other non-derivational constraint-based frameworks, the approach to agreement is symmetric in the sense that the target may contribute agreement features not realized on the controller, and vice versa: specifications associated with target and controller *jointly* determine the value of the agreement features intrinsic to (and hence represented in the object which models) the controller.

Syntactic agreement encompasses both index (such as PERS, NUM and GEN) and concord (such as NUM, GEN, CASE and DEF) features. The clear separation of INDEX from CONCORD allows a straightforward account of so-called 'hybrid' words (those whose behaviour indicates that they control agreement in different values of features such as NUM and GEN in different domains), and agreement in coordinate structures. While INDEX features are **typically** involved in predicate-argument agreement, and CONCORD features **typically** implicated in head-modifier agreement, this is not a substantive requirement of the theory (see, for example, King and Dalrymple (2004) and Mittendorf and Sadler (2005)).

While many agreement relations are defined in reference solely to f-structure notions, it is clear that agreement relations established at the syntactic level of f-structure may refer or depend on (further) constraints or information at other levels such as information structure (notions such as TOPIC, FOCUS) (Dalrymple and Nikolaeva 2011), argument structure or linear relations.

This paper will discuss a number of the more interesting agreement phenomena in Archi and show how they are modelled in LFG. Archi shares many key features with other Daghestanian languages, including morphological ergative alignment, a complex verbal morphology and a complex system of nominal cases and spatial/localisation morphology.

At a clausal level, it is the absolutive argument which controls agreement. Agreement generalizations may be succinctly expressed by means of parametrised templates called by lexical entries. This allows agreement across the lexicon to be specified in a succinct manner, capturing generalizations while allowing for lexical idiosyncrasy. For example, elements which show agreement with a III.SG (third gender singular) controller will be lexically associated with the agreement template @III.SG(P): in the case of a transitive Erg-Abs verb the value of P will be set to (↑ OBJ INDEX), for an intransitive verb to (↑ SUBJ INDEX) and for the target of NP internal head-modifer concord, to (↑ CONC).

While it lacks the complex patterns of person agreement of Dargwa, Archi is unusual in that a range of additional targets (such as dative pronouns and a some adverbs) have agreement forms controlled by the absolutive argument in the clause. We show that a simple and natural account of this phenomenon can be given by using LFG's inside out constraints: thus, an agreeing dative pronoun will lexically specify that its agreement controller is the absolutive argument in the containing clausal f-structure. No 'feature passing' in the syntactic tree is required. The direct association of agreement constraints in the lexicon with those (few) words which do show agreement allows a treatment of these unexpected targets without requiring us to posit invisible agreement features on other dative arguments and adverbs.

We will also exemplify an LFG approach to the Archi biabsolutive construction (BAC), in which a (transitive) periphrastic verbal complex occurs with two absolutive case-marked arguments. There is significant evidence that the Archi BAC is monoclausal, and agreement targets involving different controllers (in the same clause) may display interleaved ordering. Our approach makes reference to the ordering in argument structure of the controllers: in such constructions, the copula agrees with the highest absolutive argument, while the converb agrees with the lowest absolutive: in most clause types these agreement constraints will simply hold over the same controller – in the BAC they hold over two different controllers.

The correlation of agreement domains and phrase structure: the Archi perspective on different frameworks

Dunstan Brown and Peter Sells

Archi raises some interesting questions for the formulation of constraints on agreement within different syntactic frameworks. In Head-driven Phrase Structure Grammar (HPSG), constraints on agreement can be stated on order domains (Borsley 2013: 6), or on constituent units built by ID-schemata. For the Minimalist Program (MP) it is a relative necessity for there to be a close relationship between the agreement domain and the articulation of the phrase structure. In Lexical-Functional Grammar (LFG), f-structure is the natural location for generalizations about agreement (Sadler 2012). We consider two types of construction in Archi that are relevant for our understanding of these alternatives: i) a subset of Archi constructions that show 'pluringular' behaviour (Den Dikken 2001); ii) bi-absolutive constructions in Archi, where two absolutive arguments appear, instead of an absolutive and (typically) an ergative.

In (1) the first exclusive pronoun is followed by a phrase containing the numeral meaning 'two'. An Archi numeral requires its head noun (absent here) to be in the singular and agrees with it in gender (here, by infixal marking of gender II). In (1a) both the converb and the main verb appear to agree in gender and number with the absent head noun. (The noun meaning 'girls' would be in the singular form and have gender II.) The agreement in (1b) is an alternative.

1a.	*nen*	*q'ˢwe‹r›u*	*do-q'c'o-li*	*q'a‹r›di-li*
	1.PL.EXCL[ABS]	two‹II.SG›	II.SG-reconcile.PFV-CVB	‹II.SG›sit.PFV-EVID
b.	*nen*	*q'ˢwe‹r›u*	*q'oc'o-li*	*q'iˢjdi-li*
	1.PL.EXCL[ABS]	two‹II.SG›	[1PL]reconcile.PFV-CVB	[1PL]sit.PFV-EVID

'we two (girls) had made up (by then) and were sitting there …' (literally: 'we two having reconciled were sitting')

A reasonable analysis for *nen* 'we (excl.)' in (1a) is that it is in apposition, rather than forming a constituent with the numeral phrase (Polinsky 2013: 5). This contrasts with (1b) where it contributes the feature [+PLURAL] directly to the subject.

A third agreement profile is also possible: the converb 'reconcile' can agree with the implicit singular head of the NP within the numeral phrase ('girls'), while the verb 'sit' agrees with the first exclusive plural pronoun. A fourth alternative is ungrammatical: this is where 'reconcile' would agree with the first exclusive plural pronoun and 'sit' would agree with the implicit singular head of the NP. The third (grammatical) agreement possibility involves nested agreement relations, while the fourth (which is ungrammatical) involves crossing relations.

However, crossing agreement relations are possible in a bi-absolutive example such as (2). The auxiliary *w-i* agrees with *tu-w* (gender I), but the verb *o‹r›kɬin-ši* and the adverb *dit:at'u* agree with *q'onq'* (gender IV):

2.	*tu-w*	*q'onq'*	*o‹r›kɬin-ši*	*w-i*	*dit:a‹t'›u*
	that-I.SG.ABS	book(IV)[SG.ABS]	IV.SG.read‹IPFV›-CVB	I.SG-be.PRS	early‹IV.SG›

'He is reading a book early.'

The data above may be best dealt with in terms of constituent structure (Borsley 2013:6), Polinsky and Radkevich (2014), articulated differently in the pluringular and bi-absolutive constructions. In addition, the precise mechanisms ensuring agreement with the absolutive argument(s) (a pervasive property of Archi) may require other means. This mixture of challenges from the Archi agreement system is therefore a good way of comparing the analytical possibilities in different theoretical frameworks.

Themed session - Incomplete utterances and the syntax/pragmatics interface

Convened by Eleni Savva and Chi-Hé Elder

Synopsis: The proposed themed session aims at investigating the phenomenon of meaningful incomplete utterances pertaining to sentence fragments from a number of different perspectives. Incompleteness can arise in language in a variety of ways, each of them potentially associated with different levels of representation: it can be syntactic incompleteness in the form of ellipsis (Merchant 2001) where the recoverable completion has a determinate syntactic structure; it can be semantic incompleteness in that aspects of truth-conditional content are either left implicit (Bach 2007) or are assumed to correspond to variables in the logical form (Stanley 2000); or it can be pragmatic incompleteness (Stainton 2006) in that the recoverable proposition does not have a determinate syntactic form, but its recoverability depends on an interaction between linguistic and extralinguistic information. In general, the phenomenon of meaningful incomplete utterances is perhaps the most obvious manifestation of the mismatch between form and meaning that is attested in language. Thus, this phenomenon gives rise to a number of issues for linguistic theory, insofar that the theory needs to account for the absence of a one-to-one mapping between structure and meaning. One of the most crucial questions is whether the sentence is, as traditionally seen, the most appropriate basic unit of linguistic analysis, or whether this traditional assumption is too restrictive in that it leaves unexplored aspects of meaning which only become observable at the level of discourse. These might include aspects of meaning arising out of considerations of the co-text (cross-sentential anaphoric dependencies, considerations of coherence etc.), as well as extra-linguistic context (including world knowledge and shared socio-cultural defaults). In particular, problems we wish to explore in this themed session include:

(a) Whether syntactic solutions of ellipsis adequately account for all cases of incomplete utterances, or whether a pragmatic contextualist account should be preferred where extra-linguistic information plays a crucial role in the recoverable completion. Such a discussion will inevitably give rise to arguments for and against the semantic/pragmatic frameworks of minimalism (e.g. Borg 2004), indexicalism (e.g. Stanley 2000) and contextualism (e.g. Recanati 2004);

(b) What diagnostic criteria can be adopted to decide the correct level of representation for the placement of completion of different cases, which by extension could help distinguish different sub-varieties of linguistic incompleteness such as those involving 'implicit arguments' (Bhatt & Pancheva 2006), 'unarticulated constituents' (Stanley 2000, Recanati 2002), and aspects of meaning that are pragmatically recoverable (Stainton 2006);

(c) How incomplete utterances at the level of discourse can reveal systematic mechanisms of interaction, such as collaborative completions which give rise to a series of successive fragments that build up a dialogue (e.g. A: 'We are going to…' B: 'Trecastle', where B's utterance is not an instance of interruption, but one of helpful completion), and how the processes behind these interactive mechanisms of completions and updates of dialogues can be accounted for in syntactic theory (see Cann et al 2005);

(d) How intentions and inferences arise in cases in which the completion not only seems to be left unpronounced but it is arguably even unthought, such as cases of open-ended disjunction interrogatives (e.g. 'Should we watch a movie or…') (see Haugh 2011) and incomplete conditionals (e.g. 'If you'd like to put on your helmet'). In these cases, incompleteness itself seems to be conveying a range of meanings such as the speaker's intention to be polite by avoiding to impose a closed set of alternative options on the hearer (for disjunctive interrogatives), or their recoverability as polite directives (for cases of incomplete conditionals). With regard to such cases, we wish to discuss how intentional open-endedness may arise on the basis of shared socio-cultural background, so long as the incomplete utterances in question are meaningful within linguistic interactions despite the lack of a determinate recoverable completion;

(e) Finally, the broader picture of incomplete utterances would itself be left incomplete without addressing the issue of processing of such utterances in the mind; we aim at discussing this on the basis of evidence from psycholinguistic experiments in one of the contributing talks which will consider the tradeoff between brevity and explicitness in efficient utterance production and the role that predictability of communicative content plays in the likelihood of this content to be left implicit.

All in all, the importance of investigating incomplete utterances lies in the fact that the way we distinguish their different varieties and account for them in linguistic theory will inevitably carry implications with regards to the interface between syntax and pragmatics, the boundary disputes between syntax, semantics and pragmatics, and even with regards to the interface between language and thought. For this reason we believe that our proposed theme of incomplete utterances is not only extremely interesting and worthy of further investigation and discussion, but it is also particularly suitable for an interdisciplinary themed session which seeks to both deepen and broaden our understanding of language. It also falls in the general subject area of the conference workshop, investigating the relation between grammatical and semantic categories.

Incompleteness in argument structure: diagnosing implicit arguments

Dimitris Michelioudakis

This paper discusses real and apparent cases of understood/unpronounced arguments that are necessary for the interpretation of a proposition at some level and suggests some general principles of diagnosing their effects and therefore their presence in the structural/syntactic representation of the respective sentences. I will argue that syntactically present understood arguments can only be found among (but are not coextensive with) selected arguments, i.e. arguments that are only compatible with and predicted by the lexical properties of certain predicates. These are commonly called 'implicit arguments' (see Roeper 1987, Bhatt & Pancheva 2006, among others) and are to be differentiated from most of the so-called 'unarticulated constituents' that Stanley (2000) and Recanati (2002) discuss, especially what Recanati calls *circumstances* (time/location/manner arguments etc.). Both implicit and unarticulated arguments give rise to semantic incompleteness, i.e. to sentences/utterances that may not be truth-evaluable without them, without however giving the impression that core grammatical requirements are not satisfied overtly. However, implicit/unarticulated arguments seem to parallel a two-way distinction which is probably necessary in the domain of more radical incompleteness, (i) elliptical speech with syntactically recoverable elided parts, e.g. VP-deletion/subdeletion etc., see Merchant (2001), and (ii) fragments with little or uncertain recoverability and little or no motivation for a syntactic representation. Thus, on the basis of these two axes (a. ±overt satisfaction of core grammatical requirements, b. ±syntactic effects/recoverability), we are led to a four-way typology of incompleteness: (i) ellipsis, (ii) (radically context-dependent) fragments, (iii) implicit arguments, (iv) unarticulated constituents.

The central claim is that even in the domain of implicit arguments, as defined above, their syntactic role has often been exaggerated and that we have no reason to believe that they are uniform cross-categorially or cross-linguistically. Instead, they may indeed fall under all three possible categories: (a) null pronominal arguments in the syntax, with varying feature content, (b) unlinked argument slots at LF (Williams 1985), (c) the output of a 'variadic function' applying at a pragmatic level (Recanati 2002). The purpose of the paper is to distinguish between real and apparent diagnostics of syntactic argumenthood. In particular, partly drawing on evidence from Greek, I will suggest that licensing a non-adnominal modifier (e.g. an adverb) oriented to specific thematic interpretations (e.g. agentivity) is not enough to postulate a null argument, as has often been the case in the literature. For instance, agent-oriented adverbs are licensed in both English and Greek passives (1), but the latter fail any other diagnostics for implicit agents (3):

(1) a. The boat was sunk deliberately.
b. I varka vithistike epitidhes 'The boat was-sunk deliberately'

Building partly on Landau (2010), I will argue that only structural relations that cannot be analysed as lexical or predication relations provide safe diagnostics for syntactically represented implicit arguments. One such relation is partial control; therefore, implicit arguments that fail to control or be controlled in constructions allowing partial control are not syntactically represented. For instance, absolute gerunds in Greek can be partially controlled, even by implicit experiencers (2), but crucially not by implicit agents of passives (3):

(2) $e_{i+/j+}$ ghrafondas to vivlio, itan enoxlitiko [ja ti Maria$_i$/EXP-e_j] pu i
writing the book, it-was annoying for Mary/(impl.exp.) that the
martires dhen (mas/tus $_{i+/j+}$) milusan ja tin xunda
witnesses didn't (to-us/them) speak about the dictatorship (Kotzoglou 2013)

(3) **e* vjenondas ap'to spiti, i porta klidhothike 'leaving the house the door was-locked'

Apart from this cross-linguistic asymmetry (e.g. English vs. Greek), it appears that implicit agents may also vary with respect to their structural representation across constructions with demoted agents, e.g. agents of passive nominals can clearly control into absolute gerunds:

(4) to klidhoma AG-e_i tis portas, e_i vjenondas ap'to spiti 'the door's locking leaving the house'

Language as mechanisms for interaction: the case of "compound utterances"

Eleni Gregoromichelaki and Ruth Kempson

Conversational dialogue is replete with apparently incomplete utterances, in which one party tails off, another may finish, or clarify, what precedes, the whole emerging over successive fragments:

(1.a.) A: We are going to ....
(1.b.) B: Trecastle
(1.c.) C: Where?
(1.d.) A: Trecastle, Hugh's place.
(1.e.) C: with?
(1.f.) A: the dogs, yeah, as the cat won't be there.

The term "incomplete" is suggestive of orthodox solutions in which fragments are seen as needing semantic or syntactic additions to yield a complete proposition or sentence: either some underlying sentential structure is assigned or surface constituency is taken at face value but with an associated propositional construal via semantic typing that involves a lambda abstract recovered from context (Ginzburg 2012 among others). Poesio & Rieser (2010) go further and provide an inferential account of so-called "completions" (as in (1b)) where the addition proffered matches the initially intended content through steps of Grice-inspired reasoning, so that the interpretation of the whole is inferentially derived.

In this paper, following Gregoromichelaki et al (2011), we argue these analyses are problematic and not adequately general, for example, the Poesio and Rieser account does not cover cases like (1d)-(1f). We turn instead to Dynamic Syntax (DS: Cann et al 2005), a grammar formalism in which underspecification of content and update are the core syntax mechanism, from which all such "split-utterance" data are predicted as an immediate consequence. We then argue that the mechanisms of the grammar constitute the procedures underpinning interaction. Our case study is long-distance dependency, in DS analysed as stemming from initial projection of an underspecified tree-relation as the sole member of some emergent tree, later resolved during the construction process, a delay in resolution also displayed by anaphora (e.g. expletives). Given that both structural discontinuity and anaphora are defined in terms of underspecification-plus-update, we predict parallelism between them. We argue first that construal of such underspecified tree relations can be determined, like cross-sentential anaphora, from previous discourse, being bare-argument ellipsis; and, second, that one-word utterances of early language acquisition constitute deictic construal, in which appropriate reconstruction of structure is presumed to be the responsibility of some other party without antecedent. Given the displayed parallelisms between mechanisms for anaphora and discontinuity, and the intransigency of split-utterance data for other formalisms, we conclude: NL grammars need to reflect the dynamics of conversational dialogue.

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A pragmatic approach to subsentential speech: the case of disjunctive questions

Eleni Savva, Kasia M. Jaszczolt and Michael Haugh

This paper focuses on subsentential speech, i.e. utterances that are incomplete from a syntactic point of view but are able to convey complete propositions when used in context. This frequently occurring phenomenon posits a problem for a theory of meaning in that it concerns aspects of meaning that do not correspond to entities in the structure of the sentence. We first consider a syntactic approach to subsentential speech that attempts to postulate a completion at the level of the structure, by either subsuming the cases in question under the umbrella of syntactic ellipsis (e.g. Merchant 2004), or by postulating hidden variables in the logical form that correspond to context-dependent aspects of meaning (Stanley 2000). We argue that such approaches are unsatisfactory insofar as they safeguard theoretical assumptions, such as taking the sentence as the minimal unit of analysis, that are not independently supported. Most importantly, we point out that such approaches are unable to account for empirical facts such as the cases where the recoverable completion does not have a determinate syntactic structure. Instead, we propose to adopt a pragmatic, contextualist approach to subsentential speech, using the theory of Default Semantics (Jaszczolt 2005, 2010; see also Stainton 2006). We argue that it is better equipped to give a satisfactory analysis of sub-sentential speech and illustrate the argument with incomplete disjunctive questions of the form '*p* or…?, with the second disjunct left unpronounced or even 'unthought', as for example in (1).

(1) Did you get good weather or…?

Such cases of open-ended disjunction occur rather frequently (55 cases in the ICE-GB) and they are not susceptible to syntactic solutions. On the other hand, a pragmatic contextualist approach allows us to incorporate the interaction between linguistic and extra-linguistic information that is available to interlocutors. We postulate that the completion takes place on a conceptual level of representation which is at the same time the level of which compositionality is predicated (cf. Recanati 2004). For example, open-endedness itself seems to be meaningful, in that it can communicate that the addressee is given a choice out of a set of alternatives, or that (s)he has to think of possible alternatives. What is more, open-ended disjunction not only leaves the specific completion to the hearer to perform, but it also leaves open the specific part of the disjunction it seeks an alternative to.

Next, we proceed to proposing a typology of disjunctive questions, using such criteria as polarity, the inclusive/exclusive distinction, the availability of the alternatives (and, where appropriate, the distinction between closed and open set of alternatives), the discourse function of the connective (e.g. introducing an alternative or hedging the propositional content/the illocutionary force associated with the first disjunct). Finally, we offer contextualist-semantic representations of incomplete disjunctive questions, employing and amending some ideas from alternative semantics (e.g. Rooth 1996). The semantics of focus, construed as a presuppositional analysis, is here, so to speak, pragmaticised, in order to handle open-endedness of incomplete questions: instead of focusing on alternatives, we focus on the *mechanism* of finding these alternatives. This can be achieved via accommodation as in van der Sandt's (1992, 2012) theory of presupposition as anaphora. The result of this search for the missing disjuncts is then represented in Default Semantics.

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Utterances such as (1) are understood as 'polite directives'. By taking observations from the International Corpus of English, this paper questions whether they are incomplete conditionals with an elided consequent, or whether they are conventionalized phrases with no conditional meaning.

(1) If you'd like to put on your helmet.

Polite directives of this form have been given limited attention, although Evans (2007) maintains that the consequent is recovered through 'conventionalized ellipsis' and must express a positive evaluation. I ground this intermediary stance by proposing some pragmatic criteria through which speech acts may be recovered from conditional utterances of the form 'if p, q'. For example, if (i) the eventuality described in q is beneficial to the speaker and (ii) the hearer has volition over the action described in p, then the speech act is a directive. However, in an incomplete conditional, the recovery of q via criterion (i) is implicit. Indeed, the speaker may not have a single consequent in mind, if any at all. Rather than recovering a consequent with a determinate logical form, the hearer can nevertheless recover the intended meaning of the utterance via an implicit understanding of a consequent.

This picture is made more complicated when we consider so-called 'indirect conditionals', such as (2).

(2) If you'd come round here, we have the Ottomans.

Since the content of the main clause is not contingent on that of the antecedent whose role is to express a directive, some credence may be given to the hypothesis that the structure of the antecedent is conventionalized, where the pragmatic effect is only recognisable through mutual understanding of that effect (Bach 1995). However, I argue against the conventionalization hypothesis through a rejection of the direct/indirect dichotomy, instead showing that utterances with antecedents of this sort exhibit a cline in conditionality, from a standalone antecedent, to an indirect conditional relationship, to a fully-fledged conditional relationship, such as (3).

(3) If you look at the root of that cusp you can see a crack across it.

In (3), the antecedent expresses both speech-act and propositional, conditional, content; while in (1), by postulating a covert consequent, we account for the hearer's ability to evaluate the consequent and hence recognise the speech act associated with the antecedent. Finally, I note that such 'standard' incomplete conditionals are not limited to polite directives. In (4), there is an implied positive consequence to the agent described in the antecedent, which, coupled with the subjunctive mood, indicates the speaker's attitude of regret towards the actual state of affairs.

(4) If only he could have picked that ball up.

In this way, the analysis for directives may extend to non-directives, and specifically to incomplete conditional assertions. I bring together all these cases by adopting a semantic contextualist framework (e.g. Recanati 2010, Stainton 2006), demonstrating how the variety of speech acts associated with incomplete and complete conditionals alike can be recovered via an interaction of linguistic and extra-linguistic information.

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Predictability and implicit communicative content

Christina Kim

Language is inherently indeterminate — a single string often has multiple possible meanings due to lexical or structural ambiguities, vagueness, and mismatches between literal and implicated meaning. Constructions that leave part of what is meant to be communicated out of the explicit content introduce further interpretive indeterminacy; for example, ellipsis (1-b) requires comprehenders to infer the implicit content of the elided clause, and focus particles like *only* (2-b) require inferring a set of salient, implicit alternatives to the focused expression.

(1) a. Jane wrote an article for the newspaper.
b. Chris did, too.
c. Chris wrote an article for the newspaper, too.

(2) a. The library was getting rid of old VHS tapes.
b. Jane only took some SCIENCE DOCUMENTARIES.
c. Jane took some science documentaries, but not any other genre of VHS tape.

And yet, comprehenders experience far less comprehension difficulty than might be expected when interpreting such utterances in discourse: in the context of (1-a), (1-b) is easily understood as (1-c), and following (2-a), (2-b) can be understood as (2-c). The question usually asked is how the implicit material is inferred in such utterances, the answer in each case being related to the structure or content of the prior discourse (for ellipsis: Sag & Hankamer 1984; Hardt 1993; Dalrymple et al 1991; for focus alternatives/quantifier domains: Cohen 1999; Aloni 2000; Husband & Ferreira 2012; among others).

The current study instead explores the hypothesis that efficient utterance production functionally motivates such constructions, and that utterances like (1-b) and (2-b) illustrate a tradeoff between simplicity/brevity and explicit expression of communicative content. A large body of research in psycholinguistics has shown that online language comprehension relies heavily on predictive mechanisms (Otten & van Berkum 2008; Jaeger & Tily 2010; Mahowald et al. 2010). In particular, prior language experience plays an important role in shaping comprehenders' expectations about likely outcomes in incremental discourse processing (e.g. Rodhe et al 2011). Linguistic devices may then piggyback on these expectations in order to make discourse processing more efficient, reducing explicitly produced content if is easily inferrable. The resulting language processing system would trade off a pressure to simplify utterances with a pressure to be explicit with respect to the content to be conveyed. In the first case, speakers 'say more with less' (e.g. elide, rely on implicit alternatives) where implicit material is recoverable in a limited set of expected ways. In the latter, unpredictable content decreases the likelihood of of reliably inferring implicit information, and speakers compensate by being more explicit.

Predictions were tested in two empirical domains: ellipsis and alternative-dependent expressions. First, increasing the predictability of content to be communicated increased the likelihood that it would be left implicit: (i) VPs that were highly predictable based on structural and thematic parallelism to prior content and likelihood of cooccurrence with prior lexical material were more likely to be elided, and (ii) increasing lexical and conceptual predictability with respect to a discourse topic and prior discourse content increased the likelihood that alternatives to focused phrases would be left implicit (rather than being listed explicitly). Secondly, comprehenders expected highly predictable content to be omitted (i.e. left to be inferred), and unpredictable content to be explicitly spelled out; explicit inclusion of highly predictable content was judged as degraded in acceptability.

Resumption and island repair under sluicing

Klaus Abels and Gary Thoms

This talk distinguishes three approaches to island amelioration under sluicing (Ross 1969), (1). Approach I (Lasnik 2001, Fox & Lasnik 2003) holds that the ellipsis site is syntactically isomorphic to its antecedent and that movement out of islands occurs, (1a), but the violation is repaired by ellipsis. Under approach II, the ellipsis site hosts a syntactically isomorphic clause with a resumptive pronoun in place of the correlate of the *wh*-phrase (Boeckx 2008, Wang 2008), (1b); island repair comes on the back of the island-ameliorating powers of resumptive pronouns, which are made available in languages like English only under ellipsis. Approach III (Merchant 2001), favoured by our data, claims the ellipsis site is syntactically non-isomorphic and contains no island at all, (1c). On this view the island is evaded using grammatical paraphrases of the antecedent.

(1) They wants to hire someone who speaks a Balkan language, but I can't remember which$_k$

(a) … ~~they want to hire someone who speaks t$_k$~~

(b) … ~~they want to hire someone who speaks it$_k$~~

(c) … ~~they should speak t$_k$~~ *or* … ~~that is t$_k$~~

While island repair is characteristic of sluicing if the correlate is an indefinite, the phenomenon is not found in *contrast sluices*, i.e., sluices where the correlate is a contrastively focussed DP. In English, contrast sluicing is sensitive to both strong islands, (2a), and weak islands, (2b). The only reading accessible for (2a) is the island evading (2ai) (cf. 1c), which is semantically clearly distinct from the island violating reading in (2aii).

(2)a. They want to hire someone who speaks *French*, but I don't know what *other language*$_k$.

(i) … ~~he speaks t$_k$~~

(ii)*… ~~they want to hire someone who speaks t$_k$~~

b. *?Sandy asked if they fired *John*, but I don't know who *else*$_k$ ~~she asked if they fired t$_k$~~

The prima facie argument this presents for III (Fukaya 2007) has been challenged (Griffiths & Liptàk 2012) on the basis of the scope-parallelism generalization (Romero 2000), which states that the scope of the correlate in the antecedent must match the scope of the whP in the sluice, together with the assumption that the indefinite correlates in regular sluicing can scope out of islands (Fodor & Sag 1982) while contrastive foci cannot (Krifka 2006). Proponents of II could also claim that contrast sluices are incompatible with resumptive pronouns.

We present sluicing data from languages with productive overt resumptive strategies (Romanian, Palestinian Arabic, Libyan Arabic, Brazilian Portuguese) which supports III. In Romanian and PA, resumptive pronouns repair weak islands but not strong islands in full wh-questions. In LA, they repair both weak and strong islands. Crucially, sluices with indefinite antecedents are insensitive to all types of island constraints in all languages investigated, while contrast sluices pattern like *wh*-questions with resumptive pronouns: contrast sluicing is sensitive to strong islands but not weak islands in Romanian and PA, and insensitive to strong and weak islands in LA and BP.

This correlation is easy to capture under approach III, which only needs to claim that resumption is a language- and island-specific island evasion strategy (observable in overt extractions). Approach I has difficulty accounting for these facts, as it would require that island repair by resumption should correlate with the scopal properties of contrastive foci, but it is unclear why this should be. Likewise, approach II has problems with these facts, since they show that resumption repairs islands in sluicing only when it would repair the overt extraction; thus resumption is compatible with contrast sluicing, and it cannot be an all-purpose repair for island violations under ellipsis.

Selected references: FUKAYA, T. 2007. Sluicing and stripping in Japanese and some implications. PhD, USC. GRIFFITHS, J. AND A. LIPTÁK. 2012. Contrast and island sensitivity in clausal ellipsis. LASNIK, H. 2001. When can you save a structure by destroying it? In *Proceedings of NELS 31*. MERCHANT, J. 2001. *The Syntax of Silence*. OUP.

Unaccusativity in Welsh verbs

Laura Arman

This paper expands on the work of Belletti & Rizzi's (1988) analysis of the argument structure and syntactic realization of verbs of psychological state (i.e. psych-verbs) in Italian to similar groups of unaccusatives in Welsh. Causative and reflexive structures are used alongside the Welsh GET-passive as tests for unaccusativity. A certain class of transitive psych-verbs share syntactic behaviour: four verbs (out of 45 used in the study) failed to causativize and reflexivize, but also fail to passivize.

(1) *caiff hyn ei wybod (gan Cadi)
get-PRES.3SG this.ABST POSS.3SG know (by Cadi)
'this is known (by Cadi)'

Belletti & Rizzi's (1988) account shows that this correlation in syntactic behaviour is indicative of different underlying structures for the three morphosyntactically distinct classes of psych-verbs they find. This is attributed to two types having no 'external' argument in their underlying structure, meaning that an internal argument must be promoted to subject position. Although a correlation was found between the three syntactic tests, named above, and experiencer subjects in the Italian data, the data manifest differently in Welsh.

Whilst there are no morphological differences in the arguments of these Welsh verbs, the differences shown by the three syntactic tests matches the split in the behaviour of the Italian verbs. The case may be made here for a small group of verbs – *gwybod*, 'to know', *ymddigrifo*, 'find entertainment in', *gallu, medru* 'to be able to/capable of' – having different underlying structures from the other three types of verb found. Instead of these transitive verbs having one external argument and one internal, verbs like *gwybod* should then have two internal arguments, following Belletti & Rizzi's (1988) account.

These results also show that Welsh verbs behave very differently from Italian verbs: unlike Belletti & Rizzi's findings, the syntactic tests do not correlate with verbs which have an experiencer subject. Only a very small subset of psych-verbs with experiencer subjects fail to causativize, reflexivize and GET-passivize.

The *gwybod* type verbs share some syntactic behaviour with intransitive verbs. GET-passivization of intransitive verbs is not possible, nor is reflexivization. However, causativization seems possible for all but three intransitives tested (perhaps due to the structure of the Welsh analytic causative, v + dative preposition: *gwneud i*, 'make/do to'). The verb *dod*, 'come' and two other unergative predicates of directed motion, prove troublesome to an unaccusative analysis based on theta-roles, which, in addition to the failure of causativization, casts doubt on the validity of passivization and reflexivization as tests for unaccusativity.

Transitive verbs which fail to GET-passivize do so as GET-passivization requires a subject to suppress and those verbs lack a subject in their underlying structure. On the other hand, the weakness of the causativization test in intransitive verbs suggests either that causativization may be sensitive to factors other than internal/external arguments or that intransitives and transitives have an entirely different syntactic behaviour altogether. If the syntactic tests outlined by Belletti & Rizzi (building on Burzio (1986)) are indeed diagnostics of unergative verbs, then both transitive and intransitive unaccusative verbs have been identified in Welsh. On the other hand, the data of this paper suggest that causativization, reflexivization and passivization may not hold as tests for unaccusativity, at least in intransitive Welsh verbs.

Belletti, Adriana & Luigi Rizzi. 1988. Psych-verbs and θ-theory. *Natural Language and Linguistic Theory* 6(6). 291–352.

Burzio, L. 1986. *Italian syntax: A government-binding approach*, vol. 1. Springer.

The Big Mess: an LFG Analysis

Doug Arnold and Louisa Sadler

The 'Big Mess' construction (BMC) in English, involves an adjectival expression containing one of a limited number of Degree ('Deg') words, including *too*, *so*, *as*, *this*, *that*, and *how*, appearing before the determiner as in (1). As (2) indicates, adjectivals which do not include a Degree word are excluded from this position. Instead they occur in the 'canonical' position after the determiner, as in (3). Degree modified adjectives are normally excluded from this position, see (4).

(1) She made too rude a remark (for me to repeat).
(2) *She made (very) rude a remark . . .
(3) She made a (very) rude remark . . .
(4) *She made a too rude remark . . .

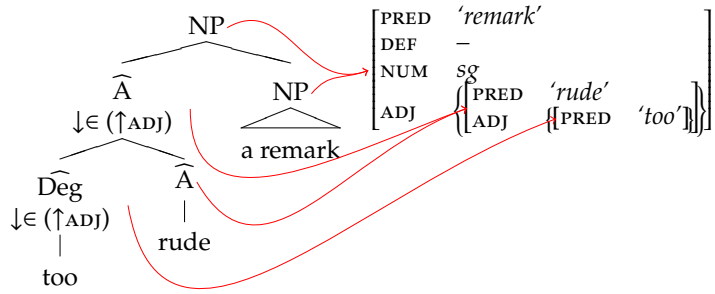
Despite considerable attention over a long period (e.g. Bresnan 1973; Neeleman *et al*. 2004; Kim & Sells, 2011; Kay & Sag 2012), certain aspects remain problematic. We will provide a novel and descriptively satisfying account, using standard LFG apparatus, extending existing empirical coverage.

The two most interesting characteristics of the BMC relate to the conditions under which a Degree word licenses the BMC (there must be a degree word somewhere in the adjectival, cf. *almost* too *rudely expressed a remark*), and restrictions on the determiner (only *a/an* is permitted, e.g. **too rude the/no/every remark*). Apart from these restrictions, the BMC is rather regular. As we will show, BMCs have exactly the distribution one would expect of such an indefinite NP; moreover following the determiner one has what appears to be a completely normal N', and the BM adjective is a normal attributive adjective (modulo the requirement that is be modified by a degree word): notice, for example, that attributive-only adjectives like adverbial *occasional* can occur there, e.g. *even as occasional a philosopher as Ralegh*.

These observations are problematic for many analyses. An LFG analysis is straightforward: a rule like (5) produces representations as in (6). Here $\widehat{\text{A}}$ is a "non-projecting" category (essentially, following Toivonen (2003), one that cannot dominate phrasal material).

(5) $$\text{NP} \rightarrow \begin{array}{c} \widehat{\text{A}} \\ \downarrow\in(\uparrow\text{ADJ}) \\ \downarrow(\text{ADJ}\in)^{*}\ \text{TYPE} =_c \textit{deg} \end{array} \qquad \begin{array}{c} \text{NP} \\ (\uparrow\text{NUM}) =_c \textit{sg} \\ \neg\,(\downarrow\ \text{SPEC PRED}\ ) \end{array}$$

(6)



The constraints on the $\widehat{\text{A}}$ ensure that it is an adjunct and that it contains a Degree word adjunct, either a direct adjunct of the $\widehat{\text{A}}$ or an adjunct of an adjunct (etc.): thus accounting for basic examples as in (1)-(4), as well as more complex examples like *not nearly too rude a remark*. The constraints on the lower NP are more interesting, and will receive more discussion. As stated, they ensure it is singular (hence no plurals) and does not contain a 'semantically contentful' specifier (excluding *some every*, *the*, *no*, etc. – cf **too rude some/every/the/no remark*). In other respects, the lower NP will have a normal internal makeup, as required. Similarly, from the outside, the upper NP looks like any other indefinite singular NP, and will have the distribution noted above.

The full paper will provide a critical comparison with extant approaches in other frameworks, pointing out their descriptive shortcomings. But the main focus of discussion will be on the precise nature combination of constraints required on the lower NP: motivating the idea that *a/an* does not contribute a PRED value, and considering whether restrictions on definiteness and number are needed in addition. However, it will also consider a wider range of data. In particular, it will show how associated restrictions on 'canonical' position can be captured: it is often assumed that adjectivals containing BMC licensors are excluded from 'canonical' position. This is untrue. For example, though a string like *a too rude remark* in (4), is ungrammatical, it becomes grammatical if the Degree word is pre-modified, compare *a far too rude remark*. We will show how the analysis can handle this.

'Because X': syntactic restructuring, ellipsis, or 'internetese'?

Laura Bailey

In January 2014, the American Dialect Society voted because X its Word of the Year. Specifically, they voted for because when used in a new construction with a complement often consisting of a bare noun (1), rather than the clausal or of-prepositional complement traditionally required (2-3):

(1) Studying because school.

(2) Studying because I have to go to school.

(3) Studying because of school.

Because X is attested since 2001 in the form Because screw you! but only common from 2011 with bare nouns, such as the now-famous because racecar meme.

Media and online commentators initially deemed this usage to be the repurposing of a subordinating conjunction as a preposition, contra CGEL's insistence that because has always been a preposition. However, its new ability to take a nominal complement is no indicator that it is a preposition in any case, as it resists definite DP complements (*because the bus) and can take other categories as complements (because hungry, because laughing).

The first part of this paper presents the results of an online grammaticality judgement questionnaire (>200 participants) to establish the descriptive facts of the new usage. Participants rated 22 sentences on a 6-point Likert scale. Significant factors affecting grammaticality were length of the complement and syntactic category: indefinite DPs, tensed VPs and CPs with an overt complementiser were deemed very sharply ungrammatical, whereas bare nouns, participles and interjections were widely accepted (along with the traditional of-PPs and TPs). Additional comments from participants suggest that intonation is relevant, and that because this is a salient construction, it might be 'intentionally ungrammatical' – intended to be jarring (cf. the internet meme 'doge', which is considered to be 'wrong' if it follows Standard English rules (McCulloch 2014)).

The second part of the paper discusses the syntax of because X, which has been proposed to involve either ellipsis or a broadening of the range of categories because can select. One ellipsis-based explanation is that the preposition is null, as in come the pub ditransitives in northwest English varieties (Myler 2013, Biggs 2013) and related to the 'light PPs' which fail to assign Case discussed by Collins (2007). Alternatively, the construction may be derived through ellipsis of a clausal complement, leaving just one element overt (Studying because ~~I have~~ school). Of the types of ellipsis claimed to exist, this is most similar to 'comparative deletion' (Karen is more sarcastic than ~~Karen is~~ funny), as it is not restricted to coordinated clauses. However, comparative deletion is obligatory, and because X ellipsis appears to be optional, as a full clausal complement is permitted.

The final proposal considered is that because selects particular categories other than a clause or a PP. This option will be ultimately rejected, however, largely because of constraints that operate on the complement beyond simple category selection. I argue that because X is broader in its selectional criteria, but that this is an instance of selectional deficiency, not category selection: because 'doesn't care', and other constraints (e. g. prosody) determine acceptability.

Subject-object asymmetries in Clitic Left Dislocation

Pilar Barbosa and Cecile Decat

1. THE ISSUE It has been often observed that Clitic Left Dislocation (CLLD) yields deviant results when embedded under the domain of wh-movement (the examples are from Portuguese):

(1)**a.** Não sei se, este livro, o vou dar à Maria. **b.** *Não sei a quem, este livro, o vou dar.
not know if this book it will.1sg give to.the M. not know to whom this book it will.1sg give

An intriguing fact, however, is that the examples improve when the clitic is absent:

(2) Não sei ainda a quem, este livro, vou oferecer [—]
not know yet to whom this book will.3SG offer

The degree of acceptability of the relevant examples also improves with the height of the base position associated with the clitic. Experiencers may naturally intervene with or without a clitic (3a) in contrast with lower datives (3b):

(3)a. Vi hoje [a casa]$_i$ que, à Maria, mais (lhe) convém comprar [—]$_i$.
saw.1sg today the house that to.the Maria, more to.her is.convenient to-buy

b. * Já li o livro que, à Maria, lhe ofereceu [—] ontem o João.
already read.1sg the book that to.the Maria to.her offered yesterday the John

In sum: (i) the offender in (1b) is not so much the topic as the presence of clitic; (ii) when the clitic is present, the height of its base position is crucial. In our analysis of Topicalization in Portuguese, we follow Raposo (1998): the topic is base-generated in place and what moves is a null operator. For CLLD, we also assume that the topic is base-generated in place (De Cat 2007). When these structures are embedded within the domain of wh-movement, the following configurations obtain (where *ec* corresponds to the thematic position associated with the clitic):

(5) *Object Topicalization*: ... [$_{CP}$ *wh* [$_{FP}$ [Topic]$_i$ [$_{FP}$ *Op*$_i$ [... V [$_{vP}$ ~~*Op*~~ ...]]]]

(6) a. *Dative Experiencer CLLD*: [$_{CP}$ *wh* [$_{FP}$ [Topic]$_i$ [$_{FP}$ **cl**$_i$ V [***ec***$_i$ ...]]]]

b. *Object CLLD*: [$_{CP}$ *wh* [$_{FP}$ [Topic]$_i$ [$_{FP}$ [*subject* **cl**$_i$ V [$_{vP}$ [~~*subject*~~ ... ***ec***$_i$ ...]]]]

In (5) the relation between the topic and *Op* is strictly local. In (6a) the dative experiencer is the highest argument, so nothing intervenes between it and the topic. In (6b), the subject intervenes. We propose that, when the relation between the topic and the empty category associated with the clitic is local, the mechanism of Agree suffices to establish a predication relation in the syntax. When Agree fails, as in (6b), the required predication relation can only be established at LF, i.e., a lambda abstractor must be introduced as a sister of the CLLDed topic (either by LF-movement of the clitic (Demirdache 1992) or by LF lambda insertion (Landau 2009)). Therefore, in the syntax, the topic counts as an intervener. **2. PREDICTIONS** This approach predicts that embedding a subject CLLDed topic within a *wh*-movement domain should yield better results than object CLLD. This prediction cannot be tested in Portuguese in view of its null subject nature. However, a good testing ground is French, a language with subject clitics where subject CLLD is very frequent. **3. STUDY:** To investigate intervention effects of subject CLLD vs. object CLLD in *wh*-configurations, a quasi-experimental grammaticality judgement task was conducted on-line, involving 63 native speakers of French. 45 test items were rated on a 5-point scale. The factors were: intervenor **nature** (pronoun, proper noun, DP, PP/AdvP), intervenor **position** (subject-CLLD, object-CLLD, subject, adjunct), intervenor **theta-role**, *wh*-trace (adjunct, subject, complement), *wh*-structure (interrogative, relative clause). The data was analysed by mixed-effect modelling and non-parametric regression trees ("random forest"). This identified **position** as the strongest predictor for the acceptability of an intervenor: highest acceptability was found with subjects and adjuncts, and lowest with object CLLD. Since adjuncts do not generally yield intervention effects, we are left with a subject/object asymmetry for CLLDed items, as predicted.

Semantic transparency is known to play an important role in the storage and processing of complex words (e.g. Marslen-Wilson et al 1994), and human raters of transparency achieve high levels of agreement (e.g. Frisson et al 2008, Munro et al 2010), yet the phenomenon itself is poorly understood. For example, despite the fact that transparency is generally believed to be a gradient phenomenon (e.g. Wurm 1997), most studies treat it as if it were categorical. In the case of bimorphemic compounds, a four-way distinction is often used, based on the perceived transparency of the constituents: transparent-transparent (e.g. *car-wash*), transparent-opaque (e.g. *jailbird*), opaque-transparent (e.g. *strawberry*) and opaque-opaque (e.g. *hogwash*) (Libben et al 2003). But this is too coarse, e.g. *ham knife* (a knife for cutting ham) and *aquarium computer* (a computer whose heat-sensitive parts are submerged in an aquarium case, usually filled with mineral oil) would both be classed as transparent-transparent, even though the meaning of the former is clearly more predictable than the meaning of the latter. In contrast, we present a model of compound transparency as a continuous rather than discrete variable, which shows that transparency is related to the frequency and information content of the constituents, as well as to the internal semantic structure of the compound as a whole. It is the first study to show that informativity, measured in terms of distribution, is predictive of perceived transparency.

We use the publicly available data set collected for and described in Reddy et al (2011). These authors selected a set of 90 English compound nouns from the ukWaC corpus. For each of the 90 compounds, Reddy et al (ibid.) obtained literality ratings from human raters, who were asked to rate either (a) how literal they perceived the compound to be, or (b) how literally the first constituent was used in the compound or (c) how literally the second constituent was used in the compound. Each of these tasks was completed by 30 raters for each compound. To this dataset, we added various measures of informativity, namely the frequency and 'family size ratio' of each compound constituent as extracted from the BNC. Family size ratio is a measure of the tendency of a constituent to occur in the left or right-hand position. In addition, we coded the data for the semantic relation between the constituents (after Levi 1978), for metaphorical shift in the meaning of either constituent or the compound as a whole, and for the extent of lexicalisation as measured by 'spelling ratio' (the proportion of tokens written unspaced, cf. Bell & Plag 2012). These informativity and semantic variables were used as predictors in ordinary least squares regression analyses with literality of the compound or its constituents as the dependent variables.

In the final model for overall literality of the compound, as given by the human raters, both types of predictor, semantic and frequency-based, are statistically significant, with significant interactions between the informativity measures. As might be expected, literality rating is lower when either constituent (N1 or N2), or the whole compound (NN), is metaphorical. Literality also falls as the proportion of unspaced tokens increases (i.e. as lexicalisation increases). On the other hand, certain semantic relations ('N2 is for N1' and 'N2 is in N1') are associated with greater literality. Most significant for this paper, however, are the two interaction effects. In general, as the frequency of the left-hand noun (N1) increases, literality rating also increases. However, this effect is strongest when N1 has a high family size ratio, in other words when it typically occurs as a modifier. Overall, compounds are rated as most literal when N1 is a frequent word that typically occurs in the modifier position, and is therefore relatively expected and uninformative in that position. In terms of the right-hand noun (N2), literality is lowest when the frequency of N2 is low and its family size ratio is also low: in other words, when it is a low frequency word occurring in its non-preferred position, and is therefore highly unexpected and informative. Models for the literality of the individual constituents follow very similar patterns. On the assumption that literality is a measure of semantic transparency, this is the first evidence that transparency can be at least partially understood as the inverse of informativity.

The universal component of emergent categories

Theresa Biberauer

In current generative theory, universal linguistic categories are not a given. This paper aims, firstly, to explicate this; secondly, to offer two case studies illustrating the perspectives emerging from a generative research-programme eschewing universally-given categories; and, finally, to consider how much convergence we might expect between this kind of programme and non-universalist approaches.

Chomsky (2001:10) proposes a prespecified inventory of formal features/[F] from which acquirers make a one-time selection to establish their languages' syntactically active features. Given that the choice for/against [F]-selection creates featurally non-identical feature-bundles (=syntactic categories), the possibility of cross-linguistic category differences arises. Which features are most/least likely to be selected and how – a theory of the [F]s defining natural-language systems – remains unclear, however. This paper departs from the [F]-prespecification assumption, proposing, instead, that the only (substantive) featural directive acquirers begin with is that the input requires parsing not just in terms of phonological/[P] and semantic/[S] features, but also in terms of [Fs], which allow the computational system to operate with lexical items in the category-based way observed in human languages. Since there is, by hypothesis, no inventory of [F]s to map the input onto, the child must exploit (i) **cues in the input**, notably, multiple exponence/"doubling", movement, various kinds of systematic "silence" and apparent multifunctionality, in combination with (ii) **learning biases**, notably, Input Generalisation (Roberts 2007) and Feature Economy (Roberts & Roussou 2003), which drive the child to make maximal use of minimal [F]s. Since languages demonstrably do not all grammaticalise the same features, it is expected, on this emergentist generative approach, that categorial inventories will vary crosslinguistically. Further, we can probe the limits of this variation and thus potentially derive insight into the question of what "basic" [F]s and thus what types of syntactic categories natural-language systems require to be acquirable and usable. Maintaining the minimalist assumption that syntactic (and possibly other; see Halle & Marantz 1993, Nevins 2010) structure is constructed via the [F]-sensitive operations MERGE and AGREE, certain system-types are excluded *a priori*: these include those entirely devoid of [F]s; systems lacking a "basic" distinction which will allow "spine" elements (e.g. verbal elements associated with the clausal spine) to combine with "satellite" elements (e.g. subjects, objects, certain adverbials) – the universality of some form of 'verb'/'noun' distinction is therefore arguably expected, although its surface manifestations and formal character may vary greatly (cf. Chung 2012); and systems containing [F]s not independently responsible for some instance of doubling, movement, multifunctionality or "silence". We also briefly consider the importance for this approach of the initial input (*intake*), and its role in determining the limits of crosslinguistic categorial variation.

Two case studies are presented to illustrate the workings and predictions of the proposed approach. Firstly, I show how variation in negation-related input leads acquirers to different conclusions as to the status of negation as an [F] in different systems, and how certain well-known typological facts emerge from this. Secondly, building on Wiltschko (2008), I show how the approach predicts substantial crosslinguistic variation in the encoding of Number, and also why diachronic changes affecting Number-realization take the form they do.

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Biberauer & Roberts (2012) propose the parametric taxonomy below:

(1) For a given value v_i of a parametrically variant feature [F]:

a. **Macroparameters**: all functional heads of the relevant type share v_i;

b. **Mesoparameters**: all functional heads of a given naturally definable class, e.g. [+V], share v_i;

c. **Microparameters**: a small sub-class of functional heads (e.g. modals) shows v_i;

d. **Nanoparameters**: one/more individual lexical items has v_i

If parametric change involves language-acquisition-mediated reanalysis of Primary Linguistic Data/PLD, macroparameters will be set "easily", hence resisting reanalysis and being strongly conserved; meso- and microparameters would be expected to be correspondingly less salient in the PLD, hence less reanalysis-resistant and less strongly conserved. Nanoparameters, in turn, would in principle, be still less reanalysis-resistant and therefore more unstable, *modulo* frequency effects.

Here we document a case of change from mesoparameter to microparameter to nanoparameter involving Conditional Inversion/CI in the history of English. We show that the central component of CI has remained unchanged since Old English/OE, in that it involves T-to-C movement where C has a feature marking the clause Irrealis (e.g. *swelte ic, libbe ic* "die I, live I", i.e. "if I live or (if I) die"). In OE, CI was part of a family of operations raising inflected verbs into the C-system (Verb-Second/V2). This feature is general to all root and some embedded Cs and holds across Germanic, making it a good candidate for a mesoparameter.

What has changed since OE is the range of elements undergoing CI, and how CI relates to other forms of inversion. The loss of V2 is usually dated to the 15th century, but various forms of "residual V2" in marked clause-types survived, e.g. Interrogative Inversion/II and CI. The shift from full to residual V2 is a shift from mesoparameter to microparameter: the class of T-attracting Cs contracts. In Early Modern/ENE, lexical V-to-T movement was lost. Thereafter, only auxiliaries undergo CI, as in interrogative and other kinds of inversion. The residual V2 to subject-aux inversion shift further restricts the items undergoing inversion, although the T-to-C trigger is unchanged. What has changed here is a T-feature, from a meso – all verbs – to a micro – auxiliaries only – value. The most interesting change affecting CI is recent, though: from the 17th-19th century, CI was no different from other inversions, being available with all auxiliaries, including "dummy" *do*. From ca.1850, CI became restricted to *had*, *should* and, more marginally, *were*. This looks like a nanoparameter, as it affects one modal, and specific forms of *have* and *be*. Meanwhile, II has remained productive for all auxiliaries. Optative inversion, however, was first limited to *may*, before becoming formulaic (*May you rot!* but **May you eat!*).

We provide a formal analysis of the facts, drawing in particular on recent work by Martina Wiltschko and Anders Holmberg, and conclude by considering how an emergentist (1)-style parametric taxonomy can give us insight into how systems may become gradually more marked, requiring ever more specific triggers for operations, until a feature (class) ceases to act as a trigger, and the system radically simplifies. Unlike many minimalist approaches to diachronic change, then, ours does not predict that change will always lead to simplification or that change will be uniformly simplifying or complexifying.

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Assertion and speech acts in embedded clauses: evidence from Mandarin syntax

Alison Biggs

It has long been observed that a subset of syntactic phenomena is restricted to matrix clauses (Emonds 1970). Much research has concluded that embedded clauses differ from root clauses with respect to the encoding of assertion and speech acts (Hooper and Thompson 1973, Green 1976, Aelbrecht *et al*. 2012). This paper shows that a root/embedded distinction holds in Mandarin, but that the syntactic phenomena sensitive to the distinction only partially overlap with those familiar in Indo-European languages. The new data suggest that (a) Mandarin syntax treats complements of non-factive predicates as if they do not not encode independent illocutionary force (unlike e.g. English; Hooper & Thompson 1973); but (b) that Mandarin permits a range of phenomena related to Speech Acts in embedded complements (*contra* the generalisations established in Miyagawa 2012).

(a) First, Mandarin question particles (or clause-typers, e.g. *ma* 'polar-question marker') scope exclusively over the matrix verb (Cheng 1991), although the particles are obligatorily realised sentence-finally; unlike other particles related to sentential force reported cross-linguistically, the Mandarin particles do not exhibit any sensitivity to factivity (assertion/non-assertion of a complement clause). In addition, the propositional assertion marker *shi…de* is excluded in all embedded clauses in Mandarin: *shi…de* is canonically a Focus construction, but where *de* occurs sentence-finally AND the construction takes a broad focus reading AND and the clause is not obligatorily interpreted in the past tense, *shi…de* functions to assert a proposition (Cheng 2008). *shi…de* is uniformly rejected in all embedded contexts, including non-factive complements. Together these observations suggest that, syntactically, non-factives are not treated as having independent illocutionary force.

However, topicalisation is available in all embedded contexts in Mandarin, although cross-linguistically it has often been linked to assertion (Hooper & Thompson 1973 *et seq*.). *Contra* Shyu (1995), I show that topicalisation of adjuncts (but not arguments) is freely available in relative and conditional clauses, and that both arguments (Tang 1990) and adjuncts can be topicalised within complement clauses, again, regardless of factivity. The availability of topicalisation does not appear to correlate with the 'bridge-hood' (the availability of *wh*-extraction) of the matrix predicate. I argue that the availability of topicalisation follows from properties specific to topicalisation in Mandarin.

(b) Other particles in Mandarin exhibit a more nuanced behaviour: the string-final particle (SFP) *le* (which, broadly, denotes perfective aspect) obligatorily scopes over the embedded predicate of a complement clause, only optionally scoping over the matrix predicate too. SFP *le* is incompatible with relative and (most types of) adverbial clauses, with some systematic exceptions. These exceptions tease apart the many functions of *le*. Specifically, SFP *le* can appear in embedded contexts where a 'surprise' reading can be obtained; I assume this is the mirativity reported for *le* in Zhang (2013). However, SFP *le* is incompatible with embedded clauses where it functions to establish an objective fact. In contrast, experiential particle *guo*, a verbal-enclitic described as a personal and inferential evidential in Chappell (2004) is compatible with all embedded clauses. I conclude that Mandarin complement clauses are compatible with epistemic modality. Additional support for this position is that, Epistemic speaker-oriented adverbs (e.g. *dagai* 'probably', *yiding* 'definitely', following Ernst 2009) can occur in (factive and non-factive) complement clauses, although they are excluded from conditional and relative clauses. (Speaker-oriented adverbs that are Discourse-oriented (*tanbaide* (*shuo*) 'frankly, honestly') or Evaluative (*lingren* 'amazingly') are restricted to matrix contexts.)

The nature and distribution of root phenomena in Mandarin thus contribute new evidence that these are a cluster of phenomena defying unified explanation (Aelbrecht *et al*. 2012), and instead require language-internal, construction-specific analysis.

Phonetically-based biases in the acquistion of Hebrew rhotics

Evan-Gary Cohen

Introduction: This paper examines the role of allophonic variation in Hebrew rhotic (ʁ) acquisition. Based on evidence I provide, I propose that allophonic variation is the major cause of late acquisition. I suggest that positional frequency does not play a role in ʁ acquisition. Allophonic complexity biases acquisition order, the more complex onset ʁ's allophony hindering the necessary generalisations required for their encoding, abstract representation and production compared to simple coda ʁ's.

Previous research: ʁ is about the latest consonant to be fully acquired in Hebrew (Lavie 1978, Ben-David 2001). Assuming three stages of segmental acquisition (deletion→substitution→faithful ʁ), Ben-David et al.'s (2013) cross-sectional study shows that word-final and word-medial ʁ's complete these stages before word-initial ʁ's (Ben-David did not distinguish between word-medial codas and word-medial onsets). Compared to other segments' acquisition, a strange pattern emerges in the acquisition of the Hebrew ʁ. Although the late acquisition of rhotics is common cross-linguistically (Bosma-Smit et al. 1990 for English, Hua 2007 for Putonghua, Amayreh and Dyson 1998 for Jordanian Arabic, Freitas 1994 for Portuguese inter alia), the patterning of the ʁ's acquisition (i.e. being fully acquired in coda position before being fully acquired in onset position), is unusual. This stands in sharp contrast to other Hebrew consonants, where onset acquisition precedes coda acquisition. In Cohen (2013), an extensive acoustic study of ʁ allophony variation in Hebrew, controlling for position and neighbouring segments, prosodic position is shown to affect allophonic variation. Word-final ʁ's show little variation (approximants with some frication and devoicing), while word-initial ʁ's show considerable variation, surfacing as approximants, fricatives, trills, taps and even plosives.

Data and analysis: The current study is based on transcriptions and acoustic analyses (PRAAT – Boersma&Weenink 2014) of weekly recordings of the natural speech of two infants during acquisition from the onset of speech until the age of 18-24 months (data are drawn from the Language Acquisition Project directed by Bat-El and Adam at Tel-Aviv University). I analyse the attempted productions of ʁ (rather than the actual production of ʁ) during various developmental stages in the subjects (Adam and Bat-El 2008, 2009), counting the deletion, substitution and faithful productions of the ʁ's.

Results: The results reported in Ben-David et al. (2013) were partially replicated in the current study. The following picture of ʁ acquisition emerges: ʁ's are attempted (and produced) earlier in coda positions than in onset positions. During the earlier stages, the phenomenon is more pronounced, but later on, the distribution nears that observed in the lexicon. This demonstrates the role of selectivity in early acquisition (for Hebrew: Cohen 2012, Ben-David 2001:342, Bat-El 2012 ; for other languages: Drachman 1973, Schwartz and Leonard 1982 to name a few), attempting the coda-ʁ forms before the onset-ʁ forms. Word-final codas precede word-medial codas and onsets, which, in turn, precede word-initial onsets, the last position to be acquired for ʁ.

Lexicon analysis vs. acquisition patterns: The following compares the distribution of ʁ in Hebrew nouns (Bolozky&Becker 2006) vs. attempted targets in the productions of two infants, SR and RM:

	Initial	**Medial Onset**	**Medial Coda**	**Final**
Lexicon	445	**1897**	634	818
SR	213	401	184	**773**
RM	1105	1198	692	**1225**

Clearly, if frequency played a role in infants' acquisition, word-medial onsets – not word-final codas – would be the most commonly attempted ʁ.

Discussion: While it has been argued that the more frequently a segment appears in a certain prosodic position, the more rapid its acquisition in this position is (e.g. Zamuner 2003:70), this cannot be a relevant factor in Hebrew ʁ's, as onset ʁ's are more frequent that coda ʁ's. The acoustic input available to the Hebrew acquirers, however, is inconsistent in onsets, while being relatively straightforward in codas. The consistency in codas allows for simpler generalisation of the patterns and, subsequently, categorisation of the segment. Allophonic variation, I argue, biases segmental acquisition, facilitating earlier production of the simpler coda allophones (codas) compared to the more complex onsets.

Scope-to-surface isomorphism and Greenberg's Universal 20

Jennifer Culbertson and David Adger

The idea that the surface order of constituents or morphemes is tied to underlying semantic scope has been widely used in theoretical syntax to explain several well-known typological tendencies. One of these is Greenberg's Universal 20, which states that among noun-peripheral orders in the DP, only three orders of nominal modifers are well-attested: Dem(onstrative)-Num(eral)-Adj(ective)-N(oun), N-Dem-Num-Adj, and N-Adj-Num-Dem (Greenberg 1963). An examination of the frequencies of these patterns reveals, however, a clear asymmetry between the two post-nominal orders; N-Adj-Num-Dem is the most frequently attested pattern, while N-Dem-Num-Adj is in fact fairly rare (Dryer 2009). A number of researchers have connected this asymmetry to a universal underlying hierarchical representation from which all surface orders are derived (Cinque 2005; Abels & Neeleman 2006; Culbertson & Adger 2014). This hierarchy is determined by the scope relations among the modifiers; adjectives take innermost scope, demonstratives take highest, and numerals are fall in the middle. Surface ordering patterns, like N-Adj-Num-Dem, which are isomorphic to the underlying scope are assumed to be favored.

In a recent paper, Culbertson & Adger (2014) test this hypothesis using the poverty-of-the-stimulus paradigm, in which learners are presented with examples from a new language in a way that withholds critical evidence about its structure (Wilson 2006; Finley & Badecker 2008). In this case, phrases with more than one nominal modifier are held out, and thus training languages are ambiguous in terms of their mapping from underlying scope to surface order. English speakers trained on a "pseudo-artificial" language—with English lexical items, but post-nominal modifiers—were found to implicitly assume that the order of those post-nominal modifiers followed *underlying scope* rather than surface English order (i.e., N-Adj-Num-Dem rather than N-Dem-Num-Adj). This result was particularly strong when the set of modifiers included both Adj and Dem, which are scopally most-distant.

Here we partially replicate the results of of Culbertson & Adger (2014), in which participants learn about a subset of two modifiers, using a more naturalistic artificial language task. In Culbertson & Adger (2014), speakers (recruited through Amazon Mechanical Turk) were not required to learn any new lexical items, each phrase was presented both auditorally and orthographically, and testing was 4AFC. In the experiments presented here, participants must learn a completely novel lexicon (indeed the objects used are unfamiliar and thus will have no association with English), and must actually produce utterances in the new language at test. This introduces a number of other learning pressures that could in principle alter the outcome of the experiment.

Participants were 40 undergraduates at Johns Hopkins University, who received course credit for their participation. Each was randomly assigned to one of two conditions, which determined a subset of modifiers which they were required to learn (1) Adj, Dem, (2) Adj, Num. Findings reveal a strong preference for surface order that is isomorphic to the underlying scope in the Adj, Dem condition ($M=81\%$, $SE=0.02$; $p<0.05$). This preference was weaker though still reliable for participants learning about only Adj, Num ($M=67\%$, $SE=0.03$; $p<0.05$). Overall, these results mirror Culbertson & Adger (2014), suggesting that learners' bias for isomorphic scope-to-surface mapping is robust in the face of a more naturalistic learning task.

1. Non-verbal predicates may express either habitual or *ad hoc* properties. This is traditionally accounted for by the presence or absence of a Davidsonian spatio-temporal event variable in the lexical layer of these predicates (see Kratzer 1995). Maienborn (2003, 2005a,b, 2011) introduces a new ontology of eventualities, showing that neither type of non-verbal predicate contains a Davidsonian spatio-temporal variable, only a Kimian temporal variable. In her discourse-semantic account, the interpretation of small clause predicates is determined either by (i) the temporal dimension or (ii) the spatial dimension or (iii) the epistemic dimension of topic situations. The discourse-semantic account does not extend to non-copular predicates taking adjunct small clauses with the same ambiguity (Richardson 2008).
2. It has recently been proposed in the literature that copular predicates incorporate an abstract prepositional head responsible for the *ad hoc* property reading of the small clause predicate (Roy 2013, Gallego and Uriageraka 2011, Schmitt 2005, Schmitt and Miller 2007); the abstract preposition is overtly manifested in Modern Irish and Scotts Gaelic (Doherty 1996, Adger and Ramchand 2003, Roy 2013). Such accounts mistake the epiphenomenon for the underlying cause; notably that alternative states may or may not be entailed by small clause predicates (Magri 2009). Furthermore, they offer no uniform treatment of small clauses found in copular and non-copular sentences (see Richardson 2008).
3. It is proposed here that the Kimian temporal variable of argumental or adjunct small clause predicates can be bound in two ways: (i) by the T(ense) operator above the verbal predicate or (ii) by an OP_{alt} operator, ranging across accessible worlds in the sense of Kratzer (1991), being merged with the T(ense) head. In the case of (i), no alternative states are entailed and the habitual property reading emerges; in the case of (ii) alternative states are entailed, yielding the *ad hoc* property reading. The *ad hoc* property reading is incompatible with durative adverbials but is acceptable in modal, conditional and episodic environments. Pronominal and zero copulas lack the [+V] feature cross-linguistically (Al-Balushi 2011, Citko 2008, Eid 1991, Doherty 1996), therefore their T(ense) head cannot merge with OP_{alt}. The Kimian temporal variable of the small clause predicate in such cases can only be bound in the actual world, hence the *ad hoc* property reading is excluded. The habitual property reading is compatible with durative adverbials but it is unacceptable in modal, conditional or episodic environments, which do entail alternative states.
4. Locatives are often found in copular sentences where non-verbal predicates with the *ad hoc* interpretation occur. Maltese, a Central Semitic Creole (Borg 1987, Stassen 1996, 2008), offers a full inventory of copular predicates, which partly overlap wrt the *ad hoc*/habitual and the locative/non-locative division. In this language locatives do not occur with the pronominal copula. The pronominal copula lacks the [+V] feature required by OP_{alt}..This provides independent evidence for locating the pronominal copula under the T_0 head cross-linguistically. Maltese speakers use locative DPs with the zero copula to describe a habitual state of affairs, however, they use a verbal copula with locative DPs expressing *ad hoc* locations. What relates locations and *ad hoc* properties here is not an abstract preposition but the OP_{alt} operator, accommodating alternative states or locations.

Directionality and underspecification: the processing of zero-derivation

Jeannique Darby

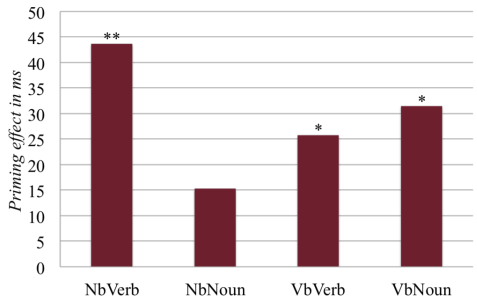
It has been argued that forms in English which are used as both nouns and verbs (e.g., CLOAK, BITE) may be classified according to which form is derived from the other, in a process frequently referred to as 'zero-derivation' or 'conversion' (cf. Marchand, 1963; Kiparksy, 1982; Beard, 1995). A further claim is that, as in derivation via affixation, an item derived through conversion is more 'morphologically complex' than its base. For example,

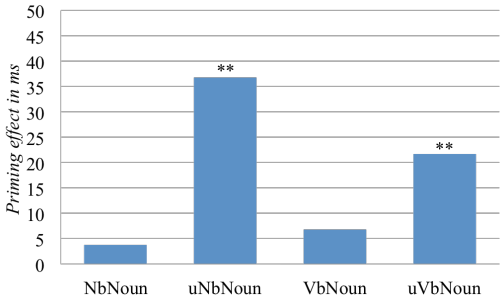
a) Verb Base (V_B): (to) [BITE_V] *less complex than* (a) [[BITE_V]$_N$]

b) Noun Base (N_B): (a) [CLOAK_N] *less complex than* (to) [[CLOAK_N]$_V$]

An alternative view argues that there is no difference in complexity, and that directionality is not synchronically represented in the morphology (e.g., Lieber, 1981; Farrell, 2001). In line with this, for some cases, directionality is not always clear: e.g., is the verb GUARD derived from the noun ([[GUARD_N]$_V$]: 'to act as a *guard*$_N$') or is the noun derived from the verb ([[GUARD_V]$_N$]: 'one who *guards*$_V$')? Farrell (2001) suggests that neither form is derived, and that such 'pairs' may in fact be a single entry in the lexicon, underspecified for word class.

To experimentally examine these opposing views, two lexical decision tasks were conducted using the delayed priming paradigm, which previous research (Henderson et al., 1984; Drews and Zwitserlood, 1995) has suggested may reveal effects of morphological processing that are independent of the effects of purely semantic or phonological relatedness. Experiment 1 used this paradigm to examine the relative effect of prior presentation of a related *-ing* form on four different types of target words: basic nouns (N_BNouns); verbs derived from these nouns (N_BVerbs); basic verbs (V_BVerbs); and their converted nominal counterparts (V_BNouns). Experiment 2 investigated the priming of nouns which were members of directional pairs (N_BNouns and V_BNouns) as compared to frequency-matched non-directional items (uN_BNouns and uV_BNouns). Directional items were categorised based on surveys of speaker intuition; the underspecified items (judged by speakers as 'non-directional') were further categorised based on CELEX tags (Baayen, et al., 1993), which were also matched with speaker ratings for directional items. Each of the target groups in the two experiments appeared 6-8 items after either the *-ing* form of the verb, or an unrelated *–ing* form. The results are illustrated below [Mean Unrelated response time minus Mean Related response time in ms; * = significant at p<.05; ** = significant at p<.01).





Experiment 1 showed an asymmetry in the priming of V_B items and N_B items. Because the primes are verbal forms, both types of prime will activate their respective verbs. However, the additional effort required to further decompose an N_B prime like [[[*cloak*$_N$]$_V$]*ing*] into its base noun mitigates the amount of activation that the N_BNoun can receive, thus leading to a smaller priming effect. Furthermore, Experiment 2 revealed a greater priming effect for non-directional nouns than for directional ones. This suggests that, although there is a difference in the underlying morphological structure of N_B and V_B *-ing* primes, they are both less closely related to their nominal forms than the non-directional primes. Together, the results of these experiments suggest that directionality in these pairs is represented on a morphological level in the grammar, and that some of these pairs may not only be non-directional, but may be a single lexical entry without a fixed specification of word class.

The syntax-prosody and prosody-meaning interfaces: the case of the Icelandic comment clause held ég

Nicole Dehé

Comment clauses (CC; aka parenthetical verbs) such as English *I think, I believe* and German *glaub(e) ich* ('believe I') have been analysed as main clause parentheticals in the syntax (most recently: Griffiths, to appear). Given their clausal syntactic status as CP and their parenthetical relation with the host clause, CCs have often been assumed to be phrased in their own Intonational Phrase (IP) in the prosodic structure (Nespor & Vogel 1986, Potts 2005, Truckenbrodt 2005), although recent prosodic studies have shown that there is more variation in the prosodic phrasing of CCs (e.g. Dehé, to appear, Dehé & Wichmann 2010 for English). Current prosodic Match theory predicts for a clause in syntactic constituent structure to be matched by an IP in prosodic structure, thus predicting prosodic separation of the CC in either a non-recursive or a recursive prosodic structure, depending on what kind of syntactic constituent precedes and follows the CC in the syntactic structure (Dehé, to appear). Given their evidential meaning, Scheffler (2009) proposes a two-dimensional semantics for CCs. In her view, their main semantic contribution is to lower the epistemic threshold, which determines whether the speaker is sure of the proposition; their secondary contribution is to contribute a side comment in the domain of conventional implicatures (CIs): the actual content of the verb (e.g. *think*).

Against this background, the current paper investigates the prosodic phrasing of the Icelandic parenthetical clause *held ég* ('believe/think I'; *I think, I believe*) and relates the results to current prosodic theory. Icelandic *held ég* is a good test case, because along with temporal and tonal cues to phrasing, segmental phenomena (e.g. word-initial /h/-dropping, word-final vowel deletion) serve as cues to the presence or absence of a prosodic boundary preceding this particular CC, as well. The current study uses spoken data from two corpora: the *Talmál* (part of the MÍM corpus, a morphosyntactically tagged corpus of written and spoken Icelandic), and the Icelandic part of *The Nordic Dialect Corpus*. CC instances of *held ég* found in these corpora were carefully annotated on a tonal and segmental tier. The main findings are as follows.

(i) Prosodic integration, such that CCs are phrased in one IP together with host material rather than in a domain of their own, is the default pattern. This pattern violates Match but is in line with similar results for English (e.g. Dehé, to appear).

(ii) The prosodic phrasing of CCs is related to their meaning. In particular, CCs which can be argued to have CI semantics are prosodically prominent and phrased separately; CCs whose primary function is one of mitigation and evidential meaning are unstressed and integrated in one IP with host material.

(iii) The observed patterns can be accounted for in prosodic theory such that prosodic restructuring applies on the output of the syntax phonology interface constraint Match clause.

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The role of frequency and animacy in the implicit learning of a noun-adjective agreement rule in L2

Nadiia Denhovska

Previous research on implicit learning has focused mainly on receptive knowledge acquisition of a natural language already familiar to learners, and of artificial grammars. It has been demonstrated that some learning is possible under implicit learning conditions (Lee, 2002; Leung & Williams, 2011a, 2011b; Rebuschat & Williams, 2011). However, it still remains unclear to what extent adults can acquire receptive and productive knowledge of grammar in a natural language via implicit learning and, if so, what factors contribute to successful L2 grammar acquisition.

We exposed 60 adult native English speakers with no previous knowledge of a Slavic language or advance knowledge of a language with grammatical gender to a noun-adjective agreement rule as a function of gender and case in Russian animate nouns (denoting animals-epicenes) and inanimate nouns (denoting objects) under on explicit learning condition and two implicit learning conditions. We manipulated token frequency in the implicit learning conditions: participants were exposed to the stimuli under high type high token frequency condition and high type low token frequency conditions. Participants in the implicit learning conditions read for meaning Russian sentences containing agreement in masculine and feminine genders, four cases (nominative, genitive, instrumental, dative), and two animacy levels and viewed semantically corresponding pictures presented on a computer screen, whereas in the explicit they were explicitly told the rule. Response times and accuracy in comprehension and production post-tests were used to investigate the level of receptive and productive knowledge retention. We also measured participants' working memory capacity using Operation and Reading Span tasks (Unsworth et al., 2005).

The data was analyzed using Generalized Linear Mixed Models. There was no significant difference in comprehension accuracy between the implicit learning conditions, however in production participants in the high type high token frequency condition performed significantly better than in the high type low token frequency condition. Participants in this condition also relied significantly on WM in comprehension ($r = .51$, $p = .02$) and production ($r = .47$, $p = .04$). But there was no significant effect of animacy either in production or in comprehension.

The results will be discussed in the light of how frequency, working memory and animacy may impact the acquisition of receptive and productive knowledge of a grammar rule through incidental, and how correlation with working memory may provide insight into the activation of either explicit or implicit knowledge when performing a task.

The topic of this paper[1] is the phonological behaviour of the pretonic mid-vowels in Brazilian Portuguese (BP), more specifically in the variety spoken in the interior of São Paulo State. Despite the numerous works – Bisol (1981); Bortoni, Gomes & Malvar (1992); Carmo (2009, 2013); Cassique *et al* (2009); Celia (2004); Pereira (2010); Silveira (2008); Viegas (1987, 2001); among others – about pretonic mid-vowels in several varieties of BP, these studies are generally limited to the description of these vowels in word-medial contexts, e.g. *a.l/e/.ˈgri.a* ('joy') and *b/o/.ˈne.ca* ('doll'). Therefore, our work focuses on the analysis of *word-initial* pretonic mid-vowels, e.g. */e/.du.ca.ˈção* ('education') and */o/.ˈre.lha* ('ear').

Word-initial and word-medial pretonic mid-vowels are subject to the variable phenomenon named *vowel raising*, through which /e/ and /o/ are pronounced, respectively, as [i] and [u], e.g. *[i]s.pe.ci.ˈal* ('special'), *[u]s.pi.ˈtal* ('hospital'), *p[i].ˈque.no* ('small') and *c[u]s.tu.ˈran.do* ('sewing'). Two processes can result in the application of vowel raising: (i) *vowel harmony*, an assimilation process triggered by a high vowel in the subsequent syllable, e.g. *[i].ˈxis.te* ('he/she/it exists'), *[u]r.gu.ˈlho.so* ('proud'), *a.n[i].ˈmi.a* ('anemia') and *ga.s[u].ˈli.na* ('gasoline'); and (ii) *vowel reduction*, a neutralization process influenced by the place of articulation of the adjacent consonant(s), e.g. *[i].co.no.ˈmi.a* ('economy'), *[u].ca.si.ˈão* ('occasion'), *s[i].ˈnho.ra* ('lady') and *c[u].me.ˈça.mos* ('we start').

Our corpus consists of spontaneous speech samples of 38 interviews taken from the IBORUNA database (ALIP Project – IBILCE/UNESP – FAPESP 03/08058-6). This work follows the Theory of Linguistic Variation and Change (Labov, 1991 [1972]) and utilises the statistical package Goldvarb X for the analysis of the data.

As a general result, the variety of the interior of São Paulo State can be grouped within the dialects spoken in southern Brazil, given the absence of *vowel lowering* of the pretonic mid-vowels – a phenomenon characteristic of northern dialects of BP, in which the upper mid-vowels /e/ and /o/ are pronounced, respectively, as the lower mid-vowels [ɛ] and [ɔ], e.g. *[ɛ]s.ˈgo.to* ('sewage'), *[ɔ]s.pe.ˈdar* ('to host'), *p[ɛ].r[ɛ].ˈre.ca* ('frog') and *c[ɔ].ˈle.ga* ('mate').

Concerning the word-initial position, we observe a virtually categorical application of vowel raising for /e/ and the non-application of this phenomenon for /o/, which demonstrate that (i) these vowels constitute two different systems and (ii) the word-initial pretonic mid-vowels behave differently from word-medial pretonic mid-vowels, given the relatively similar rates of vowel raising in the latter context: 16.1% for /e/ and 16.6% for /o/ (cf. Carmo, 2013).

Another factor that evinces the differences of these contexts is the selection of the most important variables to the application of vowel raising. With respect to word-medial pretonic vowels, the selected variable is the *height of the subsequent vowel* – with a substantial relative weight concerning the high vowel /i/,[2] which indicates the relevance of *vowel harmony* triggered by this vowel to the application of vowel raising. In relation to word-initial pretonic vowels, the *syllable structure* is highlighted as the most important variable, since the application of the phenomenon is more frequent when the front vowel /e/ is followed by /S/ or /N/ in coda, e.g. *[i]s.tu.ˈdar* ('to study') and *[i]n.ten.ˈder* ('to understand'). Consequently, our work corroborates the claim of Bisol (1981) that word-initial and word-medial pretonic vowels behave differently and, therefore, must be analysed separately.

[1] Funded by CAPES (Proc. XXX) and part of a larger project, named PROBRAVO (FALE/UFMG & PUC/MG), which aims to describe the phonetic realizations of vowels in different varieties of BP.

[2] Bisol (1981) explains the asymmetry between /i/ and /u/ as triggers of vowel harmony according to the diagram of the cardinal vowels proposed by Jones (1957), which illustrates /i/ in a higher position than /u/. Other evidences of this asymmetry are discussed by Nevins (2012), for instance the crosslinguistic preference of the diphthong [aj] in comparison to [aw], explained as a preference for syntagmatic dispersion in a diphthong, since the contrast/distance between /a/ and /i/ is greater than /a/ and /u/.

Pro-drop without a parameter

Maia Duguine

This talk has two main goals: (i) to argue that the traditional hypothesis of a *Pro-Drop Parameter* (PDP) should be abandoned and (ii) to advance a novel account which characterizes PD (pro-drop) as an option by default and non-PD as the blocking of PD resulting from independent operations of morphological impoverishment.

1 Against a PDP. I argue that PD does not fall under a parameter.

1.1 Parametric approaches to PD widely (though often implicitly) assume that to a large extent, variation in patterns of PD is a by-product of parametric variation in other aspects of the grammar, such as the morphosyntactic properties of T and/or nominal expressions, and its consequence on the derivation (Neeleman & Szendröi 2007, Saito 2007, Roberts & Holmberg 2010, Barbosa 2013). In other words: current analyses do not propose an actual *PDP*.

1.2 PD does not have the properties of a parameter. In particular, it is not systematic nor a binary system (Smith & Law 2009): certain languages display *partial PD* (varying w.r.t person-number combinations), and in PD languages not all subjects can be null (Rizzi 1982).

1.3 Types of PD are not parameterized. In particular, languages with *vs.* without agreement are not as different as standardly assumed (*pace* Takahashi 2014): just as in Japanese-like languages, in agreement languages (i) interpretation of null subjects also depends on discourse factors (Frascarelli 2007), and (ii) null subjects allow sloppy identity (Duguine 2013).

2 Analysis. Building on a.o. Oku (1998) and Takahashi (2010), I propose to extend the DP-ellipsis analysis to the whole PD phenomenon. A consequence is that variation will have to be accounted for in terms of conditions on DP-ellipsis.

2.1 Non-PD languages. In the spirit of previous approaches (Rizzi 1986, Barbosa 1995, 2013), I propose that agreement plays a relevant role in this regard. However, ultimately I do not characterize agreement as a *requirement* on PD, but rather as a potential *blocker* of PD.

Non-PD languages such as German display an important amount of regular syncretism in agreement morphology, called 'poor agreement' (*cf. Taraldsen's Generalization* (Taraldsen 1980)), which reflect identity at a deep morphological level (*cf.* Müller 2006, Albright & Fuß 2012). Frampton (2002) and Müller (2006) argue that these regularities derive from operations of *impoverishment* that delete (values of) φ-features on T in the morphological component, and which then give rise to a "retreat to the general case" in the insertion of inflectional markers (which takes place in accordance with the Subset Principle). Building on this hypothesis, I argue that impoverishment also explains the non-PD nature of German-like languages. More precisely, I propose that (1) filters out DP-ellipsis in these languages:

(1) *φ-Identity Constraint on DP-ellipsis*: A DP can be elided *iff* the values of its φ-features are identical to those of the φ-features present on the head that assigns Case to it.

I assume that ellipsis is an operation of PF-deletion (*cf.* Merchant 2001) and that rules of impoverishment apply in the post-syntactic component, prior to PF (Embick & Noyer 2007). Given that in e.g. German, after Agree with the subject DP, φ-features on T undergo impoverishment, then at the point at which ellipsis applies, their values are different from those on the DP. In this configuration, (1) blocks ellipsis of the DP.

2.2 Back to PD languages. φ-features are not impoverished in 'rich agreement languages' such as Spanish (*cf.* Müller 2006, 2008). Thus, the output of φ-Agree –with identical φ-values on e.g the subject DP and T– is the same as the input to ellipsis. Consequently (1) is satisfied, and ellipsis is not blocked. Finally, in languages with no agreement (Japanese, Korean), since there are no φ-features on heads such as T, (1) applies vacuously, and thus ellipsis is possible.

2.3 I close with a discussion of how the analysis, where non-PD is an accident of the derivation, also paves the way for accounting for *partial* PD in languages like Finnish and Bavarian in terms of impoverishment not affecting all φ-features.

When less is not enough: processing variation in geminate duration in Swiss German

Lara Ehrenhofer, Adam C. Roberts, Allison Wetterlin, Sandra Kotzor and Aditi Lahiri

A successful listener must rapidly map a highly variable acoustic signal onto abstract phonological categories to ensure comprehension. Most current models of the mental lexicon focus on the segmental level of recognition, i.e. processing *qualitative* variations in the acoustic signal. However, a growing body of evidence suggests that *quantitative* (durational) information is crucial to detecting syllable structure, a critical component of lexical access in languages which encode an underlying quantity contrast. The present study investigates how manipulating durational cues to geminate-singleton contrasts in Swiss German affects lexical access on a behavioural and on a neural level. We reveal a striking asymmetry in the toleration of manipulation: adding durational information is tolerated, but subtracting it is not. We argue that abstract syllable structure plays a decisive role in lexical access in quantity-sensitive consonant systems, and that the observed processing asymmetry indicates a bias towards parsing acoustic input into CV syllables.

Swiss German uses duration to encode an underlying quantity contrast in consonants word-initially, medially, and finally. Nearly all consonant types display this contrast, and all geminates and singletons (except sonorants, Kraehenmann 2003) can appear after underlyingly long or short vowels. Despite its gradability, duration is perceived as categorical in geminate-singleton discrimination (Abramson 1986, 1987, Ridouane 2007, 2010, Kraehenmann 2003), just as it can contribute to segment identification on a featural level (e.g. voice onset time cues stop identity in English, Abramson 1977). Contrary to feature-level distinctions, geminate durational information cannot be fully exploited until structural and prosodic information becomes available (Lahiri & Marslen-Wilson 1992, Tagliapietra & McQueen 2010). Our cross-modal semantic priming study pits segmental-level against syllable-level identification by presenting participants with primes whose medial consonant duration had been switched (see table). Singleton duration maps onto just one onset position within the syllable (CV.**C**V), whereas geminate duration maps onto a coda and an onset (CV**C.C**V), so manipulating consonant duration alters the prime's syllable structure.

condition	*prime*		*target*		*priming?*
singleton word	[fɑtə]	*thread*	SCHNUR	*string*	yes
geminate nonword	*[fɑtːə]				yes
geminate word	[rɑpːə]	*penny*	FRANKEN	*franc*	yes
singleton nonword	*[rɑpə]				no

Reaction times (RTs) and event-related brain potentials (ERPs) show that responses to lengthened singleton nonword primes do not differ from responses to their unmanipulated counterparts (there is significant priming in both, i.e. lexical access has proceeded). However, the priming effect was significantly smaller in responses to shortened geminate nonword primes than in responses to their unmanipulated counterparts (i.e. lexical access was slowed; see Kotzor et al. 2013 for similar results in Bengali). Structural information is thus as important as featural information in mapping acoustic input to word representation. These results suggest that the default is to parse input into CV syllables (the processing correlate of the Maximal Onset Principle), as priming occurs even in the geminate nonword condition: any amount of durational information suffices to build a CV.CV template and trigger lexical access. However, when a non-default CVC.CV template is required, the initial CV parse can only be revised when there is sufficient durational information, so lexical access fails in the singleton nonword condition.

Geminates straddle two levels of representation in word recognition. Feature-level acoustic information is extracted in order to identify a segment, but durational information is required to situate it within the syllable template, the pivot of lexical access in Swiss German. The observed processing asymmetry may explain why processes creating geminates are synchronically and diachronically more common than ones causing degemination, and why CV syllables are a typological universal. We therefore argue that syllable-level representations are a powerful yet hitherto underestimated component of word recognition, especially in quantity-sensitive systems, and that inherent processing biases are a driving force in shaping past and present forms of human language.

E-type readings of quantifiers under ellipsis

Patrick Elliott and Yasutada Sudo

Overview: In a subset of elliptical constructions, a quantifier in the antecedent gives rise to an E-type interpretation in the e(llipsis)-site. Chung et al. (2011) claim that E-type interpretations are obligatory in sluicing and unavailable in VP Ellipsis (VPE). We take issue with this generalisation, showing that both E-type and non-E-type interpretations of elided quantifiers are in principle possible in both constructions. We claim that which interpretation is available is conditioned by the discourse relation that holds between the antecedent and elliptical clause.

Sluicing: Merchant (2001), Romero (2003) and Chung et al. (2011) observe that in sluicing, a quantifier in the antecedent often corresponds to an anaphoric definite in the e-site:

(1) John lived with a philosopher, but I don't know for how long.

The second sentence is interpreted as "I don't know for how long John lived with **them**(.SG)", not "I don't know for how long John lived with a philosopher". We call this the *E-type* interpretation. We observe a similar effect with *wh*-phrases in the antecedent:

(2) Which movie$_i$ did you see t_i and when?

This is interpreted as "when did you see **it**?", not "when did you see which movie?".

VPE: At first blush, VPE differs strikingly from sluicing: E-type interpretations are apparently unavailable.

(3) John proved two important theorems, but Bill didn't.

The second sentence cannot mean "Bill didn't prove **them**", which would be compatible with Bill having proven two other important theorems. The attested reading involves an identical quantifier, i.e. "Bill didn't prove two important theorems". We call this the *quantificational* interpretation.

Assuming that VPE never gives rise to E-type interpretations (see also Romero 2003), Chung et al. suggest that the sluicing-VPE contrast tracks the size of the ellipsis site (IP vs. VP), linking this to the height of existential closure. This is unlikely to be the right analysis however – Consider the following instance of VPE where the e-site contains a relative clause:

(4) John knows a mathematician who proved two important theorems, but Bill doesn't.

Chung et al. falsely predict (4) to have an E-type reading, which it lacks. Furthermore, VPE sometimes *does* give rise to an E-type interpretation.

(5) Whenever John works on a paper, his co-authors don't have to.

Besides a quantificational interpretation, (5) admits an E-type interpretation paraphrasable as "Whenever John works on a paper, his co-authors don't have to work on **it**" (NB: *a paper* does not have to be specific).

Analysis: We claim the variable availability of E-type vs. quantificational interpretations tracks the discourse relation that holds between the antecedent and elliptical clause, framing our analysis in terms of Coherence Theory (Kehler 2002, a.o.), which catalogues ways in which two consecutive sentences can be related in a coherent discourse. We observe a major split between *Resemblance relations* vs. the other relations: E-type interpretations are unavailable with the former.

Roughly, two sentences stand in a Resemblance relation if they are answers to the same question. Typical examples of VPE involve *Parallel* or *Contrast*, subclasses of Resemblance relations (Parallel involves two sentences of the same polarity; Contrast involves two sentences of opposing polarities). As we saw above, (3) and (4), which involve Contrast, do not allow E-type interpretations. Furthermore, sluicing cannot have an E-type interpretation when the two clauses stand in a Resemblance relation (cf. Romero 2003), as illustrated by (6) (SMALL CAPS indicate contrastive foci).

(6) I mostly know WHERE John had a meeting, but I never know WHEN.

The e-site can't be construed as "when John had it/them", picking out the same meeting(s) that the first sentence is about.

When the two clauses do not stand in a Resemblance relation both interpretations are in principle available. For example, (1) involves *Violated Expectation*, which is a subtype of *Cause-Effect relations*. We also survey other types of elliptical constructions, such as contrastive sluicing and fragment answers, which further validate our generalization.

References: Chung, S., W. Ladusaw and J. McCloskey (2011) Sluicing(:) between structure and interface. In *Representing Language*; Kehler, A. (2002) *Coherence, Reference and the Theory of Grammar*; Merchant, J. (2001) *The Syntax of Silence*; Romero, M. (2003) Correlate restriction and definiteness effect in ellipsis. In *The Interfaces*.

Emergence of tonal inflection in Mian

Sebastian Fedden

Many languages use tone only to differentiate lexical meanings. This is typical of Southeast Asian languages. In languages which use tone as an inflectional exponent it tends to be employed across a range of features, for example for tense and aspect in many African languages (Hyman 2013) or person and aspect in Oto-Manguean languages of Mexico (Yip 2002). The restriction of inflectional tone to a fraction of the grammar is typologically unusual.

The lexical tone language Mian, a Papuan language of New Guinea, also uses tone inflectionally, but in a highly restricted way, namely it appears only in some forms of the non-hodiernal past, which locates an event in the past, but before the day containing the moment of speaking. Segmentally, this tense is marked with the suffix *-b*. The non-hodiernal past requires the perfective verb stem, as in (1). The language has a second suffix *-b* 'imperfective', which requires the imperfective stem, as in (2).

(1) baa-b-i=be
say.PFV-NHODPST-1SG.SBJ=DECL
'I said before today.'

(2) o-b-i=be
say.IPFV-IPFV-1SG.SBJ=DECL
'I am saying.'

So for many verbs there is an indication in the stem as to which suffix *-b* we are dealing with. However, about one third of Mian verbs are biaspectual, i.e. they do not have distinct stems in the non-hodiernal past and the imperfective and these are the ones which systematically have the suffix and the high tone as multiple exponents (cf. Matthews 1974, Caballero and Harris 2012) in non-hodiernal past forms. Compare the non-hodiernal past (3) and the imperfective (4) of the biaspectual verb *singa* 'pour'.

(3) aaie singa-b-H-i=be
water pour-NHODPST-NHODPST-1SG.SBJ=DECL
'I poured water before today.'

(4) aaie singa-b-i=be
water pour-IPFV-1SG.SBJ=DECL
'I'm pouring water.'

Mian employs tone inflectionally, but restricts it to a tiny corner of the grammar, namely to maximise the contrast between two sets of word forms, which would otherwise be identical for a sizeable subset of the verbal lexicon. For the verbs which have distinct aspectual stems, cf. 'say' in (1) and (2), the tone is optional in the non-hodiernal past.

My claim is that the tone arose as a means of homophony avoidance, an arguably strong instance of an otherwise contested phenomenon (see Crosswhite 1999, Kenstowicz 2005, Rebrus and Törkenczy 2005; but also Lass 1980, Sampson 2013). The tone was then extended to verb forms for which homophony was never a problem. This process has not yet settled completely, so we end up with optional multiple exponence for many verbs of the latter type.

On exhaustive and non-exhaustive embedded wh-questions in German

Robert Fittler

The paper characterizes the semantic properties of two predicate classes that license the embedding of two differing constituent *wh*-question types: exhaustive and non-exhaustive *wh*-questions. The exhaustive question type can be exemplified by *F hört, wer zu Fuß geht* 'F hears who walks'. It concerns only some predicates without the presence of correlates ("pure verbs") licensing an *ob*-form 'polar question form' and allowing the paraphrase ∀*x* [*F hört ob x zu Fuß geht*] '∀*x*[*F hears whether x walks*]'. The non-exhaustive type concerns *wh*-forms with correlates. For example *F bedenkt es, wer zu Fuß geht* 'F considers it, who walks' allowing paraphrases depending on the context. For example 'F considers it, that also his family walks' or 'F considers it, whether some of his family walk'. A sufficiently general shape of paraphrase would be *F verb correlate that/whether μ* where the choice between *that* and *whether* and the 'specification' *μ* depend on the context. In accordance with the types of possible paraphrases mentioned above we divide the set of all predicates on one hand into the classes

i) of pure verbs (i.e. not presenting their legitimate correlates)

ii) of predicates in the presence of legitimate correlates.

On the other hand we split them into the subclasses of predicates

a) in the *ob*-form 'polar form'

b) in the *dass*-form 'declarative form'.

The exhaustive type belongs to the intersection of class i) with the union of class a) and b) where the pertaining *dass*-verbs in class b) have their *ob*-pendant in class a). The main result concerning the *exhaustive wh*-form is that - apart from *fragen ob* 'inquire' - the *exhaustive wh*-form is licensed iff the *dass*-verb belongs to the veridical-objective verbs[1]. A verb *verb* is veridical-objective if essentially it is consistent that for every true *p* there is an individual *x* such that *x verb that p*. For example *hören dass* 'hear', *sagen dass* 'tell', *merken dass* 'notice', *wissen dass* 'know' are veridical-objective – but not *bedenken dass* 'consider', *vergessen dass* 'forget'.

As to class ii) & a) we have to distinguish between *reducible*[1] and *internal*[1] *ob*-forms on the one hand and the *neutral*[1] *ob*-forms on the other hand. The predicates presenting their legitimate correlate in the reducible or internal *ob*-form are the eligible ones for the non-exhaustive *wh*-form with the *contextual whether-μ* paraphrasing. For example *F bedenkt es/sagt es, wer kommt* 'F considers it/tells it who comes'.

As to the non-exhaustive *wh*-form with the *contextual that-μ* paraphrasing - case ii) & b) – declarative predicates apart from anti-veridical ones and *daran zweifeln* 'doubt' are eligible for the non-exhaustive *wh*-form iff without correlate they are eligible for the exhaustive *wh*-form or with the correlate they are factive or cognitent. A predicate *pred* is *factive*[2], if both *x pred σ* and *x not pred σ* imply *σ.* A predicate *pred* is *cognitent*[1] if *x pred σ* implies: *σ follows from what the subject x knows.* Notice that *es hören dass* 'hear it that', *es bedenken dass* 'consider it that' and *es bedauern dass* 'regret it that' are factive with their *es*-correlate. Not all predicates are factive in the presence of their correlate, but no predicate without its correlate is factive. The same applies to cognitence except for *wissen dass* 'know that'. *Sich darüber freuen dass* 'be happy about', *darüber klagen dass* 'complain about' and *sich darauf stützen dass* 'lean on' are cognitent in contrast to *sich freuen dass, sich darauf freuen dass* and *sich stützen.* The latter even fails to embed propositions ('obligatory prepositional correlate' *darauf*).

References:

[1] *Über semantische Konsistenzbedingungen deutscher Matrixprädikate,* to appear in SugL

[2] Similar to Kiparsky & Kiparsky (1970) und Karttunen (1971)

Deriving long-distance coarticulation from local constraints

Edward Flemming

A number of studies have demonstrated the existence of coarticulatory effects extending over two or more syllables (e.g. Grosvald 2009, Magen 1997, West 1999), for example Magen (1997) showed that V_1 is shifted towards the quality V_2 in English nonce words of the form [bV_1bəbV_2b]. However, there has been relatively little work on modeling such effects, although they have significant implications for theories of coarticulation. For example, coproduction theories of coarticulation (Fowler 1977 et seq) attribute coarticulation effects of one segment on another to temporal overlap between the gestures associated with the two segments. So long-distance coarticulation implies very extensive gestural overlap – e.g. Magen's data would imply that the tongue body gesture associated with V_2 must begin two syllables earlier, before the middle of V_1.

In this paper we explore an alternative model according to which long-distance coarticulation is a consequence of iterative local coarticulation rather than overlap between distant segments. That is, V_1 can show coarticulatory effect of V_2 because each intervening segment can partially assimilate to the next, resulting in a chain of coarticulatory effects from V_2 to C_2, C_2 to schwa, schwa to C_1, and C_1 to V_1. This analysis is formalized quantitatively in terms of the constraint-based analysis of consonant-vowel coarticulation proposed in Flemming (2001).

The predictions of these two approaches to long-distance coarticulation are tested against patterns of coarticulatory variation in second formant frequencies (F2) in English nonce words of the form [bV_1C_1əC_2V_2b], where $V_1 \in$ {i, æ, u}, C_1, $C_2 \in$ {b, d, g}, $V_2 \in$ {i, ɑ, u}. Words were produced in a carrier phrase by 9 speakers.

The results so far (4 speakers) replicate and extend Magen's result: there are significant coarticulatory effects of V_2 on F2 at the mid-point of V_1 (tested via linear mixed effects modeling). This result makes it possible two test two predictions of the local coarticulation model:

1. According to the local model of coarticulation, the effects of V_2 on V_1 are not direct but are mediated by coarticulatory effects on the intervening segments. Accordingly, variation in F2 of V_1 should be predictable from variation in F2 of the immediately following C_1, with no independent effect of V_2 once the influence of C_1 is taken into account. On the other hand, models in which long-distance coarticulation is due to direct interaction between the gestures of V_1 and V_2 predict the possibility of unmediated influence of V_2 on the realization of V_1. The data are consistent with the local model: once F2 at the release of C_1 is taken into account in modeling F2 in V_1, the identity of V_2 is not a significant factor.

2. Since non-local coarticulatory effects are mediated by intervening segments, according to the local coarticulation model, if one of those segments resists coarticulatory influence of following segments, we should observe reduced non-local coarticulation. Again, a coproduction model posits direct interaction between distant segments via overlap of their gestures, so intervening segments should not generally attenuate coarticulatory effects. It is difficult to test these hypotheses with respect to V_2-to-V_1 coarticulation, since the effects are relatively small, but it can be tested with respect to V_2-to-C_1 coarticulation. Again, the predictions of the local model are supported: /d/ shows greater resistance to coarticulation than /b, g/ in the sense that F2 adjacent to /d/ varies less as a function of adjacent vowel quality, and an intervening /d/ in C_2 significantly reduces coarticulatory effects of V_2 measured at the release of C_1.

Both results suggest that local constraints, applying to adjacent segments, are sufficient to account for this type of long-distance coarticulatory effect.

Truncating away (on the thin ice of the new day). Evidence from modal particles in German adult root infinitives

Hans-Martin Gaertner

Author (2013) has shown that the sets of modal particles (MPs) in German adult bare root infinitives (BRIs) (e.g., *Hinsetzen (,bitte)!* '(Please,) Sit down!') and German adult *w(h)*-interrogative root infinitives (WRIs) (e.g., *Womit anfangen?* 'Where to begin?') are subsets of those allowed in standard imperatives and finite interrogatives, respectively. The facts can be neatly presented as reductions of the MP-hierachies established by Coniglio for the latter two sentence types:

(1) MP-hierarchy (IMP-compatible) (Coniglio 2006:80)
~~*doch*~~ > ~~*halt*~~ > *DOCH* > *nur* (*nicht*) > *bloß* (*nicht*) > *ruhig* > {*mal*,*JA*} (BRI)

(2) MP-hierarchy (*Wh*-INT-compatible) (Coniglio 2011:95)
denn > *auch* > *schon* > ~~*wohl*~~ > *nur* (WRI)

The BRI facts can be captured in terms of the structural distinction between imperatives and (root) infinitives proposed by Han (2000:128):

(3) a. $[_{CP}\ [_{C'}\ [_{C^\circ}$ Verb$_i$ [+DIRECTIVE;+IRREALIS]][$_{IP}$ ... t$_i$ ...]]] (IMP)

b. $[_{CP}\ [_{C'}\ [_{C^\circ}$ [+IRREALIS]][$_{IP}$ ... Verb ...]]] (INF)

All one has to assume is that *doch* and *halt* are licensed by [+DIRECTIVE], while all other MPs in (1) are licensed by [+IRREALIS]. Independent evidence for this distinction comes from the fact that, among the MPs in (1), *doch* and *halt* are the ones that occur in declaratives used as assertions rather than (indirect) directives (Thurmair 1993:28). Licensing by hard-wired [+DIRECTIVE] can be taken to be required to force a "direction-of-fit-reversal" on these MPs.

The above analysis can be further refined by assuming that *doch* and *halt* belong to the higher MoodP-field in the hierarchy proposed by Cinque (1999:106) and that all other MPs in (1) occupy the ModP-field. Since Mood$_{irrealis}$ marks the lowest position in the MoodP-field, (1) can be taken to be the result of truncation (cf. Rizzi 1993/94) making [+IRREALIS] the most prominent operator in BRIs. In the talk we will explore the consequences of implementing truncation in terms of Haegeman (2012) such that moving *Op*$_{irrealis}$ "deactivates" the higher MoodP-field. This would require adjusting Han's analysis of imperatives in a way that allows [+IRREALIS] to remain IP-internal there. Also, it will be shown that truncation is compatible with BRIs hosting aboutness topics in the medial topic position argued for by Frey (2004).

The WRI facts in (2) are derivable (Haegeman-style) if one follows Bianchi (2007) in allowing medial truncation inside *wh*-infinitives. *Wohl*, roughly equivalent in interpretation to *presumably* (Zimmermann 2009), can be analyzed as an epistemic operator, interfering with the root (priority/buletic/goal) modal that occupies the structurally most prominent position below the *Q*-operator (cf. Bhatt 2006: Chapter 4). As a consequence, it will have to be shown that *denn*, *auch*, and *schon* directly interact with *Q* or a higher speech act operator, roughly as sketched by Bayer and Obenauer (2011). By using *denn*, for example, a speaker signals that she takes the question to be "motivated" from accessible facts in the common ground, while *schon* is a marker of "rhetorical" questions.

Time permitting, we will pursue further consequences of medial truncation in WRIs, such as a perfectivity contrast between German and Italian. Thus, unlike Italian (and English?), German allows *Wie nur bis Sonntag alles erledigt haben?* (lit. "How to have taken care of everything until Sunday?').

Also, it will be discussed to what extent a constrained version of the modal approach to imperatives by Kaufmann (2012) yields further insight into the behavior of MPs in RIs. Of particular interest here is the impersonal rather than second person status of RIs and the concomitant ban on addressee-oriented modal ordering sources (cf. Author 2013).

Gender variations in Early Modern English: he vs. she for animals of unspecified sex

Laure Gardelle

Among animate genders, the conventional one for animals whose sex is not known to the speaker is now the masculine, at least since the 19th century (e.g. Sweet 1898, Poutsma 1914, Whorf 1956, Kruisinga & Erades 1956, Quirk *et al*. 1972, Siemund 2008). Exceptions are rare: cats (Whorf 1956, Sweet 1898, Poutsma 1914), wrens (Whorf 1956), parrots (Sweet 1898, Poutsma 1914), hares (ibid., Joly 1977), fish and whales (among sportsmen, Joly 1977). These uses therefore draw little interest today: grammars after the 1970s apparently do not mention them (e.g. Sinclair *et al*. 1990, Swan 1997, Huddleston & Pullum 2002).

In Early Modern English, on the other hand, the feminine was much more common (e.g. for weasels, spiders, panthers), with a number of gender variations for the same speaker which would not be found today. In the most extreme cases these variations occur in a single passage (e.g. 18 times in Topsell's natural history [1663]):

(1) (otter. Walton 1653) most agree that her tail is fish : and if her body be fish, too, then I may say that a fish will walk upon land : for an Otter does so sometimes, five or six or ten miles in a night, to catch for her young ones, or to glut herself with fish. And I can tell you that Pigeons will fly forty miles for a breakfast: but, Sir, I am sure that the Otter devours much fish, and kills and spoils much more than he eats. And I can tell you, that this dog-fisher, for so the Latins call him, can smell a fish in the water a hundred yards from him : [...]

(2) (panther. Topsell 1663) yet ſhe is more cunning then the Apes, and therefore deviſeth more ſhifts to take them […] ſhe lyeth down as though ſhe were dead […] they [the Apes] ſend down […] for an eſpy, to certifie the reſidue […] he deſcendeth a ſecond time, and cometh nearer the Panther then before, yet returneth without touching him. Then he deſcendeth a third time, looking into his eyes, and maketh trial whether he draweth breath or no […] they gather their ſpirits together, and deſcend down in great multitude, running about the Panther, firſt of all going upon him […], teſtifying their joy for her ſuppoſed death: as in this for the Panther ſuffereth them to continue a great ſeaſon, till he perceive they are thoroughly wearied, and then upon a ſudden he leapeth up alive again.

The criteria for gender selection are not clearly established. Jonson (1640) merely specifies that cats and fowls are conventionally *she*; Jespersen (1933) mentions 'a greater tendency to use the pronoun *she*' in 'the older language'; Poutsma (1914) suggests an influence of what today would be termed (social) gender, for animals spoken about as emblems of certain qualities (e.g. the hare is *she* because it is timid). But as Curzan (2003) notes, while all theories of gender use in Modern English rely more or less on (social) gender, there is to date no historical perspective on the question.

This paper therefore seeks to establish the criteria for (linguistic) gender selection and their relation to (social) gender. The corpus is made up of works of various genres (e.g. natural histories, angling manuals) from the same period: the second half of the 17th century, which is far removed from Middle English. A major finding is that there are variations in the degree of stability of gender. A few species are only associated with one gender (e.g. *he* for dogs or crocodiles; *she* for cats or moles); others are highly dependent on contextual connotations, whether there is also a default gender (e.g. *he* for bears, *she* for spiders) or not (e.g. lice). Those connotations are found to be directly related to (social) gender: e.g. domestic vs. public arena (*she* vs. *he*), object of desire (*she*), dominated animal (*she*) or, in fighting scenes, animals emotionally totally invested in their relation to another animal (*she*, to be related to the emotive use of *she* for inanimates today). It is concluded that the exceptions mentioned for Late Modern English, as well as the unusual case of *duck* (with the female as the prototypical member of the species), are remnants of the old system, and that conventional *he* today is most probably also related to (social) gender, as suggested by Joly (1977) and Morris (1990).

Dimensions of bias in polar questions: evidence from Hungarian

Beata Gyuris

The paper wishes to contribute to the current intensive discussion on the types and sources of bias in polar questions by calling attention to and offering a formal account of some robust, but previously unnoticed systematic differences in the use of the two polar root interrogative form types in Hungarian, and discussing some of their consequences for theories of bias.

Previous work. Although classical formal semantic theories (cf. Hamblin, 1973; Groenendijk and Stokhof, 1984) assign positive polar questions, negative polar questions and alternative questions the same interpretation, a line of research starting with the seminal paper of Ladd (1981) shows that the choice between these forms is highly constrained. Büring and Gunlogson (2000), van Rooij and Šafářová (2003), Romero and Han (2004), Reese (2007) and Krifka (to appear) consider bias be based either solely on contextual evidence or on previous knowledge of the speaker. Sudo (2013) argues for a modular approach to bias, and shows how the choice between three pairs of positive and negative polar interrogatives in Japanese is to be explained if a distinction is made between (public) evidential bias and (private) epistemic bias (i.e., compatibility with previous knowledge of the speaker).

Data. (1a) illustrates a Hungarian polar interrogative marked solely by a characteristic rise-fall tone on the penultimate syllable of the sentence, referred to as a /\-*interrogative,* whereas (1b) shows one marked by the *-e* interrogative particle attached to the (verbal) predicate, referred to as an *-e-interrogative*:

(1) a. A rabszolgád vagyok/\?
the slave.your be.1sg
'Am I your slave?'

b. A rabszolgád vagyok-e?
the slave.your be.1sg-E
'Am I your slave?'

Besides being synonymous, the forms illustrated in (1a) and (1b) can equally express certain biased question uses such as exam questions, pedagogical questions, or monological questions (Truckenbrodt, 2004), although they are not freely substitutable for each other in all other contexts. Positive /\-*interrogatives* can express information questions, and available for a range of special question readings and indirect uses. Positive *-e-interrogatives* are also available for the expression of information questions, but cannot encode grounding questions (van Rooij and Šafářová, 2003), indirect requests, indirect invitations, questions asked to start a conversation, or rhetorical questions. For example, (1b) cannot have a rhetorical question reading, the preferred interpretation of (1a). Since the negative counterpart of (1b) does give rise to a rhetorical reading, a compositional approach seems to be necessary.

Proposal. It is argued that the asymmetries listed above are to be accounted for in a modular approach to bias types like the one proposed by Sudo (2013). *-e* is then claimed to introduce a contextual presupposition that neither of the answers follows nonmonotonically from individual public commitments or the common ground, whereas negation is argued to express that the speaker's private beliefs support the positive answer to the question. The results are integrated into Farkas and Bruce's (2010) formal model of dialogue.

The talk will address some more general issues related to the feature-based approach of Sudo (2013). These include the question of whether the 5 types of evidential biases and 3 types of epistemic biases distinguished by the author are independent of each other, thus making 3375 (= 5^3 x 3^3) configurations of the two biases for a positive–negative interrogative pair to be possible, or whether some constraints are to be introduced. The second issue to be considered is whether the introduction of any further dimensions of bias in addition to the evidential and epistemic one appears to be motivated on the basis of linguistic evidence.

Selected references: Farkas D and Bruce K. (2010) On Reacting to Assertions and Polar Questions. *J. of Semantics* 27:81-118. • Sudo Y. (2013) Biased Polar Questions in English and Japanese. In: Gutzmann D and Gärtner H-M (eds) *Beyond Expressives*.Leiden: Brill, 277-297.

Recontruction and modification in relative clauses

Caroline Heycock and Gary Thoms

This paper addresses certain differences between relative clauses (RC) and *wh*-questions with respect to reconstruction. We begin by arguing against the Matching-based explanation of antireconstruction effects like (1a) (Sauerland 2003), where A'-reconstruction for Condition C fails to apply; cf. wh-movement (1b), which shows obligatory reconstruction for Condition C in such a context. Sauerland analyses (1a) as in (2), where the relativized NP which is matched with the external head contains a coindexed pronoun, not an r-expression; this is possible because ellipsis of the internal head allows for 'vehicle change' (Fiengo & May 1994).

(1) a. I bought the picture of John$_i$ that he$_i$ likes. (b) Which picture of John$_i$ does he$_{*i}$ like?

(2) [$_{DP}$ the [$_{NP}$ picture of John$_i$] [$_{CP}$ ~~[$_{NP}$ picture of him$_i$]~~$_j$ [$_{C'}$ that [$_{TP}$ he$_i$ [$_{VP}$ likes t$_j$]]]]]

The problem is the relation between external and internal head is not like the ellipsis-identity relation. We identify three incorrect predictions, explained in detail in the talk: (i) amelioration of secondary crossover effects (3) (Safir 1999); (ii) failure of head-contained reciprocal binding by external binders (4); (iii) sloppy interpretations for head-internal pronouns (Kennedy 2002). (i)-(ii) are predicted by vehicle change of the internal head, (iii) by the fact that the matching structure makes available two instances of *his* which may take separate binders.

(3) Pictures of anyone$_i$ which his$_{*i/j}$ agent displays prominently are likely to be attractive ones. (Safir 1999)

(4) [John and Mary]$_i$ like the pictures of [each other]$_i$ that Bill painted.

(5) John invited the same amount of his friends that Bill kicked out. √strict/*sloppy

We conclude that Matching doesn't capture RC antireconstruction and therefore RC heads don't reconstruct obligatorily. But a stronger conclusion is motivated by Heycock (2012), who shows that even when the head NP is forced to reconstruct e.g. for idiom interpretation (6), Cond C still isn't triggered (unlike wh-movement). This seems to suggest that r-expressions in the head NP are never forced to reconstruct in RCs, but this is not quite right either, as r-expressions which are pied-piped with the head but which do not modify it trigger Cond C (7).

(6) This represents the only headway on Lucy's$_i$ problem that she$_i$ thinks they have made so far.

(7) There's a singer whose picture of John's$_i$ office he$_{*i}$ is very proud of. (Safir 1999)

We arrive at the generalization in (8). This cannot be explained in terms of generalized late merger of modifiers (Cecchetto & Donati 2011), since extending LM to modifiers traditionally identified as complements (the *of*-phrases) would fail to account for wh-reconstruction e.g. (1b); furthermore Safir (1999) shows that Freidin-Lebeaux-style complement-adjunct distinctions wrt reconstruction do resurface with RCs in variations on (7). We show that once (8) is taken into account, relativization and wh-movement are identical wrt reconstruction.

(8) PPs that modify the RC head do not need to reconstruct.

Our proposal is that the crucial difference between RCs and *wh*-interrogatives is that <u>the moved NP in a raising RC may be combined with additional non-adjunct material in the higher head position</u>, as this position is 'shared' and can be modified outside of the RC. This is shown by RCs like *one book that you gave every boy*, where the numeral *one* first-merges with the head NP only once it raises to the shared position (*one* cannot scope low); similarly with other determiners (Bhatt 2002). We follow Adger (2013) in claiming that PP 'complements' to NPs are not true complements, but modifiers which are merged higher in the functional structure of the DP and linearized to the right of the head NP by a direct linearization algorithm (Brody's 2000 'flip'; there is no NP movement past the PP). Adger shows PP 'complements' share none of the properties of verbal complements and supports the high-merge position with binding evidence and typological evidence showing that when PP 'complements' and AP modifiers occur on one side of a head noun, the PP is always outside the AP.

For our purposes it is sufficient that PP-modifiers may be introduced like other modifiers in the functional structure of the 'shared' RC head position on a raising analysis, as this derives (8): reconstruction of the head NP will not force reconstruction of the PP modifier because there is no copy of the PP inside the RC (9a). The option of reconstructing PPs with head NPs (for e.g. variable binding) can be captured by first-merging the PP in the NP-structure inside the RC; in such cases, the NP raises with the PP (9b), rather than combining with it higher. This reconciles the different options for reconstruction, and it makes the correct prediction that when the PP modifier itself needs to reconstruct for scope, it also reconstructs for binding (Sauerland 2003). It also accounts for (7), as the *of*-phrase there is not a modifier of the head NP so it can only be first-merged low.

(9) a. [$_{DP}$ ... PP NP$_i$ ... [$_{RC}$ ... ~~NP$_i$~~]] *PP merged high* b. [$_{DP}$... [PP NP]$_i$ ... [$_{RC}$ ... ~~[PP NP]$_i$~~]] *PP merged low*

Linking lexical and syntactic wh-acquisition: evidence from Child German

Kerstin Hoge

This paper examines the first-language acquisition of *wh*-questions in German, using the Nijmegen and Leo corpora from CHILDES (Child Language Data Exchange System).
The present study of German *wh*-acquisition differs from previous ones (e.g. Tracy 1994) in the size of the data set used, in its focus on the developmental sequence of *wh*-words and their early syntactic combinations, and in proposing a causal relationship between the emergent order of *wh*-words and the different syntactic structures for *wh*-questions that are found in early child German.

The empirical contribution of this paper consists of three main observations:

(i) The acquisitional order of *wh*-words in the German data accords with previous cross-linguistic findings: for all four children, the earliest (non-holophrastic) *wh*-questions produced are copular questions with the *wh*-words *wo* 'where' and *was* 'what'.

(ii) There is considerable individual variation with respect to the acquisitional order of the subsequent *wh*-words; irrespective of which *wh*-word is acquired after 'where' and 'what' in copular questions, it is first produced in an embedded context by all four children.

(iii) The emergence of embedded *wh*-structures in the children's output precedes that of lexical complementisers.

These findings raise various questions vis-à-vis extant theories of *wh*-acquisition. One of these questions concerns why the *wh*-words 'where' and 'what' are initially restricted to copular questions. Analysing these early 'what'/'where'-questions as formulaic routines or frames offers only limited insight from a generative perspective, where paradigmatic substitution of the post-copular noun in early 'what'/'where'-questions (cf. 1; taken from a single recording session) must be seen to require some kind of structural analysis of this construction to be available to the child.

(1) a. wo (i)s de Mofa? (Simone 1;10.20)
where is the moped
b. wo is(t) der Lala?
where is the [dummy]
(CHILDES, Simone/si011020.cha. lines 361, & 518)

Understanding children's earliest *wh*-questions to be syntactic structures (rather than memorised chunks) makes it possible to reduce the explanation of why these questions involve only 'what/'where' in copular contexts to the type of syntactic structure available at this developmental stage. More specifically, this paper argues that in the initial stage of *wh*-acquisition children can produce only predicational questions, in which a *wh*-predicate ('where'/'what') and its subject form a small clause constituent, occurring as the complement of a single functional head. Since only 'where' and 'what' are *wh*-predicates, 'where' and 'what' are the only *wh*-expressions to be found in the earliest questions. The central claim of this paper is thus that lexical acquisition of *wh*-words and the syntactic acquisition of *wh*-structures are not independent processes.

Further, the paper proposes a three-stage acquisitional route to *wh*-questions in German. While it aligns itself with the weak continuity structure-building approach (Clahsen 1990/1991), according to which the child does not have a full CP-layer at the onset of syntactic acquisition, the paper offers a novel proposal as to how structure-building proceeds, understanding it to involve a process of feature migration, whereby the presence of more than one uninterpretable feature on a functional head triggers the projection of a new functional category.

Unagreement ≠ imposters

Georg Höhn

This talk argues that the imposter phenomenon (Collins & Postal 2012 = CPI) of (1) is crucially different from unagreement (e.g. Hurtado 1985; Ackema & Neeleman 2013) seen in (2).

(1) This reporter is/*am signing off from Madrid, Spain. (CPI:3, (5a))

(2) **Oi** **proletaries** den exoume patrida.
DET.NOM.PL proletarians.F NEG have.**1PL** fatherland
'We proletarians don't have a fatherland.' [Greek]

CPI characterise imposters as in (3) and suggest that they are derived from **non-restrictive appositive *precursor* structures**, cf. (4), by some form of syntactic deformation.

(3) An imposter is a notionally X person DP that is grammatically Y person, X≠Y.

(4) a. I, Nixon, am going to get even. *precursor*
b. Nixon is going to get even. *imposter*

This syntactic view is supposed to account, a.o., for optional antecedent agreement patterns like (5), where a first plural imposter licenses both first and third person anaphora.

(5) In this reply, the present authors$_1$ (=the writers of the reply) attempt to defend ourselves$_1$/ themselves$_1$ against the scurrilous charges which have been made. (CPI:17, (6b))

Unagreement is attested in various null subject languages (NSLs; Spanish, Greek...) and involves an apparent **person mismatch** between a definite plural subject and first or second plural verbal agreement, cf. (6), while other NSLs (Italian...) do not allow this, cf. (7).

(6) Los estudiantes fuimos a la playa.
the students went.1PL to the beach
'We students went to the beach.' [Spanish]

(7) Noi/*gli studenti lavoriamo molto.
we/the students work.1PL much
'We students work a lot.' [Italian]

A parallel to pronominal determiners ("we students") is suggested by the fact that the availability unagreement seems to correlate with the presence/absence of a definite article in adnominal pronoun constructions (**APCs**), e.g. (8) vs. (9).

(8) emeis **oi** foitites [Greek]
we DET students

(9) noi **(*gli)** studenti [Italian]
we (*DET) students

In contrast to imposters, **notional and grammatical person match** in APCs and unagreeing subjects (X=Y in (3)). Also, they require strict matching with anaphora, cf. (10)-(11) [vs. (5)].

(10) We dancers$_1$ need to keep ourselves$_1$/*themselves$_1$ in good shape. (CPI:ch. 1, fn. 6)

(11) Oi foitites$_1$ frontiz-oume ton eafto mas$_1$/*tous$_1$.
DET.PL students care.for-1PL DET.SG self 1PL.POSS/3PL.POSS
'We students care for ourselves.' [Greek]

Instead of imposterhood, this might imply a **precursor** structure (with unagreement involving apposition to *pro*). However, the crosslinguistic correlation between APC structure and the availability of unagreement remains unexplained under this view. Furthermore, the APC-type in (9) has forcefully been argued to involve **pronominal determiners** rather than apposition (Postal 1969; Lawrenz 1993; Roehrs 2005). Facts like the restrictions on the complement in an APC as in (12) and the strict ordering of APCs illustrated in (13) (NB that the order of the appositions is reversible) indicate that the APCs in (8) **do not involve apposition** either. An analysis extending the pronominal determiner idea holds that that they have person features located on a separate head higher than D. On this view, unagreeing subjects are simply APCs where this head is not overt (by the same process responsible for pro-drop). The restriction on deriving unagreement from Italian-type APCs may be ultimately connected to the fused nature of pronominal determiners as opposed to the Greek-type structures.

(12) a. *emeis kapoioi foitites apo Patra
we some students from Patras
b. emeis, kapoioi foitites apo Patra
we some students from Patras
'we, some students from Patras'

(13) a. emeis oi foitites
we DET.NOM.PL students
'we students' [cf. **students we*]
b. *oi foitites emeis
DET.NOM.PL students we

Conclusion On a notional view of imposters, they are clearly different from the morphosyntactic phenomenon of unagreement. But even under CPI's syntactic analysis, unagreement would be a precursor at best, not an imposter. If APCs do not involve apposition, even this connection is precluded.

It is well known that Arabic dialects have developed a structure largely unavailable in Classical Arabic to express possession in an analytic structure. While the synthetic "construct state" is used as well, genitive exponents (sometimes referred to as "possessive markers," "possessive pronouns," "prepositions," or simply, as by Holes 2004:208, "particles") often replace them in most Arabic vernaculars. In Palestinian Arabic, the most widespread such particle is probably *tabaʕ* (see Shahin 2008:535, 537; Rosenhouse 2007:489), but *ʃeːt* is also attested in Jerusalem (Levin 1994:209-210), and in the corpus collected for the current study in Jaffa, the latter is the most frequently used such particle for most speakers.

The data collected in Jaffa (2004-05) unearths a historical distinction that no longer obtains: there is evidence that historically Christians and Muslims had differed in their lexical choices for the morpheme used for analytic possessive structures. It is attested that *tabaʕ* was used by the Muslim majority, whereas *ʃeːt* was only present in the dialect of the Christian minority. The current state of affairs, therefore, is a result of a koinéization of the dialect, following the ethnic cleansing of 1948, which resulted in the displacement of over 95% of the city's original population, its eventual reduction and replacement of some of its inhabitants with former villagers and dwellers of other urban areas in Palestine.

The main hypothesis explored in this paper is that this koinéization is part of a larger phenomenon related to increasing contact of Palestinian Arabic in Jaffa (and elsewhere in Palestine) with Modern Hebrew. The latter has an even stronger propensity than Palestinian Arabic to use analytic (as opposed to synthetic) possessive constructions, and the genitive exponent in Hebrew, while etymologically unrelated to *ʃeːt*, bears phonetic resemblance to it: *ʃel*.

The Palestinian situation is compared to that of other Arabic dialects that have come in close contact with other languages, most notably Tunisian Arabic (with French), Moroccan Arabic (with French, Spanish, Amazigh and Dutch), and Maltese (originally an Arabic variety which had come in contact with Italian, other Romance varieties and English). In all of these cases, it has been shown statistically that the higher the contact, the more likely speakers are to steer away from the traditional (synthetic) construct state and veer towards the analytic forms with genitive exponents.

There have been attempts (in Hebrew *and* Arabic) to explain the use of analytic vs. synthetic forms of possession through semantics, arguing that one form is more closely associated with alienable possession and the other with inalienable possession. This explanation does not appear to hold water in our data, whereas the contact rationale combined with the historical transition are consistent with the situations in other instances with similar degrees of language contact. Furthermore, as per Thomason & Kaufman (1988), it combines neatly with a series of other contact phenomena between Arabic and Hebrew in various domains of language: phonology, morphology, lexical borrowings, code-switching, to name but a few.

Unarticulated Constituents (UCs) and Neo-Gricean Pragmatics

Yan Huang

In recent years, the concept of unarticulated constitutes (UCs) has generated heated debates in both the philosophy of language and linguistic semantics and pragmatics (see e.g. Recanati 2002, Stanley 2002, Marti 2006, Alison 2008). By UCs is meant a propositional or conceptual constitute of a sentence that is not linguistically explicitly expressed in that sentence. Stock examples include (i) *It's raining* [in where], (ii) *John is ready* [for what] and (iii) *Mary has a brain*. Three important issues are involved in the study of UCs: (i) do UCs exist, (ii) how the semantic content of UCs is recovered, and (iii) what is the pragmatic enrichment involved in the recovery of UCs?

The aim of this paper is twofold. Firstly, given that UCs have never received any formal treatment in neo-Gricean pragmatics, I'll fill the gap by providing a neo-Gricean account of the type of examples like (i) - (iii) in terms of Horn's (2004) R- or Levinson's (2000) I-principle, taking into account the Gricean distinction between generalised conversational implicature (GCI) and particularised conversational implicature (PCI). Secondly, I shall defend Levinson's (2000) and Huang's (2007) neo-Gricean position that the pragmatic enrichment of UCs in these examples is nothing but a conversational implicature. The reasons are threefold. In the first place, the pragmatic enrichment that is required to recover the semantic content of UCs is engendered largely by the same Gricean pragmatic mechanism that yields a standard conversational implicature. Secondly, currently there is no reliable test either in theoretical or experimental, pragmatics that can be used to distinguish alleged explicature (as in Relevance theory), the pragmatically enriched said (as argued by Recanati) or impliciture (as argued by Bach) from conversational implicature. Thirdly, given the metatheoretical principle known as 'Occam's razor', a unified, implicature analysis is methodological preferable, because it postulates fewer theoretical categories or representational levels than its competitors.

My conclusions are (i) there are genuine UCs, (ii) the semantic content of UCs is pragmatically recovered via the R/I-principle in neo-Gricean pragmatics, and (iii) the pragmatic enrichment involved is a 'pre-semantic' conversational implicature

In English, negated adjuncts (NAs) occur sentence-medially, (1), or sentence-initially, (2); sentence-final NAs are very degraded, (3) (Haegeman 2002, De Clercq et al. 2012). We claim that, diachronically, such a distribution results from: (i) the loss of P-movement for Emphatic Focus, and (ii) the shift in the locus of expression of negation.

(1) *The police had at no time talked to the witnesses.* (De Clercq et al. 2012)
(2) *At no time had the police talked to the witnesses.*
(3) **/??The police had talked to the witnesses at no time.* (De Clercq et al. 2012)

NAs in Late Middle English (LME) occurred sentence-finally, sentence-medially and sentence-initially, and with or without *not*. However, when NAs were absolutely sentence-final, *not* needed to be present, cf. (4a) (vs. (4b)).

(4) a. *She wull not leas it* in no wyse. Paston 217, 12
b. *I kan entrete hym* noon other wyse *as yit*. Paston 477

NAs in LME were first-merged in Spec, *v*P and hence occurred sentence-medially:

(5) *Thou shalt* [$_{vP}$ *in no maner* [$_{vP}$ *falle out of the shippe*]]

Sentence-final NAs, as in (4a), involved Emphatic Focus, realised in LME by P-movement (Zubizarreta 1998):

(6) *She wull not* [$_{vP}$ *in no wyse* [$_{vP}$ *leas it*]] → b. *She wull not* [$_{vP}$ [$_{vP}$ *leas it*] *in no wyse*]

P-movement involved a local Emphatic Focus operator ($Op_{EmphFoc}$) that created a Focus shell for the NA (cf. Biberauer and Roberts 2011):

(7) *[$_{FocP}$ *Focus°* [$_{IP}$ *She wull* [$_{NegP}$ ***Op$_{Neg[iNeg]}$***] [$_{vP}$ ~~*in no wyse*~~ [$_{vP}$ *leas it*] [*Op$_{EmphFoc}$ in no$_{[uNeg]}$ wyse*]]]]
(8) [$_{FocP}$ *Focus°* [$_{IP}$ *She wull* [$_{NegP}$ *not$_{[iNeg]}$*] [$_{vP}$ ~~*in no wyse*~~ [$_{vP}$ *leas it*] [*Op$_{EmphFoc}$ in no$_{[uNeg]}$ wyse*]]]]

In (7), Op_{Neg} intervened between Focus^0 and $Op_{EmphFoc}$., blocking chain-formation, so Emphatic Focus could not be identified. If *not* occupied NegP, (8), the derivation converged.

With the loss of NC in Early Modern English (EMnE), NegP ceases to project. NAs are reanalysed as inherently negative (i.e., as [iNeg]), and they establish a checking relation with an $Op_{Neg[uNeg]}$ in the CP-domain (van Kemenade 2011). NA medial cases such as (7) were analysed as :

(9) [$_{CP}$ *Op$_{Neg[uNeg]}$* [$_{IP}$ *She will* [$_{vP}$ *in no$_{[iNeg]}$ wyse* [$_{vP}$ *lease it*]]]] (EMnE, invented)

An Emphatically Focused NA could no longer remain in situ and be licensed by a Focus head above $Op_{Neg[uNeg]}$ in CP (cf. Rizzi 1997), as the latter operator would have intervened:

(10) *[$_{FocP}$ *Focus°* [$_{PolP}$ ***Op$_{Neg[uNeg]}$*** [$_{IP}$ *She wull* [$_{vP}$ *Op$_{EmphFoc}$ in no$_{[iNeg]}$ wyse* [$_{vP}$ *leas it*]]]]]

NI, which emerged in EMnE (Nevalainen 1997) served to identify Emphatic Focus, allowing a Focused NA to occupy Spec, ForceP, so that negation is emphasised and the [uNeg] feature of Op_{Neg} is checked against the [iNeg] of the NA:

(11) [$_{ForceP}$ *in no$_{[iNeg]}$ wyse* $_{Force°}$[$_{FocusP\ Focus°}$*wull* [$_{PolP}$ *Op$_{Neg[uNeg]}$* [$_{IP}$ *She* ~~*wull*~~ [$_{vP}$ ~~*in no$_{[iNeg]}$ wyse*~~ [$_{vP}$ *leas it*]]]]]]

The distribution of Modern English NAs in (1)-(3) arises because (i) NAs are first-merged in Spec, *v*P (sentence-medial occurrence); (ii) P-movement is no longer available in EMnE (and so NAs cannot occur sentence-finally); and (iii) NI is the only possibility for negation to be both emphasised and checked by Agree (sentence initial occurrence).

Split wh-questions in Basque: sluicing vs. multidominance

Aritz Irurtzun

1. The Main Idea: I propose an analysis of split *Wh*-questions in Basque, constructions that have received no attention in the literature so far. I show that we have to distinguish two types of split questions: (i) *Matching* questions (MTs), with pairs of *Wh*-phrase-Answer Phrase matching in syntactic and semantic type, and (ii) *What*-questions (WTs), invariably showing a dummy *what* phrase at the left edge which doesn't match with the potential answer. I propose that MTs involve a bi-clausal construction with sluicing in the second clause, while WTs involve a predicational small clause and multidominance of the clausal spine.

2. Two Types of Split-Qs: Basque has different types of split *Wh*-constructions; these are examples like 1, 2, 3 and 4 where besides the *Wh*-phrase at the left of the clause, a potential answer also appears at the clause-final position (generating an confirmatory interpretation):

(1) Nori eman dizkiozu, Mireni?
who.sgD give AUX.3PLA.2SGE.3SGD Miren.D
Is it to Miren that you gave them to?

(2) Zer eman dizkiozu, Mireni?
what.sgA give AUX.3PLA.2SGE.3SGD Miren.D
Is it to Miren that you gave them to?

(3) Noiz zatoz, bihar?
when come.2sgA tomorrow
Is it tomorrow that you come?

(4) Zer zatoz, bihar?
what.sgA come.2sgA tomorrow
Is it tomorrow that you come?

I provide an analysis of the variability that can be found in these constructions, distinguishing two types of split questions: (i) *Matching* questions; that are characterized by the presence of a *Wh*-phrase that matches syntactically and semantically the answer tag (like in 1 and 3), and (ii) *What*-type split questions; where the fronted element is invariably *zer* (absolutive sg. 'what') and the potential answer does not match with it. Furthermore, the fronted *what* phrase does not participate in the argument structure of the verb and does not control Case/agreement (cf. 2 and 4). I show that both types of constructions can be employed with all sorts of *Wh*-phrases: DOs, IOs, PPs, etc. Besides, they can both involve Long-Distance extraction (5). However, only MTs can involve clausal pied-piping (*cf.* the contrast in 6, where the MT is completely grammatical but the WT is not):

(5) Nora/Zer esan du Jonek eraman dutela, Parisera? [MT/WT]
where/what say AUX Jon.E bring AUX.C Paris.to
Where did Jon say that they brought it, to Paris?

(6) [Nora/*Zer eraman dutela] esan du Jonek, Parisera? [MT/*WT]
where/what bring AUX.C say AUX Jon.E Paris.to
Where did Jon say that they brought it, to Paris?

3. The Analysis: I propose a dual analysis: • MTs involve a simple biclausal structure. I argue that the *Wh*-phrase undergoes regular (cyclic) *Wh*-movement and checks Case and agreement just like in other *Wh*-questions and propose that, just like in Spanish (*cf.* Arregi (2010)), the appearance of the postverbal tag is due to *Wh*-movement on the first clause + focus movement & sluicing on the second. • As for WTs, I will argue that they are not amenable to a sluicing analysis (among other reasons, they violate the *Case Matching Condition* for sluicing (cf. Merchant (2001)). I will also depart from previous analyses for Spanish that propose complex Confirmation Phrases with full *Wh*Ps (*cf.* López-Cortina (2007)) and propose that in Basque WTs we have a Small Clause (*à la* den Dikken (2006)) containing a *Wh*-variable and the answer in a predicative structure: [$_{RP}$ *Wh* [$_{R'}$ R Answer]]. This produces the Case/Agr and semantic pattern characteristic of these constructions, for the dummy *Wh* variable will be devoid of any argumental features (as opposed to the answer XP, which will be contentful). They also involve multidominance of the clausal spine, as in coordinated *Wh*-constructions (*cf.* Gračanin-Yuksek (2007)). Thus, WTs like 2 will involve independent extraction of both elements of the RP to different Spec-CPs with sharing of the main derivational spine. Therefore, the independent extraction of each of the elements will naturally account for the differences in pied-piping, since in WTs like 6 there is an unbound trace in the pied-piped clause (unlike in the MTs).

A scalar analysis of motion events

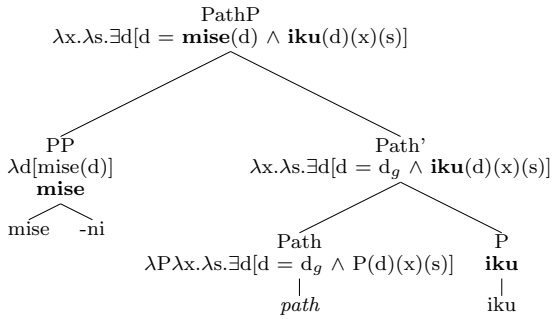
Koji Kawahara

Manner of motion verbs in Satellite-framed languages such as English, coupled with goal phrases, can express that the agent reaches the goal by that action. By contrast, manner of motion verbs in Verb-framed languages such as Japanese cannot combine with goal phrases directly; manner of motion needs to be realised as an adjunct or the (underlined) path verb *iku* 'go' must adjoin to the manner of motion verb as shown in (1b) and (1c). The contrast is well-known by the typological surveys by Talmy (1985, 2000): Verb-framed languages and Satellite-framed languages. In Verb-framed languages, path is encoded as a main verb and manner must be a subordinate adjunct. In Satellite-framed languages, manner is encoded as a main verb and path must be a satellite.

(1) a. * John-ga mise-ni hasit-ta.
John-NOM shop-to run-PAST
'(intended) John ran to the shop.'
b. John-ga hasitte mise-ni <u>it-ta</u>.
c. John-ga mise-ni hasitte-<u>it-ta</u>.

The purpose of this talk is to show that motion events in Verb-framed languages are best analysed by introducing the degree semantics à la Kennedy and Levin (2008) and Kennedy (2012). I argue that a path verb selects a goal phrase in Verb-framed languages, whereby manner of motion verbs by themselves cannot take a goal phrase as their complement. This is because the selection of goal phrases is made solely by path and the constraint is exclusively determined: if a language is tuned to Verb-framed, no verbs other than path cannot select goal phrases (cf. Beavers et al, 2010). I assume that path verbs encode some result state and manner verbs in Verb-framed languages exclusively encode some manner in which some action is carried out. The distinction between result and manner can be made based on scalar semantics; a result encodes some change measured along a scale while a manner does not (Rappaport Hovav and Levin, 2010; Beavers and Koontz-Garboden, 2012). An important consequence of the dichotomy between result and manner is that it is path that provides a degree. I propose that path denotes a relation between degrees and individuals that includes the measure function just like degree achievement verbs and incremental themes discussed by Kenned (2012), so that *iku* 'go' denotes the type <d, <e, <s, t>>>, where *s* expresses situations. Since path includes degree arguments, this argument must be saturated in order to derive an event description. I claim that the degree argument is saturated through composition with the abstract *path*, that establishes an ordering relation between two degrees: one is derived by applying the path verb to its external argument, the other by applying it to the standard constituent denoted by a goal phrase, where d_g is the degree introduced by the goal phrase. Under the present analysis, the semantics of the verb phrase *mise-ni iku* 'go to the shop' in (1b) is shown as follows:

(2) a. $\lambda d \lambda x.\lambda s.\mathbf{iku}(x)(s) \succeq d$
b. $[\![path]\!] = \lambda P \lambda x.\lambda s.\exists d[d = d_g \wedge P(d)(x)(s)]$
c.



By contrast, main verbs in Satellite-framed languages do not specify goal phrases. The abstract *path* combines with a satellite to return a degree in Satellite-framed languages. Hence the typological difference follows.

Broca's aphasia and plurality inferences

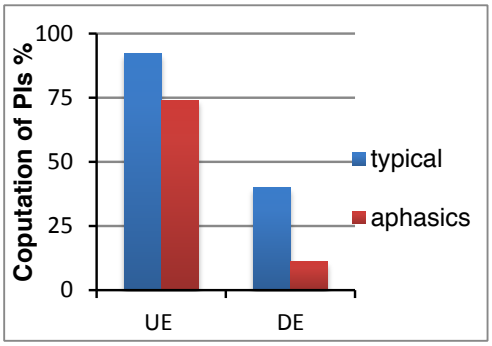
Lynda Kennedy, Jacopo Romoli, Lyn Tieu, Cory Bill, Christina Sevdali, Stephen Crain and Raffaella Folli

Summary: The present study focuses on the interpretation of plurality inferences by individuals with Broca's aphasia. The main finding is they successfully computed plurality inferences (PIs), and they did so significantly more often in upward entailing (UE) than downward entailing (DE) contexts, in parallel with the typical controls. This competence in computing PIs is in keeping with the correct use of plural morphology observed in the production of people with Broca's aphasia, but it is surprising given their clear impairments in understanding sentences with complex syntactic structures.

Background: Like scalar implicatures, PIs arise in UE contexts (*Sue coloured diamonds -> Sue coloured more than one diamond*), but not in DE contexts (*Sue didn't colour diamonds -/-> Sue didn't colour more than one diamond*). For this reason, PIs are generally regarded as scalar implicatures (Spector 2007), an approach that has been supported by recent experimental evidence (Sauerland et al 2005, Pearson et al 2010, Tieu et al 2014).

Predictions: Based on the findings of previous studies, we identified two conflicting predictions. First, scalar implicatures have been shown to be associated with processing cost (Bott and Noveck 2004 a.o.). Moreover, it is generally accepted that underlyingly the observed pattern of performance with complex syntactic constructions is a 'processing limitation' (e.g. Avrutin 2006, Caplan 2013, Santi and Grodzinsky 2007), this leads to the expectation that individuals with Broca's aphasia will have difficulty in computing scalar implicatures, and hence PIs. The opposite prediction can also be made: if the relatively preserved production of plural morphology is an indication of their comprehension of its meaning components, we expect them to compute PIs.

Experiment: We investigated these conflicting predictions using a Truth Value Judgement Task. We assessed the interpretation of plural sentences in UE and DE contexts in a group of Broca's aphasics (n=9), and compared their performance to that of typical adults (n=22). A 2x2 ANOVA with group and monotonicity as factors revealed a main effect of monotonicity ($F(1,58)=34.5$; $p<.001$) but no effect of group. Both groups computed PIs significantly more often in UE than DE contexts (aphasics: 74% UE; 11% DE, typical: 92% UE; 42% DE) (Tukey HSD, both $p<.01$).



Discussion: The results suggest that despite an assumed limitation in processing capacity, the aphasic group was just as successful at computing PIs as the adult controls, and demonstrated sensitivity to monotonicity. This competence is in line with their relatively preserved production of plural morphology. It is, on the other hand, surprising if compared to the clear pattern of impairment in computation of complex syntactic structures that these individuals exhibit, indicating that this performance pattern is not due to a limitation in domain-general processing capacity.

Predictability and implicit communicative content

Christina Kim

Language is inherently indeterminate — a single string often has multiple possible meanings due to lexical or structural ambiguities, vagueness, and mismatches between literal and implicated meaning. Constructions that leave part of what is meant to be communicated out of the explicit content introduce further interpretive indeterminacy; for example, ellipsis (1-b) requires comprehenders to infer the implicit content of the elided clause, and focus particles like *only* (2-b) require inferring a set of salient, implicit alternatives to the focused expression.

(1) a. Jane wrote an article for the newspaper.
b. Chris did, too.
c. Chris wrote an article for the newspaper, too.

(2) a. The library was getting rid of old VHS tapes.
b. Jane only took some SCIENCE DOCUMENTARIES.
c. Jane took some science documentaries, but not any other genre of VHS tape.

And yet, comprehenders experience far less comprehension difficulty than might be expected when interpreting such utterances in discourse: in the context of (1-a), (1-b) is easily understood as (1-c), and following (2-a), (2-b) can be understood as (2-c). The question usually asked is how the implicit material is inferred in such utterances, the answer in each case being related to the structure or content of the prior discourse (for ellipsis: Sag & Hankamer 1984; Hardt 1993; Dalrymple et al 1991; for focus alternatives/quantifier domains: Cohen 1999; Aloni 2000; Husband & Ferreira 2012; among others).

The current study instead explores the hypothesis that efficient utterance production functionally motivates such constructions, and that utterances like (1-b) and (2-b) illustrate a tradeoff between simplicity/brevity and explicit expression of communicative content. A large body of research in psycholinguistics has shown that online language comprehension relies heavily on predictive mechanisms (Otten & van Berkum 2008; Jaeger & Tily 2010; Mahowald et al. 2010). In particular, prior language experience plays an important role in shaping comprehenders' expectations about likely outcomes in incremental discourse processing (e.g. Rodhe et al 2011). Linguistic devices may then piggyback on these expectations in order to make discourse processing more efficient, reducing explicitly produced content if is easily inferrable. The resulting language processing system would trade off a pressure to simplify utterances with a pressure to be explicit with respect to the content to be conveyed. In the first case, speakers 'say more with less' (e.g. elide, rely on implicit alternatives) where implicit material is recoverable in a limited set of expected ways. In the latter, unpredictable content decreases the likelihood of of reliably inferring implicit information, and speakers compensate by being more explicit.

Predictions were tested in two empirical domains: ellipsis and alternative-dependent expressions. First, increasing the predictability of content to be communicated increased the likelihood that it would be left implicit: (i) VPs that were highly predictable based on structural and thematic parallelism to prior content and likelihood of cooccurrence with prior lexical material were more likely to be elided, and (ii) increasing lexical and conceptual predictability with respect to a discourse topic and prior discourse content increased the likelihood that alternatives to focused phrases would be left implicit (rather than being listed explicitly). Secondly, comprehenders expected highly predictable content to be omitted (i.e. left to be inferred), and unpredictable content to be explicitly spelled out; explicit inclusion of highly predictable content was judged as degraded in acceptability.

L2-acqusition of complex sentence level prosody

Jane Kühn

This pilot study reports first results of a production experiment concerning the acquisition of the functional use of prosody by means of *f0 in* German- Turkish early bilingual speech. The research centers on the phonetic and phonological implementation of two German features in L2: focus and sentence type (yes/ no questions).

German has been classified as an intonation-only language [5]. Post-lexically, it uses different types of pitch accents together with boundary tones to express pragmatic contrasts [1]. Yes/ no questions are marked by a high final boundary tone (H%) ([8, 10] and pitch accents are assigned to the arguments in all-new questions [1]. Information structure affects *f0* register scaling: pitch accents on focused constituents are the most prominent [2].

Turkish has been classified as a phrase language [4, 9]. It does not implement pitch accent modification with respect to information structure [6]. Instead pre-and post-focal de-accentuation are described for yes/ no questions, as well as the implementation of an optional sentence final high boundary tone (H%) [3, 8].

In a production experiment, based on the methodology of [11], different contrastive yes/no questions with segmentally equal structure and focus as the manipulated factor were elicited. All targets were phonologically and phonetically analyzed and compared with regard to their time-normalized *f0*-contours. The analyses are based on 200 sentences: 5 sentences x 4 focus conditions x 10 speakers.

Though speakers of the two typologically distinct languages are homogeneous with respect to their socio-linguistic background and L2-acquisition the results are highly speaker-dependent. The analyses reveal that sentence type marking by means of (H%) is realized by all speakers. The target-like realization of pitch accents according to focus condition on the other side causes difficulties on the phonological and phonetic level. At least three speaker groups were identified: (1) implementing native-like pitch accents according to focus condition; (2) implementing native-like pitch accents without prominence modification under focus; (3) implementing the same *f0* contour throughout all focus conditions.

The twofold results motivate the claim that the existence of a prosodic feature in L1 facilitates its acquisition in L2. The absence of a prosodic feature in L1 results in the emersion of speaker dependent L2-acquisition processes, such as transfer and simplification. Nonetheless, the target-like acquisition of complex prosodic features is possible in L2.

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Acquisition at interfaces: the case of focus marking

Maria Kunevich and Theodora Alexopoulou

Abstract: We focus on the acquisition of information structure (IS) marking in L2 English. In particular, we investigate longitudinal development of Russian learners of English L2 with regard to the following questions: (1) Is the acquisition of the phonology/IS interface a particularly challenging area of L2 acquisition, as predicted by the Interface Hypothesis (IH) (Sorace 2011) because learners need to integrate phonological structure with Information Structure? (2) Are particular IS-prosody mappings in the L2 system more challenging than others, indicating that the nature of the mappings can affect the course of acquisition (Baker 2011)? (3) Are there L1 effects on the acquisition of IS markings? (4) What is the longitudinal trajectory of the acquisition of prosodic IS marking in L2 English?

Two linguistic experiments (a perception task and an acceptability judgment task) were conducted with 36 Russian learners of English at different levels of proficiency (A2, B1, B2 according to the CEFR). As in English, focus (new information in Vallduvi's 1994 sense) is marked with nuclear pitch accent (NPA) in Russian. Moreover, Russian is a plastic language allowing NPA shift from the default rightmost position to sentence initial positions, as in English.

We first tested learners' ability to perceive varying prosodic patterns (Svo, svO, Sv/sV, including svO that either have or do not have a pre-nuclear accent). Our aim was to establish if the learners can reliably identify NPA (acoustically) in sentences presented out of context. Since both Russian and English are plastic languages shifting NPA, we predicted strong L1 transfer enhancing learners' perception from beginner levels. This prediction was confirmed. Learners are very good at identifying NPA in single out-of-context utterances already from A2 (scoring well over 80% and reaching ceiling already from B1). There was one exception though, patterns involving pre-nuclear accents were challenging at A2 (below 40% accuracy).

We then evaluated learner's ability to judge prosodic patterns in context. The prosodic patterns tested in the perception experiment were presented (acoustically) in question-answer pairs setting up three discourse conditions: narrow focus on the subject, narrow focus on the object (or verb for intransitives) and sentence broad focus. In half of the items the prosody of the answer matched the IS requirements set up by the question (e.g. Svo for a narrow focus on subject question) and in the other half it did not match (e.g. svO for a narrow focus on subject). Subjects were asked to judge the naturalness of the question-answer pair and indicate their judgement on a 7-point scale. If the acquisition of interfaces presents learners with special challenges (as predicted by IH), we expect a discrepancy between the perceptual performance of learners and their ability to judge the felicity of prosodic patterns in context. Indeed, we found that well into B2, learners appear oblivious to question-answer prosodic mismatches (despite often performance at ceiling in perception and unlike native controls). But at the same time, there is development in this area since many learners at B2 level start rejecting mismatched pairs. While such findings broadly confirm the IH, the picture is more complex. Narrow focus patterns are acquired first and broad focus (intransitive) patterns last, lending support to Baker's hypothesis that direct (one-to-one) mappings between prosody and IS (as in narrow focus) are less challenging for learners than indirect ones (e.g. broad focus). We will present an analysis combining Sorace's IH with Baker's "L2 Challenge" hypothesis, crucially incorporating the observed development from A2 to B2. We are currently collecting data from more B2 learners to obtain good amounts of data for a mixed effects analysis.

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A Cartographic approach to adverbials in Kavalan: adverbial verbs and restructuring

Dong-Yi Lin

Introduction: Chang (2006) and Holmer (2010) have argued convincingly that some adverbial expressions in the Austronesian languages in Taiwan, or Formosan languages, are syntactically realized as verbs. The present study explores this syntactic phenomenon in Kavalan, an East Formosan language, and offers a syntactic analysis within the cartography framework of adverbials proposed by Cinque (1999, 2006).

Empirical Patterns: Kavalan adverbials can be classified into three broad types based on their morphosyntactic behaviors. First of all, manner (*paqanas* 'do.slowly'), frequency (*pataz* 'do.often'), aspect (*tuRin* 'do.immediately'; *uman* 'do.again'), and modal-volition (*sapazeng* 'do.on.purpose') expressions are verbs in that they occur in the clause-initial position, take voice markers, are affixed with ergative agreement suffixes, and attract tense/aspect clitics, as illustrated in (1).

(1) <u>tuRin-an-na=ti</u> ni Buya m-nubi ya kelisiw
do.immediately-PV-3ERG=PFV ERG Buya AV-hide ABS money
'Buya hides the money immediately.'

Secondly, evaluative (*peliya* 'luckily.not') and deontic (*qawman* 'must') adverbials must occur clause-initially, can host clitics, but are not allowed to take voice markers. The third type of adverbials (*pasi* 'probably'; *zuma* 'sometimes') must occur clause-initially, but can neither take voice markers nor host clitics.

Cartography: The present study argues that Kavalan adverbials occupy the heads of adverbial phrases in the split-IP/CP domain. Kavalan adverbial verbs are merged between VP and vP, i.e., [$AdvP_1$] in (2) below, with v heading the so-called voice markers in Formosan languages. The second type of adverbials is merged right above vP within the IP domain, i.e., [$AdvP_2$] in (2), whereas the third type of adverbials, which cannot host clitics, is merged in Rizzi's (2004) ModifierP in the CP domain, i.e., [ModP] in (2).

(2) <u>ModP</u> – FinP – TP - <u>$AdvP_2$</u> – vP – <u>$AdvP_1$</u> – VP

Only the adverbial heads situated between vP and VP can move to v to take voice affixes and thus show typical properties of verbs, whereas the adverbial heads in $AdvP_2$ cannot take voice markers, which would be affixed to the verb that moves upward to v. Just like other functional elements in CP that cannot host clitics in Kavalan, e.g., the complementizer *tu* and the subordinator *anu* 'if', adverbials in ModP in the CP domain cannot attract clitics either.

Restructuring: The analysis of Kavalan adverbial verbs as heads of adverbial phrases between vP and VP predicts that they are restructuring verbs in a monoclausal configuration (Cinque 2006). This prediction is borne out. Firstly, the adverbial verb and the lexical verb in an adverbial verb construction (AVC) cannot host separate tense or aspect markers. Secondly, the case-marking pattern of the nominal arguments is determined by the voice marker on the adverbial verb, not the lexical verb. In (1), the agent is ergative and the theme absolutive; this is the case pattern of a patient voice sentence with *-an*. Thirdly, the lexical verb cannot be preceded by *tu*, which introduces a finite complement clause. Finally, as the adverbial verb intervenes between v and V, it is expected that the lexical verb cannot move to v due to the Head Movement Constraint. As shown in (3), the lexical verb *pukun* cannot take the patient voice marker, but must occur in the agent voice form (cf. (1)), which is the default non-finite form of a verb in Kavalan. In contrast, adverbials merged in $AdvP_2$ and ModP do not impose this voice restriction on the lexical verb.

(3) *sapazeng-an-na ni buya <u>pukun-an</u> aiku
do.on.purpose-PV-3ERG ERG Buya hit.with.a.stick-PV 1SG.ABS

The cartographic approach to Kavalan adverbials thus successfully accounts for not only the different morphosyntactic properties of the three types of adverbials but also the monoclausal structure of the AVC.

The representation of information structure

John Lowe and Louise Mycock

The representation of Information Structure (IS) depends crucially on an empirically and theoretically well-grounded understanding of the primitives underlying IS categorization. Treating Discourse Functions (DFs) such as TOPIC and FOCUS as IS primitives obscures important generalizations about how IS can be encoded. For example, in Garrwa (Mushin 2005), both focus and certain types of topic (Switch Topics) target clause-initial position; in Nandi (Creider & Creider 1983), two different types of topic appear in different clausal positions: the ordering principle is (Switch Topic–)Comment(–Continuing Topic).

We build on previous work on IS categories (e.g. Vallduví 1992), including in Lexical-Functional Grammar (Butt & King 1996, Choi 1999), which seeks to decompose DFs into more primitive IS features. In the framework of LFG, we present a new feature-based approach to IS categorization, grounded in a principled view of IS. IS is fundamentally about *discourse salience*, i.e. the partitioning of information in an utterance so as to develop the communication. We propose the three attributes in (1) as the primitives of discourse salience.

(1) a. UPDATE: This meaning provides an information update that develops the communication due to its novel information structure status relative to the current discourse context.

b. ABOUTNESS: The proposition expressed is about this meaning, in the sense that it represents a matter of current concern and is the pivot for truth value assessment.

c. INFORMATIVENESS: A relation is established between this meaning and other elements of the relevant proposition, conveying new information and changing the addressee's representation of the world as a result.

We distinguish four main DFs, setting aside contrast, according to the combinations of these features (2); these DFs are essential for capturing crosslinguistic variation in IS categorization. Topic_E is a semantic unit which is a topic for the first time, a category including Switch Topics; a referent has the status of Topic_C (Continuing Topic) if it is a current (ongoing), constant or repeated topic; Focus provides information which is not assumed to be shared by the interlocutors; Background Information is not of primary importance to the discourse.

These features also capture classic distinctions in the IS literature: ±ABOUT captures the Topic-Comment distinction; ±INFORM captures the Focus-Background distinction; +UPDATE relates to the concept of 'newsworthiness' (Mithun 1987). So, in Garrwa +UPDATE targets clause-initial position; in Nandi +ABOUT +UPDATE appears before the Comment, while +ABOUT −UPDATE appears after it.

(2)

	UPDATE	ABOUT	INFORM
Topic_E	+	+	−
Focus	+	−	+
Topic_C	−	+	−
Bckg.Inf.	−	−	−

(3) Topic_C:

$$\begin{bmatrix} \text{UPDATE} & - \\ \text{ABOUT} & + \\ \text{INFORM} & - \end{bmatrix}$$

(4) Topic_E:

$$\begin{bmatrix} \text{UPDATE} & + \\ \text{ABOUT} & + \\ \text{INFORM} & - \end{bmatrix}$$

We conceptualize IS as a grouping and arrangement of units of meaning, and provide a formalization of this based on our proposed binary features. These features appear in the s(emantic)-structures associated with the words concerned (cf. Dalrymple & Nikolaeva 2011); (3) and (4) show s-structures for a Topic_C and Topic_E respectively. IS is projected from s-structure, and categorization at IS is based on positive values for the relevant features at s-structure. For example, a meaning with the properties in (3) will appear in the ABOUT set at IS, while one with the properties in (4) will appear in the ABOUT set and the UPDATE set. Within these sets meanings may be ordered, enabling us, even though we utilize a binary-featured system, to capture the finer-grained distinctions that the data clearly show are crucial to IS status and its encoding.

Formal patterns to semantic features of compound members: a quantitative model

Tao Ma

This study focuses on semantic relations between compound members and their formal structures, and it solves two problems. First, there is an argument between Jackendoff (1975) and Bauer (2008) in terms of the productivity of exocentric compounding e.g. *blackhead versus redhead,* and the question is whether meanings of exocentric compounds are predictable. Second, there is a controversy related to the plurality of headless compounds between Pinker (1994, 1999) and Sampson (1997, 2007) e.g. *sabretooth versus Blackfeet,* and the question is whether the grammatical inheritance of compound member is predictable. It is assumed here that there are formal rules of semantic representation in compound structure.

A corpus approach is used to extract all compounds with non-literal interpretation by compound members of the top 50 frequent body-part (target) lexemes from the BNC. This selection criterion is to reject literal compounds like *headache* in the dataset but accept *headquarter* which does not refer to *a quarter of head*. It is found that there are four semantic features of the target lexemes which are correlated with their formal and grammatical relations with the other (companion) members. For example: when the target lexemes are left-handed in (1), their semantic properties are functional; when right-handed in (2), they are positional; when the target lexemes are metonymical and left-handed, their companion members are deverbal in (3).

(1) Headquarter, Head-office, Head-teacher, Headman, Headmaster, Head-tenant. Headship
(2) Arrowhead, Beachhead, Bed-head, Bridgehead, Brush-head, Club-head, Cylinder head, Letterhead, Masthead, Pinhead, Pithead, Railhead, Spearhead, Stair-head.
(3) Head-count, Head-hunt (Brain-snuff, Brain-drain)

The exceptions to these patterns are also within the theoretical maximum limit by the mathematical model of the tolerance principle (Yang 2002, 2005) in the treatment of the relation between productivity and paradigmatic gaps (Halle 1973). Under the principles that "[i]n practice ambiguity is as a rule avoided" in compound structures (Jespersen 1946:137) and "[a] 'perfect' language meet the condition of inclusiveness" (Chomsky 1995:228) in the statistical validity of formal completeness, a new mathematical model is proposed here to explain the patterns of variation among English compound structures and also Chinese ones.

Expletive negation as an epistemic modal

Maria-Margarita Makri

This paper examines the distribution and the semantic contribution of Expletive Negation (EN) in attitude complements, namely of sentential negators or negative complementizers that do not reverse the polarity of a proposition.

(1) emoige ape:goreues hopo:s me: apokrinoime:n [Cl.Greek]
me.Dat forabade.Pst.Imp.2SG (so_)that NEG reply.Opt.Prs.1SG
you forbade me to give that answer. Plat. *R*. 339a

Previously unstudied data drawn from Classical Greek, break the so far thought link between EN and (notional) Subjunctive mood (Espinal 2000, Abels 2005, Yoon 2012, a.o.) whereas the comparative examination of Classical Greek, Modern Greek, Latin, French, Spanish, Russian and Hebrew data reveal a new correlation between EN and Tense: EN is not licensed in embedded clauses with anaphoric tense.

The examination of the semantics of the attitudes licensing EN in their complements shows that EN is licensed by predicates with existential force that presuppose or assert the existence of more than one doxastic possibility (*hope, fear, doubt, ask, refuse,* etc.). As the asymmetries in (2)-(4) show, EN asserts that the, previously ordered in terms of probability, doxastic alternatives are or can be equally likely:

(2) Erhete o Nikos? -Fovame pos /#mipos erhete. [M.Greek]
Come the Nikos? -Fear that /#lest.EN come
Is Nikos coming? -I fear that/#lest he is coming.

(3) Elegha pos/mipos chriazese voithia. [M.Greek]
said that/lest.EN need.2SG help.
I guessed that you need some help. /
EN: I wondered whether you need help.

(4) a. Dhen fovame pos kseri tin alithia. #Ja tin akrivia to elpizo
NEG fear that know the truth. For the preciseness it hope
I do not fear that he knows the truth. #In fact, I hope it.

b. Dhen fovame mipos kseri tin alithia. Ja tin akrivia to elpizo
NEG fear lest.EN know the truth. For the preciseness it hope
I do not fear lest he knows the truth. In fact, I hope it. [M.Greek]

The ungrammaticality of epistemic modals in EN complements, its use in counterfactuals instead of epistemic *tha* (will), its proposed semantic contribution and the fact that it scopes above Tense show that EN is a weak epistemic modal. This proposal also explains the largely overlapping –but not identical– distribution between Unselected Embedded Questions (Adger and Quer 2001) and EN, thus giving us an insight into the role of s-selection in sentential complementation and its limitations.

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Noun stem alternations, the structure of case and the locality of allomorphy

Thomas McFadden

I propose a generalization based on a survey of noun inflection patterns in Finnish, Tamil, Icelandic, Latin, Sanskrit, Ancient Greek, Gothic, Russian, Estonian and Saami: noun stem allomorphy sensitive to case always singles out the nominative (and cases syncretic with it), making no distinctions among the other cases. E.g. Finnish *ihminen* 'person' has a Nom stem in *-nen* against *-s(e)-* in all other cases, e.g. Gen *ihmi-se-n*. I analyze the alternations as allomorphy of (i.e. competition for insertion in) little n. This captures the fact that they affect a stem-formant rather than the whole base of the noun, and that they are often characteristic of an entire inflectional class, e.g. in addition to Finnish *-nen/-se-* nouns, Latin nouns in *-ō/-in-* (Nom *homō* 'man', Gen *hominis*) and Tamil nouns in *-am/-att-* (Nom *mar-am* 'tree', Acc *mar-att-ai*). It also allows us to make sense of two related generalizations – that nouns can show suppletion for number (Ket 'child': sg *dyl'*, pl *kat*), but not case, while pronouns can show suppletion for both (German 'you': sg *du*, pl *ihr*; 'we': Nom *wir*, Acc *uns*) – in terms of locality (building on Embick 2010, Bobaljik 2012, Moskal 2013). Simplifying a bit, assume that nouns have the structure $\sqrt{}$ - n - # - K, while pronouns have D - # - K, that suppletion is just allomorphy for $\sqrt{}$ or D, and that sensitivity for vocabulary insertion can 'see' across one, but not two, intervening nodes. Then we correctly predict $\sqrt{}$ allomorphy (i.e. noun suppletion) according to little n and #, little n allomorphy (i.e. noun stem allomorphy) according to # and K, and D allomorphy (i.e. pronoun suppletion) according to # and K. But why is little n never sensitive to, e.g., the distinction between Acc and Dat or Gen and Instr? A clue comes from the plurals of alternating nouns in Finnish, Latin and Icelandic: these show the 'non-Nom' variant throughout – even in the Nom, e.g. Finnish Nom pl *ihmi-se-t*, Gen *ihmi-s-i-en*; Latin Nom pl *hom-in-ēs*, Gen pl *hom-in-um*. Thus the 'non-Nom' forms in these languages are not sensitive to cases per se, but to the presence of following morphosyntactic material. Note that what matters is **not** just the presence of a suffix, since e.g. Latin and Icelandic have overt Nom sg endings which trigger the Nom stem, and Icelandic has null Acc sgs which still have the non-Nom stem: Latin Nom *senex* (*sen-ec-s*) vs. Acc *sen-∅-em*, Icelandic Nom *ma-ð-ur* vs. Acc *ma-nn-∅*. If what matters is morphosyntactic structure, and we need to distinguish Nom and sg from non-Nom and pl, we are led to adopt the idea that Nom is in fact the lack of case, and sg the lack of number. This yields structures properly distinguishing the Nom sg (with nothing above little n) from all others – Nom sg: $\sqrt{}$ - n; Acc sg: $\sqrt{}$ - n - K; Nom pl: $\sqrt{}$ - n - #; Acc pl: $\sqrt{}$ - n # K. In at least Tamil, however, the plural forms have the 'Nom' stem, even in the other cases, e.g. Nom pl *mar-aŋ-gaɭ*, Acc pl *mar-aŋ-gaɭ-ai*. This suggests that here the *-am/-att-* allomorphy really is sensitive to case itself, but is blocked by the presence of the pl. Evidence that this is a locality effect comes from the fact that the pronouns again behave differently (presumably because of the lack of the cyclic little n node), showing unified suppletion for case in sg and pl: 'you', Nom sg *nii*; Acc sg *on-ai*; Nom pl *niiŋ-gaɭ*; Acc pl *oŋ-gaɭ-ai*. If we adopt Caha's (2009) theory of case structures, we can explain why even here, where allmorphy depends specifically on case, it is not sensitive to distinctions beyond Nom vs. everything else: the lowest K head distinguishing Acc (and all higher cases) from Nom is sufficiently local to little n to condition allomorphy, but those that distinguish Gen from Acc etc. are too far away. Stem alternations that carve up the cases differently involve phonological operations on a single underlying stem form rather than allomorphy for little n. Thus the various consonant gradation patterns in Finnish, Estonian and Saami and Ablaut patterns in Sanskrit and Ancient Greek fall out from regular phonological rules of the langauges combined with the accommodation of autosegmental material in the exponents of some of the case markers (Svenonius 2008, Caha 2009, Bye and Svenonius 2012). E.g. Estonian 'story', Nom *jutt*, Part *jutt-u*, vs. Gen *jut-u*, involves the interaction of a prevocalic consonant shortening rule with the accommodation of a floating mora in the Part suffix.

Syntax, as opposed to phonology or lexicon, has historically been considered uninfluenced by language shift and other contact situations (MÜHLHÄUSLER 1980:36; POLOMÉ 1980:192); this assumption has since been shown to be unsubstantiated, as word-order changes in, e.g., Akkadian under Sumerian influence show (VSO → SVO; cf. KAUFMAN 1974:132). While still less easily detectable than phonological or lexical borrowings, contact-based syntactic change on many levels has been documented (cf. morphosyntactic borrowings from Burushaski into Shina: LORIMER 1937:74-80; THOMASON & KAUFMAN 1991:137-8).

This paper presents an investigation into two aspects of syntactic borrowing in ancient languages. Classical Armenian (first attestation early 5th century CE), politically dominated by a Parthian dynasty for centuries, shows vast lexical influence from Western Middle Iranian languages (Parthian, Middle Persian), wherefore Armenian was considered an Iranian language until HÜBSCHMANN'S seminal work (1875). Next to the lexicon, Armenian has arguably adopted at least two other features from Iranian: a multi-functional intensifier-cum-anaphor (Arm. *ink'*n; cf. MEYER 2013) and partial ergative alignment in the periphrastic perfect.

A corpus-based study of early texts will demonstrate that, to some extent, the borrowed syntagmata have been modified to fit the target language: in contrast to its Iranian counterpart, the Armenian anaphoric pronoun/intensifier has a full inflectional paradigm, as do all Armenian pronouns; the perfect system has undergone partial de-ergativisation and re-alignment along native nominative-accusative lines, and further shows some signs of contamination of intransitive syntax with ergative patterns.

Earlier explanations of Armenian perfect syntax have relied heavily on complicated analogical processes (STEMPEL 1983) or improbable derivational morphology (WEITENBERG 1986). The approach presented here argues that a superstratum explanation is preferable to previous inheritance-based models, both on account of its morphosyntactic simplicity as well as due to Armeno-Iranian syntactic parallels, esp. concerning inter-clausal ergative features. Anaphora, perfect and other potential avenues of inquiry into syntactic parallels will be discussed from a framework-neutral perspective, together with sociolinguistic implications for the *Sprachraum* and the issues arising from ongoing research.

Temporal and spectral properties of the three-way laryngeal contrast of Madurese

Misnadin Misnadin, James P. Kirby and Bert Remijsen

The present study concerns the acoustic characteristics of the three-way laryngeal contrast of Madurese stops. Madurese, a language spoken primarily on the Island of Madura, Indonesia, has three-way contrast in its stops, namely voiced, voiceless aspirated, and voiceless unaspirated. One interesting aspect about these stops is the fact that they interact with the vowels which follow them. This interaction results in a condition in which voiced and voiceless aspirated stops only co-occur with high vowels while voiceless stops and other consonants only go together with low vowels. The interaction is important to be examined to find out whether they share certain phonetic features which probably account for the patterning together of voiced and voiceless aspirated stops and their interaction with the vowels. Due to the fact that voiceless aspirated stops are phonetically voiceless, we should expect they pattern with voiceless unaspirated stops. However, this is not the case; in fact, the aspirated stops prefer patterning together with voiced stops instead. The study attempts to examine this intriguing phenomenon by particularly taking a closer look at consonant duration, voice onset time (VOT), fundamental frequency (f0), and vowel duration following each of the stop voicing types. In addition, spectral measures such as H1-H2 and H1-A3 of the vowels following the three stop series were also scrutinized. Fifteen native speakers of Madurese (seven females, seven males) participating in the study were recorded in a sound-attenuated room using a high quality recorder with a unidirectional head-mounted microphone. They were instructed to read 188 target words embedded in sentence frames in three randomly ordered repetitions. All the data segmentations and annotations were conducted in Praat and the measurements were extracted automatically using relevant existing Praat scripts.

Toward a classification of adjuncts in Japanese

Kaori Miura

Introduction: One of the long-standing issues in most generative theories is how to fit "non-core arguments" in their phrase structures (Pylkkänen 2008, S. Bosse et al. 2012, Bruening 2013). An example of this problem is *de*-phrases in Japanese. Although they are often described as adjuncts in the literature (Hasegawa 1990, Ura 2000), this study shows that some of them constitute a category that is neither the argument nor the adjunct. Hence, a thorough examination of their syntax and semantics is still called for. Based on Bruening's (2013) event-theory, I propose that Japanese *de*-phrases are divided into two types: one selecting for Voice and the other merging to V with no N-feature, comparing their instrumental use and locative use of certain motion verbs (e.g., *aruku* 'walk', *hasiru* 'run').

Facts & Generalization: The locative *de* here syntactically differs from the instrumental *de*; for example, it alternates with *o* (e.g., *hamabe {-o/-de} aruku* 'walk along the beach' / *kouen {*-o/-de} asobu* 'play in the park'), it can be a passive subject (e.g., *hamabe-ga aruk-are-ta* 'the beach was walked (by somebody)' / **kouen-ga asob-are-ta* '(lit.) the public garden was played (by somebody)') and it can constitute a *kata*-nominalization (Kishimoto 2005) (e.g., *hamabe-no aruki-kata* '(X's) way of walking beaches'/**kouen-no asobi-kata* '(lit.) (X's) way of playing public gardens'). As the stars above indicate, the instrumental *de* cannot pass these tests. This leads us to believe that the locative *de* behaves as the transitive object, rather than the adjunct. However, it also stands in stark contrast with the transitive object. It allows accusative-marking (e.g., ?*Taro-ga Hanako-o hamabe-o aruk-ase-ta* 'Taro made Hanako walk on the beach') in the causative construction, which is impossible with the causatives of the transitive object (Harada 1973, a.o.) (e.g., **Taro-ga Hanako-o mado-o waraseta* 'Taro made Hanako break the window'). Thus, the locative *de* is neither a selected argument of the verb, nor the adjunct. The problem is how this irregular locative *de* fits comfortably into a phrase structure grammar.

Proposals: I assume Bruening's (2013) syntax accompanied with event semantics. In this theory, the syntax only cares about selection, driven by features. A projection stops when a selectional feature on a head is checked off. Feature-checking is implemented by Merge. For instance, it is assumed that a transitive verb bears a selectional feature N: [S:N] and it selects for and merges with an element of category N to check off its feature. Based on these assumptions, I propose that the locative *de* of these motion verbs is a preposition with an N-feature: P[S: N]. When it merges with an N, it can check off its feature. The resulting set P[~~N~~, P(S:~~N~~)] will adjoin V with no N-feature; thus, it will be a sister of intransitive verbs only. Following Bruening, I argue that the instrumental *de* is P, requiring both the category N and a Voice in the order: P[S: N, S*a*:Voice(S:N)]. The subscription *a* means that P does not check off a selectional feature on Voice (i.e., Voice can further project), but it can check off its own selectional feature by the merge. As an extension of this account, I further demonstrate that the *de*-phrase of the *spray/load* construction in Japanese (e.g., *Taro-ga kabe-o penki-de nutta* 'Taro smeared the wall with paint') patterns with the locative *de* above. This *de* (i.e., *penki-de* 'with paint') semantically represents the substance of a painting event. The verb itself (i.e., *nuru* 'paint/smear') originally bears a selectional feature V[S:N]; and when it merges with a category N to check off its feature, a larger object V[~~N~~, V(S:~~N~~)] will be formed. The substance *de* initially merges with a category N to check off its N-feature. I argue that the given P[~~N~~, P(S:~~N~~)] merges with V[~~N~~, V(S:~~N~~)] whose N-feature has been checked off.

Conclusion: To conclude, I have proposed *de*-phrases in Japanese can be classified into two types: Voice-taking P and P merging to V with no N-feature. The former includes the instrumental *de* and the latter, the locative *de* of certain motion verbs and the substance *de* of *spray/load* verbs.

Selected references: Bruening, Benjamin. 2013. *By* phrases in passives and nominals. *Syntax* 16 (1): 1-41.

Prosodic marking of focus: a Lexical-Functional Grammar (LFG) analysis

Louise Mycock and John Lowe

Involving as they do interfaces between multiple aspects of linguistic structure, phenomena such as prosody-only Focus marking in utterances like 'Anna hit NORMAN' and their analysis are of great significance to grammatical modelling. These phenomena present a specific challenge when one adopts a strictly modular approach because distinct components of linguistic structure must be permitted to interact without either being conflated or assumed to be isomorphic. In this paper, we present an analysis of prosodic focus marking which maintains strict separation of phonology, syntax and information structure within the framework of LFG.

We assume that prosodic and other grammatical information interface only via the string, specifically via the relation between a string's syntactic (s-string) and prosodic (p-string) form (Dalrymple & Mycock 2011), which we represent as attribute-value matrices; see (1). We propose to situate interface information, along with information about syntactic and prosodic form, in the units of the p-string and s-string. This interface information will include Information Structure classifications (e.g. Focus), which are relevant at multiple levels of linguistic structure. A principle of harmony applies that requires any interface information associated with a p-string unit to 'match' and thus be part of the corresponding s-string unit(s), as defined by the relation between phonological and syntactic forms in the lexicon. Thus, in (1) the location of the nuclear tone (N_TONE H) signals narrow Focus on the object. The attribute 'DF_Focus' is therefore included in the relevant p-string unit (first syllable of 'Norman'); this is captured by the annotation on the final P(rosodic)W(ord). Interface harmony requires that 'DF_Focus' also be a member of the corresponding s-string unit 'Norman'. For non-projecting narrow Focus, an annotation like the one on the final N' node in (1) ensures that 'DF_Focus' is associated with the relevant constituent and that the semantic structure which represents its meaning has a value 'FOCUS' for its discourse function (DF) attribute. As a result, the meaning of the focused constituent is a member of the FOCUS attribute's value set at a separate level of i(nformation)-structure; see (1).

This model respects the principle of modularity and can deal with phenomena like prosody-only Focus marking. While formalized in LFG, the issues involved are relevant to other frameworks, and the proposed analysis raises interesting possibilities for other theoretical approaches.

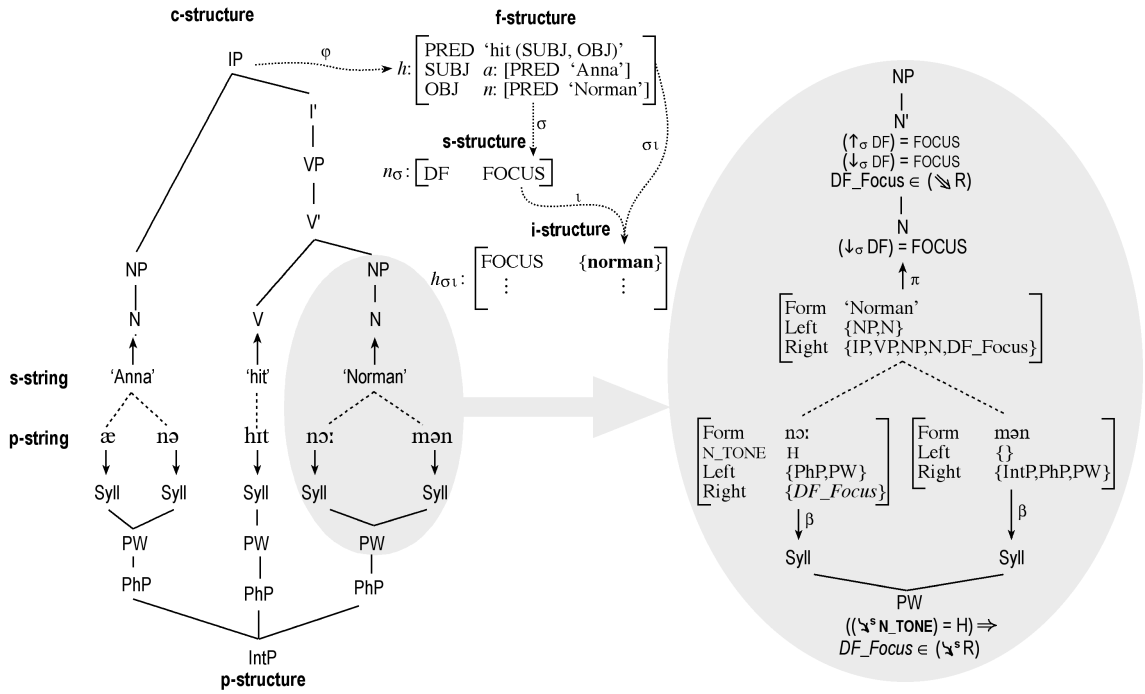

Fig. (1): Analysis of 'Anna hit Norman' with prosodic marking of narrow Focus on the object. The tree shows the outline structure; full details of the critical portion appear in the large oval.

Against non-convergence: the same at the core

Diane Nelson and Melinda Whong

No linguist of any theoretical stripe doubts that individual adult native speaker performance may vary on linguistic tasks, and that even within a given speech community, factors such as SES, literacy, and levels of formal education may correlate with observed patterns of variation. For example, SES has been shown to correlate with various aspects of language development in children (Hoff 2006) and emergent literacy (Aram & Levin 2001). Drawing together data from a series of studies on adult L1 speakers of English and Polish, Dąbrowska (2012) attributes the observed variation across speakers to differences in underlying grammatical *competence*. Specifically, she claims that a lack of formal education (and by extension the lack of structured linguistic input supported by explicit instruction) leads to *incomplete* or *impoverished* competence in an L1 grammar, which can be made complete by targeted training. She concludes that variation in competence is evidence against the so-called "convergence argument" assumed in generative approaches (i.e. that all members of a speech community attain an equivalent endstate in L1 competence), and that this poses a serious problem for the theory of Universal Grammar. These findings raise important questions about the origins of speaker variation in linguistic performance, the competence/performance distinction, and second language attainment, many of which are addressed in the commentaries following Dąbrowska (2012).

We do not believe that these claims undermine UG and the generative approach, and we challenge them firstly on conceptual-theoretical grounds. From a cross-linguistic and historical standpoint, it is undesirable to claim that "complete" L1 acquisition of grammar correlates with formal education, since the vast majority of the world's languages are not written down, and for most of human history native speakers have managed to fully acquire their native languages without schooling. On a related note, we argue that English and a relatively small subset of other languages are cross-linguistic oddities in having such an extensive literary tradition, with many sentence types and lexis mainly restricted to written registers, including some of the forms investigated by Dąbrowska and colleagues. This also raises interesting questions about the role of literacy, rather than educational attainment, as a predictor of performance on a range of neuropsychological tasks (Manly et al 2005). Finally, we note that if competence directly reflects the input, and if incomplete competence can be made complete with explicit training, this makes the wrong predictions for L2 acquisition and attainment in adults, who are known to routinely fail to develop complete grammars. While we applaud Dąbrowska's general point that linguistic theory should incorporate data from a wider pool of native speakers, and not just highly educated ones (a current move within social sciences and psychology; see Henrich et al 2010), we feel that linking educational attainment to "deficits" in grammatical competence is misguided.

Next, we turn to empirical and methodological issues, focusing on the results from Street & Dąbrowska (2010). In this study, two groups of adult subjects with lower educational attainment (LAA) and higher educational attainment (HAA) were given a verbal picture-matching test to test comprehension of transitive active sentences, reversible passives, and quantifier expressions with *every* in two conditions (e.g. *every fish is in a bowl* vs *every bowl has a fish in it*). While both groups scored at ceiling in the active condition, the LAA group scored significantly worse than the HAA group with reversible passive sentences and with both types of quantifier expression; the LAA group scored at chance in the *Q-has* condition. Dąbrowska concludes that the LAA group failed to acquire the passive "rule" or this type of quantification. We believe that task effects may account for the passives results, and that quantification with *every* is difficult because it is vanishingly rare in spoken corpora. We tested LAA and HAA adults in a similar task using the spoken variant for quantification, *all* (with plural DPs to reduce scope ambiguity); results from the pilot show that the LAA group performed worse than the HAA group in the *Q-is* condition, but there were no significant differences in errors between the two groups in the *Q-has* condition. In an auditory comprehension task with a contextual narrative, both groups scored at ceiling for complex wh-sentences with *where* and *who* (object extraction). We conclude that any experimental task done with people who have limited experience with testing, as is typical in educational settings, will lead to unreliable data. However, (a) LAA participants do converge on the same core grammar as HAA participants, as evidenced by responses to complex sentences with object extraction and quantification; and (b) correct responses to constructions that are limited to written genre are likely to correlate with literacy, not educational attainment.

Languages deploy a variety of means to let a noun serve as a modifier of another noun, including 'genitive' constructions (*ring of gold, children's story*), compounding (*my [mother tongue]*), relational (classifying, associative) adjectives (RAs) (*my [maternal instincts]*), possessive adjectives (PossAs) (Russian *mam-in-a/Kat-in-a kniga* 'mummy-POSS.A-F/Katya-POSS.A-F book[F]). 'Genitives' modify by full DP/NP, whose head noun can be modified/determined, but compounds, RAs and PossAs in English modify only by N. RAs and PossAs are like denominal adjective derivation proper, which adds a semantic predicate to the modifying noun (e.g. the privative adjectives *mother-less* etc.), whose base noun cannot be modified/determined, and even English compound nouns cannot be freely modified: *[dry stone] wall* but **[crumbling/expensive stone] wall]*. However, in other languages there exist well-established cases of RAs/PossAs (1) (Corbett 1987:300) or even derived adjectives with added semantic predicate (2) (field notes), where the base noun retains certain nominal properties and can be modified:

(1)	moj-eho	bratr-ow-e	dźěći	[Upper Sorbian]
	my-GEN.SG.M	brother-POSS.A-NOM.PL	child.NOM.PL	'my brother's children'
(2)	pər'id'en'a-q	sarm'ik°-rəxa-x°h	wen'ako-x°h	[Tundra Nenets]
	black-PL	wolf-LIKE-DU	dog-DU	'two dogs like black wolves'

There are also genitive case marked nouns which agree with their head nouns like adjectives (Daghestanian, Boguslavskaja 1995, Omotic, Hetzron 1995) and RAs and similitudinal/locational adjectives in Selkup inflecting for possessor (though not number) agreement (*in/like your(DU) canoe*, Spencer 2013).

We survey two basic approaches to such mixed denominal adjectives, 'syntactic' vs. 'lexical' (roughly 'dual-projection' vs. 'single-projection', Bresnan & Mugane 2006). Syntactic approaches link the mixed category to two syntactic nodes simultaneously, e.g. by movement, while in lexical approaches the mixed category is dominated by a single, possibly complex node. We give evidence from Georgian, Tungusic and other languages which are problematic for all syntactic approaches. Instead, we propose an analyse of the mixed categories within Sign-Based Construction Grammar. We take Spencer's (2013) analysis of lexical categories in terms of a 'semantic function role', ⟨R⟩ for noun, ⟨A*⟩ for adjective, ⟨A*⟨R⟩⟩ for derived adjectives. In the SBCG representations, the adjective's VAL attribute specifies a MOD feature selecting a valent of category [ARG-ST|SEMFUNCT R]. This is satisfied by ordinary nouns ([SEMFUNCT R]) or by mixed categories, (3):

(3) $$\begin{bmatrix} \text{ARG-ST} \begin{bmatrix} \text{SEMFUNCT A*} \\ \text{ARG-ST} \begin{bmatrix} \text{SEMFUNCT R} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Language-particular specification accounts for the unexpected GEN case, (1), and PL agreement, (2), which pose serious problems for syntactic accounts. In non-mixed derived adjectives, possessives, compounds there is no embedded ARG-ST|SEMFUNCT R attribute so they are opaque to (productive) modification/determination, while the Selkup similitudinal/locational adjectives are effectively just noun lexemes.

The logophoric/anaphoric pronoun in Ewe (1) below must be introduced by an attitude or speech predicate and refer to the attitude-holder (Clements, 1975; Pearson, 2013):

(1) Kofi$_i$ be yè$_{\{i,*j\}}$ dzo.
Kofi say ANAPH/LOG left
'Kofi$_i$ said [$_{CP}$ that he$_{\{i,*j\}}$ left].'

But as has been noted elsewhere (Rooryck and vanden Wyngaerd, 2011; Sells, 1987), anaphora may also involve spatial/ temporal perspective under spatio-temporal predicates. Thus, in Tamil (2) below, anaphoric *ta(a)n* is selected by the spatial preposition 'behind':

(2) Tan-akkŭ$_{\{i,*j\}}$ pinnaalæ orŭ paambŭ irŭ-kk-æ, Raman nagaræ-læ.
ANAPH-DAT behind one snake be-PRS-REL Raman.NOM move-NEG
"With a snake [$_{PP}$behind him(self)$_{\{i,*j\}}$], Raman$_i$ didn't move."

The parallels between spatial and mental predicates are many: both can license anaphors in their scope and both are unique syntactically, semantically and often also morphologically. But systematic differences also prevail, a striking one being that attitude and psych-predicates tend to be verbal and spatial ones prepositional, and another being that languages seem to be parametrized with respect to the types of perspective that are linguistically relevant (e.g. for anaphora). But for all their telling similarities/differences, spatial and mental predicates are not often discussed in the same breath, and the syntactico-semantic conditions regulating the different types of perspective remain poorly understood. Here, we take a first step toward filling this gap. Our central observation, which we exploit to derive the parallels between mental and spatial predication, is that spatial perspective has a core mental component: (i) (2) is ungrammatical if *Raman* is replaced by a DP denoting an inanimate entity; (ii) the presence of *ta(a)n* (vs. an ordinary pronoun) in (2) requires the 'behindness' of the snake relative to Raman to be interpreted from Raman's spatial perspective (Rooryck and vanden Wyngaerd, 2011, for parallel Dutch judgments). We model this by treating 'behind' as a ternary predicate that takes a covert argument denoting the individual from whose perspective (Svenonius, 2010, for the idea of a contextual feature in PPs) 'behindness' is interpreted (3). Since only sentient individuals have the perceptual experience necessary for perspective-holding, this argument must be sentient:

(3) $[\![behind]\!] = \lambda x \lambda y \lambda z.\ y$ is behind x as perceived by z from the location and axial orientation of z. (z denotes utterance-speaker or individual denoted by anaphoric antecedent)

We propose that the perspective-holder argument of 'behind' is a *pro* in the Spec of "PerspP" (perspectival phrase) in the left periphery of the phrase under the spatial P (Sundaresan, 2012). Since, per Sundaresan, *ta(a)n* is obligatorily bound by *pro*, and *pro*'s antecedent is *Raman* (via non-obligatory control), it is correctly predicted that Raman serves as both the perspective-holder and antecedent of *ta(a)n*. In attitude-reports and psych-predications, the perspective-holder's perception is represented along the mental, rather than spatial, dimension. The perspective represented in a phrase YP in the immediate scope of a predicate X is a function of: (i) the selectional properties of X, if YP is a complement of X, or (ii) the featural (including categorial) properties of a functional head in the left periphery of YP (if YP is an adjunct of X). Strong hypothesis: perspective is a (macro-)concept universally represented in language. What is parametrized and potentially categorially conditioned is the type of perspective represented.

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Feature Inheritance in Old Spanish: (re)visiting V2

Geoffrey Poole

Old Spanish possessed a number of constructions which have been claimed to target the low left periphery of the clause (i.e., the Focus/low Topic/Finiteness projections of Rizzi 1997). These include, for example, new information focus (Sitaridou 2011), interpolation (1) (Poole 2013) and wide focus fronting (2) (Mackenzie 2010).

(1) & tanto que **les esto dixo**…
'and as soon as he said that to them'

(2) Et dizien que **verdat dezia** abemaf.
'And they said that Abemaf spoke the truth.'

I argue that these constructions, the co-occurrence restrictions among them, and their diachronic development find a natural explanation in terms of the feature-inheritance typological analysis of Biberauer & Roberts (2010) (cf. Chomsky 2008). Specifically, I propose that Old Spanish EPP and Tense features are 'kept' by a functional head above TP, rather than being 'shared with' or 'donated' to T (cf. Oualli 2008).

Two interrelated synchronic observations suggest that the feature which attracts these elements to the low left periphery is a single EPP-feature. First, it appears as though the low left periphery in Old Spanish (as distinct from the higher topic area) could contain only *one* XP. Aggregating several observations from Sitaridou, Poole and Mackenzie with additional data from the *Corpus del Español* (Davies 2002-) reveals that these low-left peripheral displacements are all in complementary distribution with one another. This suggests that the displacement is effected by a common feature, given that the low left periphery theoretically provides syntactic positions for multiple elements (e.g., Topics and Foci). However, given the diverse information-structural value of the different elements – focal (Sitaridou's new information focus), either topical or focal (interpolation, partially *contra* Poole), or indeed *neither* (as Mackenzie argues for WFF) – the effecting feature cannot be a discourse-specific one. These facts follow immediately if these low-left peripheral displacements are triggered by a single EPP/edge feature. Additionally, the well-known observation that these various low-left peripheral XPs may not be separated from the finite verb suggests that the finite verb has also raised to the low left periphery, and therefore that Tense features are also retained above T. (I argue that Old Spanish data concerning certain adverbials and post-verbal pronominal subjects in fact pattern with Old French, in which V raises to Fin, *contra* Sitaridou 2012.)

Furthermore, the diachrony of these constructions is straightforwardly accounted for under the assumption that, during the Golden Age period, the EPP and Tense features are inherited by T (aligning Spanish with B&R's account of Modern Romance). Using data from the *Corpus del Español*, I show that the diachronic decline in verb-initial main clause declaratives with a post-verbal object clitic (where, by hypothesis, the verb is in a higher position than T) precisely parallels the decline in WFF and interpolation, further suggesting that the low-left periphery displacement facts and the verb-raising facts are connected.

Exploring some further implications, this approach suggests that that Spanish underwent a 'syntacticization of discourse' (Haegeman & Hill 2010) in which syntactically relevant discourse/information-structure features develop out of an initially post-syntactic information structure component, potentially resolving the traditional tension between a 'teleological' V2 constraint for Old Spanish (Fontana 1993, a.o.) and an information-structure epiphenomenon account (Sitaridou, Martins, Benincà, Poletto). Though the feature which effects left-peripheral displacement is not discourse-specific, post-syntactic information-structure interpretation still takes place.

On today's morphology not always being yesterday's syntax: ancient Greek hoúneka 'because' (and similar items)

Philomen Probert

1. Introduction

Ancient Greek has a series of subordinators introducing adverbial clauses and consisting of (i) a preposition or postposition, plus (ii) a neuter form of the relative pronoun, in the case that the preposition or postposition governs. For example:

item	component parts	relevant meaning
eks hoû	FROM+REL.GEN.SG.N	'since, since the time when'
eis hó	INTO/UP-TO+REL.ACC.SG.N	'until'
hoúneka < hoû héneka	REL.GEN.SG.N+BECAUSE-OF	'because'

In the senses that will be of interest, these subordinators allow a preposition or postposition to take a clause rather than a determiner phrase as its complement. For example, ***hoúneka*** consists morphologically of a postposition meaning 'because of' (***héneka***) contracted with the genitive singular neuter of the relative pronoun (***hoû***). The obvious meaning for such an expression would be 'because of which', but the usual attested meaning is 'because of the fact that', or equivalently just 'because':

(1) 'And fair-haired Hecamede made them a drink, (Hecamede) whom the old man had carried off from Tenedos when Achilles sacked it: great-hearted Arsinous' daughter, whom the Greeks had chosen for him (Nestor),

hoúneka	boulēi	aristeúesken	hapántōn
because	*counsel*.DAT.SG	*was-best*.3SG	*all*.GEN.PL

'**because** he was the best of everybody in counsel.' (*Iliad* 11. 624–7)

Attempts to explain such uses almost invariably fall into one of two categories.

(a) Start with the 'expected' uses and then have reanalysis. For example 'because of which' is reanalysed as 'because', on the basis of examples in which it is unclear which of the two clauses gives a cause and which an effect.

(b) Take the preposition to belong to the matrix clause, so that syntactically we have a preposition or postposition taking a subordinate clause of some kind. If so then (1) would involve a structure such as 'because of [that he was the best of everybody in counsel]'.

This paper will argue against both these kinds of account and in favour of a third analysis, suggested by Charles Baron in 1891 (*Le Pronom relatif et la conjonction en grec*, Paris, 126–9) but then forgotten: **hoúneka** 'because' was created as a subordinating counterpart to **toúneka** 'therefore' (literally 'because of that'), on the model of existing pairs such as **hóte** 'when' ~ **tóte** 'then'. On this account the relevant uses of our subordinators cannot be derived via grammaticalisation processes from 'more obvious' uses of the same expressions, whether attested or reconstructed. Instead, our temporal and causal subordinators were created afresh, through an autonomously morphological process.

The paper will conclude with the implications for historical linguistics. If the account defended is correct, it provides a different kind of example in support of a point argued e.g. by Comrie (in J. Fisiak (ed.), *Historical Morphology*, 83–96), Anderson (*A-Morphous Morphology*, 348–50), and Harris and Campbell (*Historical Syntax in Cross-Linguistic Perspective*, 199–210): that today's morphology is not always yesterday's syntax.

Transitivity alternations in English: processing subcategorization frames

Gillian Ramchand, Bjorn Lundquist, Martin Corley, Mai Tungseth and Antonella Sorace

Recent work in psycholinguistics has attempted to isolate lexical complexity as a factor in the processing time for verbs (McKoon and Macfarland 2002, Gennari and Poeppel 2003, Stockall et al 2008), and there are now some recent psycholinguistic results that have been interpreted to indicate that 'externally caused' verbs like *break, melt* are more complex than internally caused intransitives like *bloom, glow* (Thompson 2002, McKoon and Macfarland 2002). One common assumption is that they are underlyingly transitive (Levin and Rappaport Hovav 1995, Chierchia 2004). However, previous work has not so far been able to directly and minimally compare unaccusative alternating verbs like *break* with corresponding baseline transitive *and* intransitive behaviour in the same experiment. Our own experiment does, and departs somewhat from previous work in posing our question directly in terms of the notion of alternation vs. rigidity in frame compatibility. We ask, in an experimental task requiring the processing of verbal 'subcategorization' information, do alternating verbs pattern with transitives, with intransitives, or with neither?

The Experiment: The experiment consisted of a 'go/no go' test, for testing integrating verbs of different types into different syntactic frames (Mauner et al 1995). Subjects were instructed that they would be reading a list of sentences, and told that some of them were possible sentences of English and some not. They then read the sentences, self paced, word by word, having been instructed to press an 'abort' button when they decided that a sentence was bad/not possible. Verbs of four classes were included: strictly transitive verbs (t), strictly intransitive verbs (i), verbs unstable valency due to causative-inchoative alternation (*break/melt* type verbs) (a), and verbs of unstable valency due to object drop (aa), with 9 verbs in each class. The four classes (and the individual verbs) were matched for frequency (log frequency from Baayen et al.) and word length. The a and aa groups were also matched for transitivity percentage using the British National Corpus. The novelty of the test paradigm was that the crucial test items consisted of a clausal complement frame, where *all* the test items were ungrammatical. In each such sentence, the verb was followed directly by the complementizer *that*, followed by a name and a finite verb, as in (1a) * *The doctor harassed that Kathy was in despair* and (1b) *The doctor speculated that Kathy was in despair.* The noun phrases in subject position were chosen from a set of eight animate common nouns, and their relatedness scores to the different verbs tested in a separate judgement task on different speakers. Thus, the only difference between the ungrammatical sentences in question was the verb class of the verb. Specifically, we wanted to check (i) whether the time to abort (judgement of ungrammaticality) was significantly correlated with verb class and (ii) whether the alternating verbs patterned with transitives, intransitives, or neither, in their behaviour.

Results and Discussion: Seventy English speaking undergraduates from Edinburgh University were tested. Our dependent variable was the 'number-of-words-to-reject'. We used R to perform a linear mixed effects analysis with verb class as the fixed effect. As random effects, we had intercepts for subject and item, and by-subject random slope for the effect of verb class. We found that alternating verbs like *melt* (class a) were significantly quicker to reject than transitive verbs, and were non-distinct from the intransitive group. Alternating verbs like *knit* (class aa) took significantly longer than intransitive verbs, and were non-distinct from the transitive group. We thus found no evidence for 'alternation' per se being a significant factor affecting processing complexity, or for externally caused verbs being more complex than other intransitives. We interpret the increased judgement times for transitive verbs as being due to the possible interpretation of the complementizer as a demonstrative. What is striking is that 'externally caused' verbs pattern like *intransitives* with respect to this effect, and this was so even though the 'animacy' of the matrix subject in all cases should have favoured a transitive interpretation of the flexible frame verbs. Verbs like *knit* on the other hand, did pattern with the transitives, showing that the fact of alternation and the proportion of transitive surface alternants in the wild was not the determining factor.

Whether-clauses and it-extraposition: the influence of complexity, weight, givenness and contrast

Rickard Ramhöj

This paper presents an analysis of which factors determine the choice between non-extraposed and extraposed clausal subjects in present-day British English. It is shown how weight alone cannot account for all variation. In order to illustrate the alternation, consider the following examples:

(1) Whether health care comes next is not known.

(2) It is not known whether health care comes next.

In (1), the sub-clause occurs in a non-extraposed subject position and, in (2), it occurs in an extraposed position. While several factors influencing the choice between the constructions in (1) and (2) have been discussed in the literature (e.g. Bolinger, 1977; Miller, 2001; Huddleston & Pullum, 2002; Kaltenböck, 2004, 2005; Ward & Birner, 2004), including factors such as weight and givenness, no systematic study seems to have been made on the interactions between these factors.

The present study features a corpus-based investigation of the influence of a number of factors on the choice between extraposed and non-extraposed subjects in English. The study is based on a sample of *whether*-clauses from the British National Corpus (BNC) that have been coded for weight, givenness, contrast and type of predicate.

The results show that although weight and complexity play important roles in accounting for the choice of construction, these factors are sometimes trumped by considerations of givenness and contrast. There are non-extraposition constructions with high relative weight values, where the subject clause is heavier than the predicate. Likewise, there are extraposition constructions with low relative weight values, where the predicate is as heavy or heavier than the extraposed clause. In order to predict the constructional choice correctly, givenness and contrast are needed to supplement the notion of relative weight. These conclusions are supported both by a qualitative analysis of individual examples and by a statistical analysis based on binary logistic regression.

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Corpus-testing a fricative discriminator; or, just how invariant is this invariant?

Philip Roberts, Henning Reetz and Aditi Lahiri

Acoustic cues to the distinction between sibilant fricatives are claimed to be invariant across languages. Evers et al. (1998), present a method for distinguishing automatically between [s] and [ʃ], by comparing the slopes of regression lines over two separate frequency ranges within a DFT spectrum: the first slope is computed over the range from 0 to 2500 Hz, and the second is computed from 2500 to 8000 Hz. They report accuracy rates in excess of 90% for fricatives extracted from recordings of minimal pairs in English, Dutch and Bengali. These findings are broadly replicated by Maniwa et al. (2009), using VCV tokens recorded in the lab.

We conducted two studies testing the algorithm from Evers et al. (1998) against tokens of fricatives extracted from corpora. Our pilot study used the TIMIT corpus of American English read speech[1]: a language against which the measure has been tested in the lab, though under narrower conditions (stimuli in Evers et al. (1998) and Maniwa et al. (2009) were all intervocalic). We proceeded to a more exacting study, using the Kiel corpora of German (Kohler 1996), a language against which the measure has not been tested, including read, spontaneous, and fluent conversational speech.

Our results are tabulated below: we were able to achieve similar accuracy rates to those reported in Evers et al. (1998) and Maniwa et al. (2009), with the following caveats: (1) we found a greater standard devation in values for the measure for tokens of [ʃ] than for [s] (for Kiel, $\sigma = 2.82$ vs. $\sigma = 1.98$). This suggests that the test is less a matter of "is this fricative [s] or [ʃ]?" than one of "is this fricative [ʃ] or not?", (2) the measure relies on being able to perform a DFT for frequencies from 0 to 8 kHz, so that a minimum sampling rate of 16 kHz is necessary for it to be effective, and (3) although the measure draws a similarly clear distinction between [s] and [ʃ] to those found in previous studies, the absolute value of the threshold between the two sounds is sensitive to the dynamic range of the input signal.

Corpus	Actual segment	Discriminator result [s]	Discriminator result [ʃ]	Corpus	Discriminator result [s]	Discriminator result [ʃ]
Kiel (read)	[s]	**93%(5967)**	7% (443)	TIMIT (test set)	**93%(2451)**	7% (188)
	[ʃ]	14% (273)	**86%(1638)**		20% (160)	**80% (636)**
Kiel (spontaneous)	[s]	**93%(9546)**	7% (752)	TIMIT (training set)	**94%(6978)**	6% (486)
	[ʃ]	11% (135)	**89%(1121)**		17% (374)	**83%(1860)**
Lindenstrasse[2]	[s]	**91%(4455)**	9% (429)	TIMIT (all)	**93%(9429)**	7% (674)
	[ʃ]	4% (48)	**96%(1092)**		18% (534)	**82%(2496)**

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Actuality effects in Spanish

David Rubio Vallejo

Background: The term *actuality effects* refers to cases where a root modal with perfective aspect (typically the ability modal) seems to lose its intensional properties and behaves like an implicative predicate. These actuality effects have traditionally been classified as entailments (cf. Bhatt (1999), Hacquard (2006)). However, recent work (Laca (2009), Borgonovo (2011)) has revealed a more complex picture in the case of Spanish, where perfective aspect on the ability *poder* triggers either of two opposing inferences:

(1) *Juan pudo.*$_{PastPrftv}$ *abrir la puerta.*
Juan was able to open the door.
A. Actuality effect: Juan did open the door.
B. Counterfactual effect: Juan had the ability, but didn't open the door.

Borgonovo (2011) doesn't challenge the claim that actuality, even in Spanish, is an entailment. Rather, she proposes a syntactic account based on the relative ordering of the tense, aspect, and modal heads. Thus, actuality arises through ingressive coercion in (2a), which makes its cancellation impossible in (3a). Conversely, the configuration in (2b), plus the domain widening mechanism from Condoravdi (2002), triggers counterfactuality in (3b):

(2) a. Actuality effect: TENSE > ASP > MOD
b. Counterfactual effect: TENSE > MOD > ASP

(3) a. *Juan pudo abrir la puerta (*pero no lo hizo).*
Juan managed to open the door (*but he didn't do it).
b. *Juan pudo abrir la puerta (pero no lo hizo).*
Juan could have opened the door (but he didn't do it).

Proposal: I suggest that Borgonovo's (2011) approach is problematic for learnability reasons. How is the child to internalize the two syntactic structures in (2), given that their surface forms are exactly the same? (see (3)). Note that *poder* has the same modal base in both (3a) and (3b) so the pragmatic mechanism involved in distinguishing epistemic from root modals, for example, can be of no help in disambiguating these structures.

Instead, I propose a fully pragmatic account of these effects (Levinson, 2000). Because the modal is anchored to a past time, Condoravdi's (2002) domain widening mechanism can be triggered through the Q-principle: since the set of accessible worlds in the past is a superset of those accessible at utterance time, the addressee infers that the speaker would only backtrack if the actual world at utterance time were not a member of the proposition expressed by the embedded event. Conversely, following the I-principle, the addressee may decide to assume the richest temporal and referential connections between the ability and embedded events, and to avoid multiplying the entities referred to (referential parsimony). This way, the coming about of the embedded event becomes intensionally non-detachable from the ability: to do something, one must be able to do it. Hence, since the ability took place in the actual world, the embedded event must have occurred in actuality too.

References: **Bhatt (1999)** Covert modality in non-finite contexts. **Borgonovo (2011)** Modales ambiguos. **Condoravdi (2002)** Temporal interpretation of modals. **Levinson (2000)** Presumptive meanings. **Laca(2009)** On modal tenses and tensed modals.

`Fuck' inversion in British English

Craig Sailor

In varieties of British English ranging from London to Glasgow (but absent from e.g. American English), a previously undescribed use of *fuck* (and *heck* in northern varieties) is inherently negative – it lacks canonical negative morphology but expresses negative meaning:

(1) A: John is a decent guy. B: Is he fuck (a decent guy)! (≈ *No he isn't!*)

But unlike similar inherently-negative expressions conveying objection (e.g. *like hell*...), which Drozd (2001) a.o. take to be a sort of metalinguistic negation, this neg(ative)-*fuck* exhibits several properties familiar from standard negation. This paper focuses on one of those properties in particular – namely, the licensing of subject-auxiliary inversion (here: *fuck* inversion) – and accounts for its similarities and differences with canonical negative-inversion phenomena.

Core data. Neg-*fuck* often arises as an echoic objection to a preceding assertion, similar to *like hell*; however, unlike *like hell*, neg-*fuck* always triggers subject-aux inversion, while *like hell* never does (2), and neg-*fuck* can answer a neutral polar question, while *like hell* is degraded there (3). Moreover, while Horn (1989), Drozd (2001), a.o. have observed that expressions such as *like hell* are metalinguistic in that they object to some part of another speaker's utterance, neg-*fuck* naturally occurs without a linguistic antecedent. Rather, neg-*fuck* can be used to cancel an implicature, even one introduced by the speaker's own utterance (4). Finally, unlike canonical metalinguistic negation, neg-*fuck* is able to license even strict-NPIs such as punctual *until* (5). The *fuck* inversion seen in (1)-(2) is reminiscent of negative inversion, as in (6) (Haegeman 1995). (When licensed, VP ellipsis is always optional with *neg*-fuck; I use it here for space.)

(2) A: John is a decent guy.
  a. B: Like hell he is!
  b. B: *Like hell is he!
  c. B: *He is fuck! (cf. (1))

(3) A: Are you going to the party?
  a. B: Am I fuck!
  b. B: ??Like hell I am!

(4) It's St. Patrick's day, but will I fuck be wearing anything green. *[Implicature: people wear green on St. Patrick's.]*

(5) My flight is tomorrow, but will I fuck be leaving until they pay me my money.

(6) Never will he speak to them again.

Analysis. I argue that neg-*fuck* attests a typological prediction arising from Haegeman's (1995) analysis of negative inversion. Typical examples of neg-inversion such as (6) involve an overt negative operator (e.g. *never*) in the left periphery that attracts the auxiliary (assume T-to-C). When present, such overt negative operators are generated in (or associated with) the specifier of a NegP in the inflectional domain, in which case Neg^0 is silent (Haegeman 1995). I claim that neg-*fuck* sentences reflect the opposite state of affairs: namely, when a silent, left-peripheral negative operator (akin to a yes/no OP) is associated with a NegP whose head is overt, i.e. *fuck*:

(7) a. Neg-inversion: $[_{\text{CP}}\ \text{Never}_i\ [_{\text{C}^0}\ \text{will}_j\ ]\ [_{\text{TP}}\ \text{he}\ t_j\ [_{\text{NegP}}\ t_i\ [_{\text{Neg}^0}\ \text{Ø}\ ]\ [_{\text{VP}}\ \ldots\ ]]]]$
  b. *Fuck*-inversion: $[_{\text{CP}}\ \text{OP}_i\ [_{\text{C}^0}\ \text{Will}_j\ ]\ [_{\text{TP}}\ \text{he}\ t_j\ [_{\text{NegP}}\ t_i\ [_{\text{Neg}^0}\ \text{fuck}\ ]\ [_{\text{VP}}\ \ldots\ ]]]]$

This analysis accounts for why neg-*fuck* behaves like standard negation with respect to e.g. in NPI-licensing, triggering inversion, not requiring a linguistic antecedent, etc., and unlike metalinguistic negation: it is in fact a non-standard realisation of standard negation, originating in the same clause-internal position for negation and taking scope over the same material. Its emphatic nature can be tied to the left-peripheral status of its OP.

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Understanding Right Dislocation
Vieri Samek-Lodovici

Italian Right-Dislocation (RD) targets discourse-given constituents and dislocates them to the right of the constituent carrying stress; see the right-dislocated object in (1) (stress in capitals).

(1) L'ha visto MARCO, il ladro.
him has seen Mark, the thief
'MARK saw the thief.'

Due to its high productivity and substantial effects on word order, a proper understanding of its syntax is essential for an accurate analysis of the clause-structure of Italian and other similar languages. The literature proposes many different analyses of RD, going from the clause-internal analysis of Cecchetto (1999) to the distinct clause-external analyses of Cardinaletti (2001, 2002), Samek-Lodovici (2006), and Frascarelli and Hinterhölzl (2007), the latter three varying between antisymmetric and non-antisymmetric representations.

The talk will compare the above analyses with respect to a set of criteria aimed at determining the actual position of right-dislocated constituents and whether such position is obtained by movement or base-generation. Contrary to widely held but incorrect beliefs, I will show that (i) objects may right-dislocate without being clitic-doubled, see (2) where only the indirect object 'a Marco' is clitic-doubled; (ii) RD allows for right roof violations, see (3) where the object of the subordinate clause in square brackets is dislocated beyond the stressed subject of the main clause; (iii) RD allows for wh-extraction under specific conditions, see (4) where the wh-phrase is extracted from the right-dislocated infinitival clause 'di comprare' located after the clitic-doubled right-dislocated indirect object 'a Marco'; (iv) RD allows for reconstruction; and (v) RD disallows NPI licensing into dislocated constituents.

(2) Gli abbiamo già PORTATO, a Marco, il vino.
(we) to-him have already brought, to Mark, the wine
'We already BROUGHT the wine to Mark.'

(3) Ci ha obbligati [a portar-le t_i] MARCO, [le pistole]$_i$.
us has forced [to bring-them] Mark, [the guns]
'MARK forced us to bring the guns.'

(4) Cosa$_i$ gli avete ORDINATO, a Marco, [di comprare t_i]?
what (you) to-him have ordered, to Mark, of to-buy
'What did you ORDER Mark to buy?'

I'll use these results to argue in favour of the antisymmetric approach in Samek-Lodovici (2006) and Frascarelli and Hinterhölzl (2007) and will then use further tests sensitive to the different c-commanding relations predicted by these two analyses to distinguish amongst them.

Finally, I will explain how the above properties also show that RD is not crosslinguistically uniform, and then illustrate how they distinguish Italian RD from its French, Catalan, and Spanish counterparts as respectively described in De Cat (2007), Villalba (2000), and López (2009) amongst others.

Non-canonical realization of complement clauses

Kerstin Schwabe

The paper is about constructions in German with *argument conditionals*, i.e. constructions where the clause rendering the propositional argument for the matrix predicate is in the shape of a conditional as it is, for instance, the case if it is introduced by *wenn* 'if/whether' as in **(1)** *Max akzeptiert es/pro, wenn Mia Geige spielt* 'Max accepts it if Mia the violin plays' or **(2)** *Frank stört sich daran* (= ProPP), *wenn Mia Geige spielt* 'Max is bothered if …'. It will show that the *wenn* is not a complementizer like *dass* 'that' as suggested, for instance, by Eisenberg 1986, but a conditional conjunction (cf. Pullum 1987, Pesetsky 1991, Rothstein 1995, and Hinterwimmer 2010 for English, Fabricius-Hansen 1980 for German, and Quer 2002 for Spanish and Catalan).

The suggestion that the *wenn*-clause is an adverbial is based on the fact that an obligatory propositional argument has to be realized by a proform if the *wenn*-clause is preposed – cf. **(3)** *Wenn Mia Geige spielt*$_i$*, akzeptiert es/*t*$_i$ *Max* 'If Mia plays the violin, Max accepts it'. A preposed complement *dass*- 'that', *wh*- or *ob* 'whether'-clause leaves a trace in the complement position thus prohibiting a correlate there – cf. **(4)** *Dass Mia Geige spielt*$_i$*, akzeptiert *es/t*$_i$ *Max*. The argument status of an argument conditional is encoded by the relationship between the argument conditional and a propositional proform: *es*, ProPP or *pro*. The latter are theta-marked in a canonical complement position (subject or direct object) by the embedding predicate and co-indexed with an argument conditional. Co-indexing obtains if the proform m$_e$-commands the argument conditional (Pesetsky 1991). This is the case if the argument conditional is a post-sentential vP-adjunct as in (1) and (2). Co-indexing also obtains if the proform is overt and c-commanded by an argument conditional which is a left TP-adjunct – cf. **(5)** *Wenn Mia Geige spielt*$_i$*, akzeptiert es*$_i$*/*pro Max* 'If Mia plays the violin, Max accepts it'. That is, m$_e$-command is a necessary condition for *pro* to be co-indexed with an argument conditional.

Unlike Pesetsky 1991 and Hinterwimmer 2010, the paper regards *wenn* as a conjunction that adjoins the argument conditional to the matrix clause. *Wenn* causes that the clause it introduces is the protasis of an implication and the restrictor of a quantifier (Kratzer 1986) and it induces that the matrix clause is the consequence. The matrix clause contains a variable which – representing the propositional proform – is co-indexed with the argument conditional.

The paper presents that argument conditionals are licensed by potentially factive predicates like *akzeptieren* 'accept' or *sich daran stören* 'be bothered'. Here, *wenn* encodes an implication where the truth of the matrix clause depends on the validity of the embedded clause. As to the mostly overlooked constructions with preference predicates like **(6)** *Max zieht es/pro vor, wenn Mia Geige spielt* 'Max prefers it if Mia plays the violin', *wenn* encodes an implication where the truth of the matrix clause depends on the contingency of the embedded clause. It will be shown that constructions like (1) and (2) are similar to constructions with an embedded *dass*-clause like **(7)** *Max akzeptiert es, dass Mia Geige spielt* 'Max accepts it that Mia plays the violin'. Both constructions are true in a context where Mia plays the violin and Max accepts it. They are not equivalent because the implication is true and the dass-construction is false in a context where Mia does not play the violin. Similarity also obtains with respect to constructions with embedded *ob*-clauses like **(8)** *Max erfährt es, ob Mia Geige spielt* 'Max finds it out whether Mia plays the violin'. Here, the *wenn*- and *ob*-construction are true if Mia plays the violin and Max finds it out. But they are not equivalent because the *wenn*-construction is true and the *ob*-construction is false in a context where Mia does not play the violin and Max does not find out that she does not play the violin.

The worst Case scenario

Michelle Sheehan and Jenneke van der Wal

Minimalist approaches often implicitly assume some version of the Case Filter (Chomsky 1981, Vergnaud 1977), whereby, even in languages lacking morphological case, DPs must be Case-licensed. 'Case' thus potentially accounts for the distribution of (overt) DPs and motivates phenomena such as A-movement (passivization, raising and, for some, Control). From a truly Minimalist perspective, though, we might expect the presence of Case features to be parameterized, as Diercks (2012) notes, giving his Case Parameter:

(1) Case Parameter: Uninterpretable Case features are/are not present in a language

Diercks' evidence for (1) comes from a number of Bantu languages that do not show evidence for the presence of Case: they appear to permit overt DP subjects in non-finite clauses and subject agreement is not determined by Case. In our paper, we extend his diagnostics, in order to set out what a language without Case would look like more generally. This gives us a set of 11 diagnostics which deal with: the presence/ absence of morphological case/agreement, passivization patterns, CP/DP complementation; anaphora; causatives and ditransitives. We outline why according to mainstream theory, all of these areas of grammar ought to be affected by the presence/absence of abstract Case.

We apply these **11 Case diagnostics** to four languages without morphological case, arguing that while Lusoga (Bantu) may lack abstract Case, Mandarin Chinese, Thai and Jamaican Creole do not. The data come from the available literature, in addition to elicitation based on a uniform questionnaire. We conclude that it may be that 'Case' features are parameterized, but the deciding factor is *not* the presence/absence of morphological case.

We explain and illustrate two of the diagnostics and their **crosslinguistic results** here:

1. *Non-finite clauses*. A non-finite verb is generally assumed to not assign nominative Case. An overt subject DP is nevertheless allowed in Lusoga (2), suggesting the absence of Case, but the equivalent is ungrammatical in Jamaican Creole (3) and Mandarin (4).

(2) Ki-ikiliz-ibwa <u>Tenhwa</u> okutambul-ila mu maadhi?
7SM-allow-PASS 1.Tenhwa 15.walk-APPL 18 6.water
(*) 'Is it allowed Tenhwa to walk in the rain?' [Lusoga]

(3) a. It luk laik (se) John lov Sara.
it look like that John love Sara
'It seems that John loves Sara.

b. * It luk laik (se) <u>John</u> fi lov Sara
it look like that John to love Sara [Jamaican Creole]

(4) *Hui <u>Zhangsan</u> zhunbei wancan.
will Zhangsan prepare dinner
'Zhangsan will prepare the dinner.' [Mandarin, Lin 2011]

2. *Passives*. The agent-DP of a passive does not receive nominative case. The grammaticality of the (optional) overt agent DP without an alternative Case-licenser such as a preposition 'by', as in (5), argues for the absence of Case in Lusoga.

(5) Ekitabo kya-som-ebwa <u>omuwala</u>.
7.book 7SM.PAST-read-PASS 1.girl
'The book was read (by) the girl.' [Lusoga]

References
Diercks, Michael. 2012. Parameterizing Case: Evidence from Bantu. *Syntax* 15(3): 253-286.
Lin, Jonah T. H. 2011. Finiteness of Clauses and Raising of Arguments in Mandarin Chinese. *Syntax* 14 (1): 48–73.

Case Variation in coordinated pronouns

Annis Shepherd and Glyn Hicks

Coordination structures exhibit a number of syntactic properties that elude satisfactory explanation. This paper deals with the problem that coordinated pronouns in English may exhibit case morphology that is impossible in the corresponding non–coordinated contexts. We first briefly review an empirical study (incorporating experimental grammaticality judgment data and corpus data) confirming variation in the acceptability of nominative/accusative in each conjunct both across and within (British) English speakers' grammars. Most problematic is the finite subject position, where some speakers permit all case combinations except ACC+NOM:

(1) NOM + NOM: He and she are best friends.

(2) NOM + ACC: He and her are best friends.

(3) ACC + ACC: Him and her are best friends.

(4) ACC + NOM: *Him and she are best friends.

(While 'ACC *and I*' is also possible, it is argued following Parrott (2007) and others that '...*and I*' conjuncts have a quite distinct derivation, most likely involving a lexicalised chunk.)

We argue that optional underspecification of morphosyntactic features (in the spirit of Adger 2006) can explain how all three attested combinations are generated (with intra- and inter-speaker variation) and why combination (4) is not generated. We first adopt a relatively conservative analysis of coordinated phrases, whereby conjuncts 1 and 2 occupy specifier and complement positions respectively in &P (e.g. Kayne 1994, Johannessen 1998). Second, we assume that [Case], as an uninterpretable feature, may be optionally specified on the pronominal D when selected for the numeration, entering the derivation unvalued and later valued via Agree with a probing T/*v* head (Chomsky 2000, 2001). A pronominal D without [Case] receives default morphological case postsyntactically, realised as accusative in English (McFadden 2004).

To derive (1), the unvalued [Case] of the pronoun in conjunct 2 probes, and in the absence of any matching feature in a complement domain, probes 'upwards', much as in proposals by Rezac (2004); Baker (2008); Hicks (2009). The [Case] of the two conjuncts match, although both are unvalued. Later in the derivation, finite T Agrees with conjunct 1 as the closest Goal: [Case] is valued (nominative) on conjunct 1, consequently co-valuing the matched feature of conjunct 2. Speakers who accept case combinations other than (1) allow one or both pronouns to merge without [Case]. When only conjunct 1 bears [Case], no [Case] matching is established between conjuncts: conjunct 2 is assigned a case morphology post-syntactically (default accusative), while conjunct 1's [Case] is again assigned by Agree with a probing T. This derives (2). When only conjunct 2 bears [Case], again no [Case] matching is established between conjuncts and conjunct 2's [Case] cannot be probed by T due to the closer potential goal: combination (4) is ruled out as a defective intervention effect. Where neither conjunct bears [Case] (combination (3)), acceptability of the structure depends on &P satisfying the EPP requirement in the absence of a Case assignment relationship, perhaps in a similar manner to non-DP subjects.

This final matter is indicative of the remaining technical questions we address, bearing directly upon the problematic syntax of coordination. For example, as T agrees for φ-features with &P (i.e. plural), yet can value [Case] on conjunct 1, we review independent evidence from agreement in coordinations that also suggests the related operations of φ-feature valuation, Case valuation and EPP-driven movement should be formally decoupled in the way we propose here.

Borrowing of English adpositions in Japanese

Masaharu Shimada and Akiko Nagano

Namiki (2005) observes that Japanese has borrowed the English preposition *in* as a bound postposition, meaning 'with', as illustrated as follows:

(1) rinse-in shanpuu (lit.) rinse-in shampoo 'shampoo with rinse'

The borrowed *-in* in (1) takes the preceding noun *rinse* 'rinse', rather than the following noun *shanpuu* 'shampoo', as its complement, forming a [complement + head] constituent. The noun *shanpuu* 'shampoo' is not a complement of *-in*, but a modifiee of *rinse-in* 'with rinse'.

Two problems arise concerning this type of adpositional borrowing. One is concerned with the generalization offered by Moravcsik (1978: 112), which states that a lexical item of the 'grammatical' type, including adpositions, cannot be borrowed without inheriting the property of linearity holding between a head and a complement. The example (1) is not in conformity with this generalization, since the English preposition *in* is borrowed as a postposition in Japanese. The other problem is concerned with Namiki's explanation of why the English preposition *in* is borrowed to derive (1). He argues that the borrowing of *in* was motivated by the preexistence of the native deverbal relational-noun *iri* 'with, possessing', which is similar to the English preposition *in* in sound and meaning. However, we can find a similar example involving other prepositions than *in* through a corpus search:

(2) biifu-uizu raisu (lit.) beef-with rice 'a bowl of rice topped with beef'

(3) biinzu-on toosuto (lit.) beans-on toast 'toasts topped with beans'

In Japanese, (2) never refers to a kind of cooked beef, but a kind of cooked rice. Likewise, (3) never refers to a kind of cooked beans. Their internal structures are thus the same as that of (1), suggesting that Namiki's explanation is not tenable.

Our claims are summarized as follows:

(4) a. English prepositions are borrowed into Japanese as a kind of predicates.

b. The adpositional borrowing occurs for reasons of enriching attributive constructions of Japanese.

It is proposed that English adpositions change into a kind of lexemic predicates through borrowing, avoiding Moravcsik's generalization. *Rinse-in* and *biinzu-on* mean 'containing rinse' and 'topped with beans', respectively. The borrowed *-in* and *-on* function as the predicates like *contain* and *top* and never correspond to functional elements like locatives. Also, *Rinse-in* and *biinzu-on* function as attributive modifiers. Note that Japanese does not have a truly attributive construction, lacking attributive adjectives. In fact, various morphemes including the genitive marker *-no* and the past tense marker *-ta* are utilized, or recycled, to make a structure of attribution. Thus the adpositional borrowing also compensates for the lack of attributive adjectives, expanding a stock of denominal modifiers.

Refereces/Moravcsik, E. (1978) "Universals of language contact," *Universals of Human Language*./Namiki, T. (2005) "On the Expression Rinse in Shampoo," *Empirical and Theoretical Investigations into Language*.

Slurs and truth-conditional content

Roberto B. Sileo

Richard (2008) proposes that slurring utterances such as 'Only wops live here' are not "aptly evaluated in terms of truth and falsity"; while Potts (2005, 2007, 2012) suggests that expressives, such as 'damn' and 'bastard', trigger conventional implicatures under a new Neo-Gricean light. My approach to slurs and truth-conditional content is therefore twofold: first, while I concur with Richard that no one is contemptible because of her race or ethnicity, I demonstrate, with the assistance of linguistic data, that everyday conversational exchanges do not offer adequate support for his truth-inaptness view; and second, I argue that Potts' theory of conventional implicatures does not seem to suitably apply to every single instance of expressive language use. I claim that the meaning embedded within a racial or ethnic slur appears to contain two well-differentiated components, a basic proposition expressed (β) and a personal affective evaluation (ε), and that both dimensions of meaning contribute to truth-evaluable linguistic content (the extent of such a contribution varying from context to context). Such a model, based on an integration of the now long-standing descriptive and expressive distinction into the radical contextualist approach provided by Jaszczolt's (2005, 2010) Default Semantics, can appropriately account for the use and interpretation of slurs, expressives and even neutral, orthophemistic forms ('What can you expect? He is Italian.'). In a nutshell, once context determines the value to be assigned to εs, it is such evaluations, regardless of the lexical items that are being employed, which determine, together with the βs, the primary meanings and the illocutionary forces of the utterances that speakers make.

Adjectives functioning as nouns: an SBCG analysis

Andrew Spencer

While some adjectives have homophonous nouns (*professionals*), others behave like nouns but retain adjectival properties. WALS lists 73 languages in which bare adjectives seem to head NPs (see also Dryer 2004). For English, Huddleston/Pullum (2002) treat these as fused-head constructions: [$_{\text{NP}}$[$_{\text{D}}$ *the* [$_{\text{Nom}}$[$_{\text{Adj}}$ *poor*]]]]. Fillmore et al. (2012) distinguish three FrameNet constructions, (i) `adj_as_nom.human`: *the very poor*, (ii) `adj_as_nom.abstract`: *the utterly impossible* and (iii) `adj_as_nom.anaphoric` *(Russian vodka or) Polish*. Their analysis treats (i) as a plural-specified [CAT|*noun*] mother node over a [CAT|*adj*] daughter. The MTR attribute specifies a 'generic' and 'human' semantic frame which is then composed with the property denotation of the adjective. Borer/Roy (2010) argue that such adjectives modify a 'definite *pro*' element (with plural/generic interpretation in English). They claim that French and Hebrew have the same construction and that the *pro* forces a 'strong' (specific) reading on indefinite NPs, excluding 'weak' (typically non-specific, non-referential) readings.

In other languages such 'm-shifted nouns' retain (nearly) all the base lexeme's adjectival morphosyntax, including agreement morphology. German examples retain the weak/strong declension: *ein Angestellter* 'an employee.M.STRDECL' vs. *der Angestellte* 'the employee.M.WKDECL'. Russian m-shifted nouns inflect like adjectives after numerals: *tri sotrudnika* 'three worker.GEN.SG' (noun inflection) but *tri podčin′onnyx*.GEN.PL/*podčin′onnye*.NOM.PL 'three subordinates (masc/fem)' (adjectival inflection).

Both German and Russian m-shifted nouns happily tolerate weak as well as strong indefinite readings, excluding the Borer/Roy analysis. The fused-head/FrameNet analyses miss the fact that the nominalized adjective retains attributive modifier morphosyntax. It's also unclear why a NP can have an adjective as its head. I propose an SBCG treatment in which the adjective's VAL|MOD attribute, instead of being tagged with an external head NP, has the value [VAL|MOD|INFL $\boxed{1}$[ϕ features], i.e. an incorporated *pro* (cf Ackerman/Nikolaeva's 2013 SBCG-model of pronoun incorporation vs. possessor agreement). The ϕ features are tagged to the CONCORD $\boxed{1}$ attribute, triggering agreement in the normal way. But this *pro* functions as the nominal head NP modified by the adjective so its nominal category features are shared with the MTR node, giving the [$_{\text{NP}}$[$_{\text{AP}}$ ...]] structure, but still allowing the adjective to be modified/determined: *the very poor*, *xorošo oplačivaemyj* 'well paid <person> [Russian]'. These 'mixed categories' support Chaves' proposal (in press; cf van Valin 2008) to abandon 'N', 'A' (*noun, adj* type) labels. Following Spencer's (2013) model, all relevant N/A properties can be read off mildly enhanced ARG-ST and VAL representations, without needing to posit hybrid syntactic category labels, unmotivated movements, etc.

Varieties of A'-extractions: evidence from preposition stranding

Juliet Stanton

Overview. To account for several asymmetries between A- and A'-movement, Takahashi & Hulsey (2009) generalize the late merge option (Lebeaux 1988, Chomsky 1995) as "Wholesale Late Merger" (WLM). In particular, allowing D to merge with NP as late as (but no later than) its case position explains why A'- but not A-movement displays Principle C reconstruction effects. In this paper, I claim that WLM is also responsible for pervasive differences within the class of A'-extractions. The evidence comes from restrictions on English preposition stranding. Certain temporal and spatial prepositions (Ps) disallow pronominal complements. These Ps can only be stranded by a subset of A'-extractions. I argue that the extractions allowing pronoun-rejecting Ps to be stranded disallow WLM, while those that disallow the stranding allow (and require) WLM, though to a limited extent.

Data. A preposition's ability to be stranded correlates with its ability to take a pronominal complement (see Postal 1998 for related observations). In (2), for example, locative *on* is a pronoun-accepting preposition (a P_A), but temporal *on* is pronoun-rejecting (a P_R).

(1) *a. I sat on the green chair, and John sat on it too.*
*b. *I ate turkey on Christmas, and John ate turkey on it too.*

Focusing on the class of P_Rs allows us to divide A'-extractions into two classes. Some, like *wh*-movement, can strand P_Rs (2a). Others, like topicalization, cannot (2b).

(2) *a. Which holiday does John's family eat turkey on?*
*b. *Christmas, John's family ate turkey on.*

Extractions that can strand P_Rs are 'A-types', and extractions that cannot are 'B-types'.

A-types (stranding P_Rs = ✓)	*B-types (stranding P_Rs = *)*
wh-movement, restrictive relatives, infinitival relatives, free relatives	negative inversion, topicalization, tough-movement, parasitic gaps, gapped degree phrases, comparatives

Proposal. I propose that A- and B-types differ according to the type of element left behind as P's complement. In A-types, the moving DP is fully constructed before movement takes place. In B-types, a D's NP complement merges after movement. I attribute this difference between A- and B-types to interactions among the case filter, a constraint favoring WLM, and restrictions on the timing of countercyclic merger (Sauerland 1998: 2.2).

Assuming that pronouns are Ds (Postal 1966, Abney 1987), we can now understand why a P_R's inability to take a pronominal complement is linked to its inability to be stranded by B-types. I argue that P_Rs are pronoun-rejecting because they require their DP complement to contain an NP with a particular semantic property (e.g. denoting a calendar day). A pronominal DP does not contain an NP, so a P_R cannot accept it. The original position of a B-type A'-extraction likewise lacks an NP, explaining the impossibility of stranding P_Rs.

Further support. The proposed analysis attributes an extraction's inability to strand P_Rs to the structural contents of the gap site. Extraction types capable of leaving behind fully constructed copies should therefore be unable to strand P_Rs if the fully constructed copy is a bare D for other reasons as well. The analysis correctly predicts that, when stranding a P_R, we should see contrasts between full *wh*-phrases and *wh*-pronouns, as in (3).

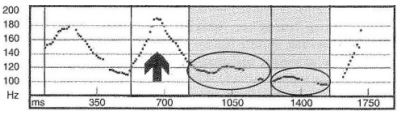
(3) *a. Which holiday does John's family eat turkey on?*
*b. *What does John's family eat turkey on?*

The status of (3b) is not due to a restriction on movement: in a multiple question, *which holiday* (a phrase) but not *what* (a pronoun) is an acceptable complement to temporal *on* (*Which person thinks that John's family eats turkey on {which holiday, *what}*).

The data in (3) show that, even for A-types like *wh*-movement, P_Rs cannot be stranded when the moving element doesn't contain a noun. The larger point is that the ability to strand P_Rs is linked to properties of the gap site, not to intrinsic properties of individual extractions.

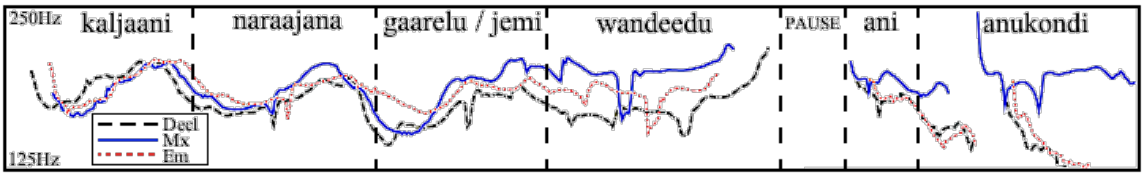
1. Intro. We show how *wh*-in-situ languages disambiguate the scope of embedded *wh*-phrases with prosody. Recent research links prosody with feature-driven movement (Richards 2010, Constant 2013), & with in-situ *wh*-phrases (Deprez et al 2010, Ishihara 2003), broadly proposing that, in lieu of *wh*-movement, w*h*-in-situ languages must place *wh*-phrases and the C^0 where they take scope into one phonological phrase. This requires altering any intervening material's phrasing. Japanese, for example, de-accents words between the *wh*-phrase & C^0.

(1) [[naoya-ga **nani-o** nomiya-de nonda $_{TP}$] **no**? $_{CP}$]
Naoya-NOM **what-ACC** bar-LOC drank **Q**
'What did Naoya drink at the bar?' (Ishihara 2003)



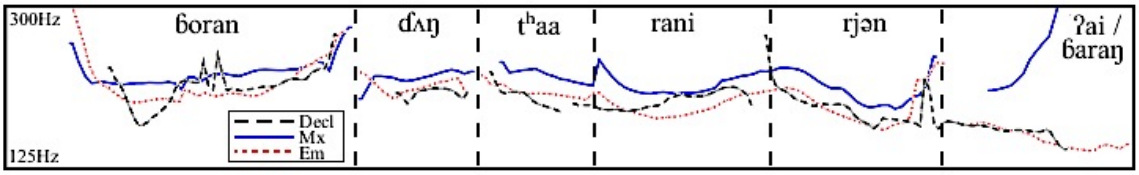
2. Telugu (Dravidian | SOV; C follows TP), as a *wh*-in-situ language, shows ambiguity when embedding *wh*-phrases: they may take scope with the C^0 of the matrix (MX) or embedded (EM) clause. The declarative version of (2) shows DPs have rising prosody, while the phrase has a final fall. An EM *wh*-object extends a prosodic domain rightward, creating phrasing linking it to its respective C^0. If the *wh*-phrase has EM scope (dotted line), the domain reaches EM C^0, flattening the EM verb, but leaving the utterance-final fall. With MX *wh*-scope (solid line), the domain extends to the null MX C^0, flattening all the utterance after the *wh*-phrase.

(2) [kaljaani [naraajana {gaarelu / jemi} wandeedu ani] anukondi $_{C}$]
Kalyaani.$_{F}$ Naraayana.$_{M}$ {doughnuts / **what**} cook.$_{3M}$ **C** think.$_{3F}$ **(C)**
EM: 'K. wonders what N. cooks' *or* MX: 'What does K. wonder N. cooks



3. Khmer (Cambodian | SVO; C precedes TP) shows *wh*-domains may extend leftward. In a declarative, Khmer words have prosodic dips (though below 'know' is bimorphemic, forming a single phrase). A *wh*-domain phrasing a final *wh*-object with C^0 now causes leftward flattening. MX *Wh*-scope is disambiguated by the de-accenting of the MX subject & verb.

(3) **[**$_{C}$ ɓoran dʌŋ-tʰaa **[**$_{C}$ rani rjən {**ʔai** / ɓaraŋ} **]]**
(C) Boran know-say **(C)** Rany learns {**what** / French}
EM: 'B. knows what R. is learning' *or* MX: 'What does B. know R. is learning?'



4. American Sign Language associates *wh*-phrases with a non-manual gesture (eyebrow raising). With an embedded *wh*-phrase, the gesture lasts for the embedded clause, or for the whole utterance (underlined below), effecting interpretation (Aarons 1994) in line with our proposal: the gesture should be seen as a means of phrasing *wh*-phrase with its C^0.

(5) [$_{C}$ Teacher wonder [$_{c}$ pass test **who**]] - - - - - - - EM: 'the T. wonders who passed the test'
——————————— - - - - - MX: 'who does the T. wonder passed the test?'

5. Conclusion. We make the case that prosody disambiguates *wh*-scope, and that our data and observations support work that proposes prosodic linking of *wh*-phrases to C structure.

Obligatory pronominal A- and A'-binding

Laura-Andreea Sterian

Clitic-doubling (A-binding of a pronoun with a shared θ-role) and resumption (A'-binding of a pronoun with a shared θ-role) have been much researched, however the (dis)similarities between them have been studied in less depth. Romanian is a striking example of a language which exhibits both these phenomena. Earlier accounts of resumption in Romanian consider it to be parasitic on clitic-doubling (Steriade 1980; Comorovski 1986; Dobrovie-Sorin 1990). I present a systematic overview of pronouns with antecedents in A- and A'-positions in Romanian which shows that in fact resumption is independent of clitic-doubling. Although there is an overlap in clitic-doubling and resumption, this comes apart in two directions: (i) some root sentences where clitic-doubling is obligatory have corresponding content questions in which the doubling pronoun is illicit, and (ii) some root sentences where clitic-doubling is illicit have corresponding A'-constructions with obligatory resumption. I illustrate the latter case in (1).

(1) **a.** Nu *o/ ___vede niciodată marea.
neg *her/ ___see.3S never sea=the.F
'He never sees the sea.'

b. Îi părea rău după marea pe care nu *__/**o** vede niciodată.
him.Dat seemed bad after sea=the.F *pe* which neg *__/**her** see.3S never
'He sorrowed after the sea which he never sees [**her**].'

The obligatory resumption in relative clauses such as (1b) is also seen in D-linked content questions, contrasting with lack of resumption in questions with bare interrogatives. Significantly, relative clauses and D-linked content questions also have in common the relative pronoun/ D-linked interrogative *care* "which". I argue that resumption arises in Romanian because of (i) the nature of the D involved: *care* "which" has a categorial selectional feature that requires it to take a complement headed by the resumptive pronoun and (ii) the resumptive pronoun is a clitic in the sense of Cardinaletti and Starke (1999) and therefore cannot surface in its base position, but must raise to a derived one. I analyse the resumptive pronoun as of category φ (Déchaine & Wiltschko's 2002; Roberts 2010). In (1) the relative pronoun *care* "which", the resumptive pronoun *o* "her" and the noun *mare* "sea" form a complex-DP (2) that starts out in the derivation as complement of the verb *vede* "sees". Then φ raises to a derived position because of its deficient nature (Cardinaletti and Starke 1999). The remnant-DP raises to SpecCP and N moves up, assuming a raising analysis of relative clauses (3).

(2) a. $[_{DP}\,[_{D}$ care$]\,[_{\varphi P}\,[_{\varphi}$ o$]\,[_{N}$ mare$]]]$
which her sea

b. $[_{DP}$ mare $[_{D}$ a $[_{CP}\ldots[_{D}$ care $[\varphi\ \cancel{o}]\,[_{N}$ ~~mare~~$]]]\ldots[_{v}$ o vede$]\ldots[_{DP}\,[_{D}$ ~~care~~$]\,[_{\varphi P}\,[_{\varphi}$ ~~o~~$]\,[_{N}$ ~~mare~~$]]]$

With respect to the obligatoriness of resumption in relative clauses, Romanian patterns with Arabic. However, with respect to D-linked questions, Romanian and Arabic are different: resumption is obligatory in Romanian, but only optional in Arabic. This follows from my account because in Arabic the relative pronoun *illy* is different from the D-linked interrogative *ya*: the relative pronoun patterns with Romanian in that it requires obligatory resumption, while the D-linked interrogative is ambiguous between a [D-N] and a [D-φ-N] structure.

This account of resumption in Romanian has the advantage that it does not have to rely on special categories (i.e. Steriade's (1980) "shadow" pronouns) and also makes the right predictions regarding reconstruction effects in Romanian which are similar to those observed with resumption in Lebanese Arabic (Aoun et al 2001), Jordanian Arabic (Guilliot 2006; Malkawi 2009) and Iraqi Arabic (Sterian 2011).

A functional-load account of geminate contrastiveness: evidence from Cypriot Greek

Kevin Tang and John Harris

Motivation Phonetic studies of geminates do not typically address the question of what motivates the fine-grained linguistically-relevant variation, particularly along the primary acoustic correlate of a singleton-geminate contrast, constriction duration (Kawahara, in press). In the present study we argue that a major factor contributing to the variation is the measure Functional Load (henceforth FL) (Hockett, 1955). FL is a measure of how much a language makes use of a particular contrast, such that it is likely to be lost if the language makes little use of it in distinguishing words. Crucially, this relationship is more than simply correlative (see Wedel et al. (2013) for an extensive statistical evidence in modelling mergers in eight different languages). Using Cypriot Greek as a test case, this paper argues that the pattern of variation in the phonetic realisation of geminates can be explained in terms of FL. We provide a proof-of-concept that FL, computed from a less-than-ideal corpus such as a word list, is sufficient for predicting fine-grained differences between phonemic contrasts.

Corpus An online dictionary, Lexical Database of the Cypriot Dialect (Themistocleous et. al. 2012), was used to compute FL. This dictionary is compiled using modern sources of Cypriot Greek, such as blogs, oral speech and more. A word list is far from ideal, since it lacks token frequency information. However Graff (2012) showed that it is possible to model lexical contrastiveness using entropy norms (e.g. FL) for 50 languages using word lists.

Analyses Tserdanelis & Arvaniti (2001) tested 10 singleton-geminate pairs – /t,p,k,l,r,m,n,s,ʃ,tʃ/, and calculated the F-values of the durational contrast for each pair; the higher the F-values, the stronger the contrast. Overall, a non-parametric correlation (Kendall) of F-value~FL, testing for a positive association, yields a significant result ($p < 0.05$, $\tau = 0.54$), thus confirming our hypothesis: *the higher the FL, the stronger the durational contrast*. Examining the data in terms of manner, we found that the FL values make a near-perfect prediction of the trend by durational contrast (see table; ">" being "more contrastive than"). The only exception is /p/-/p:/ > /t/-/t:/.

Stops	Sonorants	Fricatives
/t/-/t:/ > /p/-/p:/ > /k/-/k:/	/l/-/l:/ > /r/-/r:/ > /m/-/m:/ > /n/-/n:/	/ʃ/-/ʃ:/ > /tʃ/-/tʃ:/ > /s/-/s:/

The only statistically *insignificant* pair reported was /k/-/k:/, with half the speakers having the same duration (and VOT), caused by a specific test-word [ˈfɐkɐ], for which native speakers had divided opinions about its singleton status. This interspeaker lexical variation suggests that /k/-/k:/ contrast is perhaps undergoing merger. This is supported by its relatively low FL under the variationist/usage-based/evolutionary models (VUE) (Blevins & Wedel, 2009). It has been shown that phoneme contrasts distinguishing minimal pairs are relatively hyperarticulated in production (Baese and Goldrick, 2009), and since phonetic details can spread within a community over time from word to word (Bybee, 2002), the VUE models would predict that frequent phonetic enhancement of a contrast in speech will over time become reflected in lexical representation.

Conclusion The study presents new evidence consistent with VUE, showing that simple measures of functional load can not only predict fine-grained phonetic differences between members of phonemic contrasts, both across and within natural classes, but also even suggest possible mergers in progress. We established proof-of-concept that a simple word list alone can be sufficient for modelling phonemic contrasts. Finally, a methodological lesson for future studies would be not only to report phonetic measurements, but also to take into account the distribution of phonemes across the lexicon, even when dealing with languages for which we have limited corpora.

DP-internal discourse particles, illocutionary force, and specificity

Andreas Trotzke and Yvonne Viesel

Summary We provide a split-DP analysis for German discourse particles inside the nominal domain. We account for the interaction between the functional make-up of the DP, the presence of discourse particles, and specificity. Our approach sheds light on parallels between the sentential and nominal domain regarding information structural and illocutionary properties.

Discourse particles and Force German discourse particles arise mainly in root clauses and occupy a pre-VP/*v*P position. They are geared to certain clause types and co-determine the illocutionary force of an utterance (Bayer and Obenauer 2011).

DP-internal discourse particles Certain particles (e.g. *ja*, lit. 'yes') can occur within complex DPs, in which case the illocutionary force of the clause does not interact with the discourse particle, given the fact that particles like *ja* are normally excluded in interrogatives:

(1) *Warum hat* [$_{DP}$ *dieser ja schwer kranke Mann*] *keine Jacke an?*
Why has this JA seriously sick man no jacket on
'Why does this seriously sick man not wear a jacket?'

In (1), the particle *ja* does not take scope over the VP/*v*P of the clause, but rather over a propositional part expressed within the DP. By using *ja*, the speaker makes salient the uncontroversial fact that his neighbor is very sick, whereas it is not uncontroversial that he has met his neighbor. Particles can only occur in DPs where the adjective, according to many approaches, originates in the predicate position of a reduced relative clause. They are not licensed with non-intersective adjectives (cf. **diese ja angebliche Krankheit* – 'this JA alleged sickness').

DP-internal discourse particles and specificity Discourse particles are possible in appositive relative clauses, but not in restrictive ones (Zimmermann 2004). Our corpus search in the DWDS ('Digital Dictionary of the German Language', Klein and Geyken 2010) suggests specific reference as a licensing criterion for DP-internal particles, with only 5.8% indefinite DPs and mostly referring to a preceding unique or generic entity. Unique reference provided, discourse particles may occur in non-appositive ('descriptive', Wiltschko 2013) relative clauses:

(2) *Mit Herrn K. bekommt die Firma einen Angestellten, der ja immer pünktlich ist.*
With Mr. K. gets the firm an employee who JA always punctual is
'With Mr. K, the firm gets an employee who is always punctual.'

DP-internal discourse particles and Force We claim that discourse particles in the DP require a functional structure as at the level of CP, including a designated particle-specific position and the option of scrambling to an information structural Ā-position (TopP), cf. (3).

(3) [$_{AP}$ [$_{TopP}$[*im letzten Jahr*]$_i$ [$_{PrtP}$ *ja* [$_{lexical\ layer}$ t_i [$_A$ *schwerkrank*]]]]]
in.the last year JA seriously.sick

Regarding head noun and agreement morphology, the AP enters the DP derivation like a simple AP. Particles in APs are sensitive to referential modes expressed in D° as those at the level of CP are sensitive to Force. As for Force at the level of CP, DP-internal discourse particles do not depend on a particular sentence type at the level of CP, but their interpretive import nevertheless connects to the speaker of the utterance (1). DP-internal particles in German thus provide evidence for splitting Force into a 'clause-typing' and a 'speaker attitude' domain encoding the speaker's relation to propositional contents of the utterance (Haegeman 2014).

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Modality, negation, and patterns of complementation in Greek

George Tsoulas and Maria-Margarita Makri

Indicative complement clauses in Greek are introduced by the complementizers *oti* and *pos*. There is a great deal of work on the former but virtually nothing on the latter. Work on *oti* has furthermore opposed it to the element *Na* which is a complementizer/modal marker used with subjunctives and imperatives. In this paper we focus on the hitherto scarcely noted differences between *oti* and *pos*. In the first part of the paper we present the relevant data that show that the two complementizers, though close in meaning, have several formal differences: (i) only clauses headed by *oti* can be nominalised :

(1) To oti/*pos irthe o Giannis
The that came the Giannis
The (fact) that John came

(In all the examples we are only interested in *pos qua* declarative complementizer rather than the homophonous question word meaning *how*). (ii) *oti* can introduce a subject clause whereas *pos* cannot. (iii) The propositional content of a clause introduced by *pos* is more modalized than that introduced by *oti*. In other words, *pos* expresses an epistemic dependency of the propositional content on the subject in a way that *oti* does not:

(2) Ine alithia oti/??pos i gi girizi
Is truth that the earth turns
It is true that the Earth turns

put differently, if the content of the complement clause is an independent, well known truth then *oti* must be used, when the subjects beliefs are at stake *pos* is the more natural choice. (iv) All-focus readings of the embedded clause are the norm with *oti* while subject focus is more frequent with *pos*. (v) Finally, although both elements require the negative marker *dhen* if the clause is negated, only *pos* is compatible with expletive negation *mi* which is also the standard negation for subjunctive and imperative complements. Thus, *mi* combines with *pos* to yield *mipos* but never with *oti* yielding say **mioti*. We show that the facts follow from two assumptions, first that the embedding head is not C as this is realised in oti/pos but rather a higher modal head which, in Greek, can be realised by expletive negation. Second, regarding expletive negation we will follow Makri (2013) who couches her account in the framework developed by Anand and Hacquard (2013). Makri suggests that declarative complements introduced by *pos* involve a set of doxastic alternatives ordered in a likelihood scale. The effect of expletive negation is to modify the ordering of the alternatives and assert that the different doxastic possibilities can be equally likely. The present account departs from Anand and Hacquard's view in in that, as our data show, the elements in the left periphery, do have a direct bearing on the semantics of embedding, both in terms of the embedding modal head that hosts Expletive Negation in Greek and the different complementizers that seem to be the direct reflection of the semantic properties of the ordering relation. Our suggestion then is that the essence of embedding is the ordering of the relevant alternatives, doxastic or otherwise. The Greek data show that this state of affairs can be overtly realised in the form of complementizers and the relations that are established within the C-domain. These relations include, apart from the modal nature of specific Comps and elements such as expletive negation, information structural aspects like focus.

Scope ambiguity has proven to be a promising field of psycholinguistic and neurolinguistic research in sentence processing. Psycholinguistic studies have debated whether people prefer particular interpretations of ambiguous, doubly quantified sentences and, if so, then what is the underlying reason for scope preferences. Using behavioral and online methods, the majority of these studies suggest that there is a general preference for the surface scope interpretations (see, among others, Anderson, 2004; Kurtzman & MacDonald, 1993; Tunstall, 1998). On the other hand, more recent studies have converged on the conclusion that there are no scope preferences; at very early stages of comprehension doubly quantified sentences are underspecified regarding quantifier scope (Dwivedi et al., 2010; Filik et al., 2004; Raffray & Pickering, 2010).

In the present study, the scope preferences debate is revisited on the basis of evidence from processing of scope ambiguities by patients with Broca's aphasia and non-brain-damaged adults. The experimental hypothesis is that if there were biases toward certain quantifier scope interpretations, participants should behave differently in different conditions; that is, they should arrive more easily (in terms of accuracy and reaction time) at surface scope interpretations than at inverse scope interpretations, or vice versa.

A truth-value judgment task was designed to investigate the processing of ambiguous doubly quantified sentences. All sentences contained the quantifiers "a" and "every" in subject-DP and object-DP, respectively. An example sentence with its two LF interpretations is given in (1) below.

(1) A boy is photographing every bird.

a. $\exists x$ [boy(x) & $\forall$ y [bird(y) -> photograph (x,y)]]

b. $\forall x$ [bird(x) -> $\exists y$ [boy(y) & photograph (y,x)]]

In total, there were four experimental conditions: 1) surface scope – match, 2) inverse scope – match, 3) surface scope – mismatch, and 4) inverse scope – mismatch condition. "Match" and "mismatch" refer to whether the picture paired with the ambiguous sentence was a matching or a mismatching picture, respectively. Seven Greek-speaking patients with Broca's aphasia and 18 adults free of neurological disease participated in the experiment.

Accuracy and reaction time analyses revealed that all participants were able to arrive at both possible scope interpretations with roughly the same facility. This performance pattern is not consistent with any approach that assumes that (i) language users build a single syntactic representation, and (ii) the inverse scope interpretation has additional complexity. Rather, this pattern is consistent with the idea that, in the absence of context, doubly quantified sentences are truly ambiguous, and scope ambiguity is left unresolved until further disambiguating information comes into play (in this case, a picture) (Dwivedi et al., 2010; Filik et al., 2004; Raffray & Pickering, 2010).

Since the important discovery of syntactic islands (Ross 1967), constraints on extraction from islands has been the topic of intense research in both theoretical linguistics, see Boeckx (2012) for an overview, and psycholinguistics, e.g. Hofmeister & Sag (2010); Sprouse & Hornstein (2013). It was early recognized that the Mainland Scandinavian languages (Danish, Norwegian, and Swedish) are peculiar from a cross-linguistic perspective in allowing extraction from relative clauses, exemplified by Swedish in (1). Early references include Erteschik-Shir (1973), Allwood (1975), Taraldsen (1981), Engdahl & Ejerhed (1982), and Maling & Zaenen, (1982). Complex DPs with a relative clause are otherwise considered strong islands (*the Complex NP Constraint*, Ross 1967); syntactic configurations from which movement is never possible. In this sense, Mainland Scandinavian is peculiar whereas English and other languages are 'well-behaved', cf. (2).

(1) [Såna blommor]$_i$ känner jag [en man [som säljer t$_i$]]
such flowers know I a man that sells

(2) *[Those flowers]$_i$ I know [a man [who sells t$_i$]].

Whereas the English example can be salvaged by a resumption strategy, resumption decreases acceptability in Swedish and the other Mainland Scandinavian languages (cf. Engdahl 1997):

(3) a. Såna blommor känner jag en man som säljer (*dem).
such flowers know I a man that sells (them)
b. Those flowers I know a man who sells *(them).

In this talk, we will scrutinize the restrictions that have been claimed to hold for Mainland Scandinavian relative clause extractions, some of which are still used to formulate arguments in analyses of these (Rizzi 2010, Kush et al. 2013, Phillips 2013). We will show that all but one of the restrictions that figure in the literature vanish under closer scrutiny. The remaining one can be derived from general constraints on extraction (the *Subject Condition*). In essence, the data suggest that relative clauses are not extraction islands in Mainland Scandinavian. Given that no restrictions specific to RCE can be observed in the data, RCE is not peripheral in any syntactic sense. Any theoretical interpretation of the alleged island violations assuming the existence of such restrictions therefor cannot be on the right track.

The syntax of embedded speech acts: a theoretical investigation with consequences for acquisition

Rebecca Woods

The extent to which discourse phenomena are encoded in and expressed through syntax is a question very much under discussion at present. Using data on English embedded inverted interrogatives (EIIs; McCloskey 2006 *inter alia*) and embedded imperatives, it will be shown that Krifka's (2012, in press) view of embedded speech acts as semantically distinct from embedded reported speech has a syntactic correlate: the presence of a "Speech act" projection, separate from Rizzi's (1997) ForceP, which contains syntactic representations of the relevant discourse participants and perspective holders. The presence of this projection makes certain syntactic and acquisition-related predictions, which will be shown to be borne out.

EIIs and embedded imperatives occur in certain Irish, British and American dialects:

(1) I asked Jack was she in his class (2) Dave said stop calling his girlfriend!

McCloskey noted that EIIs are syntactically embedded in terms of Sequence of Tense, pronominal binding and the formation of wh-islands. However, they are like root clauses in terms of inversion, incompatibility with overt complementisers and, as new research shows, the permissibility of illocutionary adverbs in such contexts in dialects which accept EIIs:

(3) a. *I asked Jack whether honestly she was in his class
b. #I asked Jack honestly whether she was in his class (honestly = manner adverb here)
c. I asked Jack honestly was she in his class d. Dave said seriously stop calling his girlfriend

Accounting for this cluster of properties can elucidate facts about the left periphery and the possibility of embedding speech acts. Krifka (2012, in press) analyses reported speech as introducing descriptions of situations in the form of context-dependent propositions, which are added to the common ground (Stalnaker 1973/4). In contrast, embedded speech acts are (re-)performed 'speech potentials', which add not only the main proposition expressed, but also information about the commitments of the *original* discourse participants with regards to those propositions.

It is proposed that this semantic effect is brought about by differences in syntactic structures between the two types of embedded speech, just as Krifka predicts. Embedded speech acts are introduced by a 'full', i.e. root-like CP including a Speech Act Projection (SAP) including a functional head representing an interrogative speech act (here represented as ASK) and syntactic representations of the original speaker and hearer (Rizzi's framework is followed here):

(4) I asked Jack $[_{SAP1}$ SPEAKER $[_{SA°1}$ ASK$_i$ $[_{SAP2}$ ADDRESSEE $[_{SA°2}$ t$_i$ $[_{ForceP}$ $[_{FocusP}$ $[_{Focus°}$ was…]]]]]]

This is in contrast with standard reported speech in which the SAP projections are not present.

The inclusion of the SAP above ForceP licenses adjunction of the illocutionary adverb in the C-layer because the embedded clause is now selected by a functional, not lexical head (cf. Chomsky's (1986) general prohibition to adjunction). It also blocks extraction from the embedded speech act as there is no escape hatch at the top of the C layer (SpecSpeechActP always being filled by SPEAKER), as shown in embedded imperatives:

(5) *Who did Dave say stop calling t$_i$?

In terms of acquisition, the availability of the extra functional SAP layer in dialects which permit EIIs predicts that speakers of these dialects will be more sensitive to distinctions between individual speech acts, in particular distinct question situations. Data will be presented from African American English-acquiring children, who have EIIs in their dialect, showing that they are sensitive to this barrier. They do not confuse long-distance wh-extraction with intermediate wh-questions, which standard US English-acquiring children, without EIIs in their dialect, often confuse (cf. De Villiers et al, 2011).

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Visibility in lexical selection

Yusuke Yoda

Sometimes, a lexical item is associated with two or more phonological unrelated forms, such as *good-be*(*tt*), *bad-wors*, for comparative and *go-wen* for tense in English (Bobaljik 2012). Although the locality of selection on the phonological forms has drawn interests of researchers (Embick 2010, Bobaljik 2012, Bobaljik and Wurmbrand (B&W) 2013 a.o), the main interests have been the relation between two (or more) heads. However, recently Bobaljik and Harley (2014) point out in Hiaki (Uto-Aztecan language) number of a subject (in this language *run* is an unaccusative verb, and a subject of this verb is base-generated at the complement position of the verb) of an intransitive verb (V*i*.) triggers a supplitive form of verb (cf. ***Aapo***:3sg. → ***weve***: walk.sg and ***Vempo***:3pl → ***kate***: walk.pl for "(*S*)*He*/*They are walking*.") and also that of an object of an intransitive verb (V*t*.) triggers a supplitive form (***uka koowi-ta***: the.sg pig-Acc.sg → ***me'a-k***: kill.sg-perf. and ***ume kowi-m***: the.pl pig.pl → ***sa-k***: kill.3pl-perf "*killed the pig(s)*") whereas a subject does not (***Aapo***: 3sg → {***me'a-k***/***sa-k***} and /***Vempo***:3.pl → {***me'a-k*** /***sa-k***}, depending on its complement). The interesting property of this language is that this language does not exhibit number agreement in any cases. Thus, B&H conclude that the IA, which is in sister-relation with the relevant verb (cf. Embick 2010, Bobaljik 2012), triggers the selection of phonological realization as illustrated in (1).

(1) [EA [**IA** **V**]] V⇒ Supplitive Form

Another instance in which an IA enters into the selection is provided by Japanese. In this language, forms of verb of existence (Ve), which exhibit an unaccusative property w.r.t QF as illustrated in (2), alter between ***i***-*ru* and ***ar***-*u* depending on animacy of subject, **+an**(imate) for the former and **-an** for the latter.

(2) a. Heya-ni [**Gakusei**$_i$**-ga** 3nin t_i **i**/***ar**]-ru. b. Cyuusyajyo-ni [**kuruma**$_i$**-ga** san-dai t_i ***i**/**ar**]-u.
Room-in Student$_{[+an]}$-NOM 3-CL be$_{[+an/*an]}$-pres. Parking.slot-at car$_{[-an]}$-NOM 3- CL be$_{[*+an/-an]}$-pres.
"*3 students are in the room.*" "*Three cars are in the parking slot.*"

However, if the verb sharing the phonological realization with Ve, is used as a verb of possession (Vp), a different alternation is observed. (Kuno1973, Shibatani 1978, Kishimoto 2000). In the cases of Ve, each subject is in the IA position and it triggers alternation of "*be*" but in the case of Vp, an animate IA does not triggers {*i*/*ar*} alternation unlike (2), while an inanimate IA does.

(3) a. Taro-ni-wa [**musuko-ga** {**i**/**ar**}]-u b. Taro-ni-wa [**kuruma-ga** {***i**/**ar**}]-u
T-Dat-Top son-Nom be$_{[\pm an]}$-pres. T-Dat-Top car-Nom be$_{[-an]}$-pres
"Taro has a son." *"Taro-has a car"*

To account for the puzzle just illustrated, I propose the sisterhood based approach *ála* B&H. To be precise, I deduce an absence of alternation in (3)a from the position of an IA. Here I assume both Ve and Vp are the same verb and a *Vi*. counterpart of the verb is Ve, whereas a *Vt* counterpart is Vp. Based on *Vi* data in (2), I further assume that if the IA and the verb are in the relation of sisterhood, *i* is selected as a V's exponent. However, if the IA and the verb are not in the sister relation, elsewhere form *ar* is selected as an exponent as a competition as illustrated in (4).

(4) COMPETITION at "BE" a. [**IA**$_{[+an(imate)]}$ V] / V→ ***i*** (-*ru*) b. V → ***ar*** (-u) : elsewhere

This observation is confirmed with the following data. First, in the case of "**an American wife**=(5)a", who is possibly a wife of Taro in the real world, both *would*> "**an American wife**" and "**an American wife**" > *would* readings are available. Thus both ***i*** and ***ar*** are available for (5)a. Now, in the case of "**an alien wife**=(5)b", it is a hypothetical entity in the real world and thus the IA should be inside scope of modal verb, *soo*. In this case, IA and VP are in sister relation and, thus, "***i***" is selected as an only possible exponent.

(5) a. Taro-ni-wa **Amerikajin-no** **tuma-ga** {**i**/**ar-i**}-soona-koto
T-Dat-Top American-Gen wife-Nom be –would-that "*That Taro seems to have an American wife.*"
b. Taro-ni-wa **utyuu-jin-no** **tuma-ga** {**i**/***ar-i**}-soona koto.
T-Dat-Top alien-Gen wife-Nom be -would-that "*That Taro seems to have an alien wife.*"

Another piece of evidence is in(6), in which a bound variable (bvl), *soitsu*, is inside the VP adjunction. Here, if the vbl is bound by 2 girlfriends and it express the distributive reading. Under the distributive reading, *ar*- is realized, but otherwise in the case of non-bvl reading, -*i*.

(6) Jiro-ni-wa **futa-ri-ijyoo-no** **kanojyo**$_j$**-ga** [soitsu$_j$-no ryookai-o eta-node [*t* {***i**/**ar**}]]-u.
↑_____|
J-Dat-Top 2-CL more.than-Gen girlfriend-Nom her-Gen understanding-Acc get-because be-pres.
"*Because he got understanding of each girl friend, he has two girls friends at the same time.*"

Japanese data, as well as Hiaki, provide (i) a piece of evidence that sister relation give an affect for locality condition w.r.t. the lexical selection and (ii) the locality condition put forth by B&H universally works.

Factives in a crosslinguistic perspective

Keisuke Yoshimoto and Norio Nasu

The primary aim of this paper is to show that complement clauses to factive predicates, i.e. factive clauses, have different structures in English and Japanese respectively, unlike the view by Hiraiwa (2010) that they have the similar structure in both languages. In their paper on the similarity between factive clauses and DPs in terms of referentiality, Haegeman and Ürögdi (2010) argue that factive clauses involve operator movement to their left periphery as in (1), and that it can account for two important properties of factives, namely, weak islandhood (**Why* did you notice that Mary had fixed the car *t*?) and the lack of main clause phenomena (*John regretted that *Gone with the Wind* we went to see *t*).

(1) $[_{CP}\ \mathrm{Op}_i \ldots [_{FP}\ t_i\ [_{TP}\ \mathrm{V} \ldots]]]$

This is because the operator in the left periphery intervenes with phrasal extraction in the former case and with topicalisation for the same position in the latter case. This operator movement account is certainly different from the earlier view by Haegeman (2006) according to which factive clauses have a truncated structure that does not contain projections to host main clause phenomena. Note that it is weak islands that tell apart the two opposing accounts because truncation has nothing to do with the ban on phrasal extraction.

Whilst Hiraiwa (2010) argues that the operator movement account is applicable to Japanese, we doubt that it is to Japanese, a language in which referentiality is not overtly encoded. The first counterargument comes from the validity of the data he uses regarding weak islands. Although the factive clause he cites is negative both in the main clause and embedded clause (his (12b)), the affirmative counterpart is acceptable as shown in (2), which suggests that something different from weak islands is affecting the judgement of his data.

(2) Donna hoohoo-de$_i$ Ken-ga [Bob-ga t_i kuruma-o naosi-ta koto/no]-ni odoroi-ta-no?
What way-with Ken-NOM Bob-NOM car-ACC fix-PAST C-DAT be.surprised-PAST-Q 'Lit: In what way Ken was surprised that Bob had fixed the car?'

Weak islandhood can be tested by reconstruction as well, as it is normally the case that a phrase does not reconstruct into a syntactic island out of which movement cannot take place. That this is true in English factives is shown by Basse (2008) (Which of his$_{*i/j}$ aunts does John$_j$ regret/resent that every boy$_i$ loves most?). In contrast, Japanese factives allow reconstruction as shown by the violation of Condition C in (3b).

(3a) *Kare$_i$-wa [Mary-ga [John$_i$-no hahaoya-ni] at-ta koto/no]-o sira-nakat-ta.
He-TOP Mary-NOM John-GEN mother-DAT meet-PAST C-ACC know-NEG-PAST
'He$_i$ did not know that Mary had met John$_i$'s mother.'

(3b) *[John$_i$-no hahaoya-ni]$_j$ kare$_i$-wa [Mary-ga t_j at-ta koto/no]-o sira-nakat-ta.

The lack of operator movement in Japanese is attested when a factive clause is embedded under a relative clause. This is because a factive operator, if present, would intervene with relativisation (*This is a student to whom John regrets that Mary gave a book). It has been argued that Japanese relative clauses involve operator movement (Ishii 1991), but it is shown below that factives do not block relativisation.

(4)? $[_{NP}\ [_{CP}$ John-ga $[_{CP}$ Mary-ga e$_i$ hon-o age-ta koto/no]-o kookaisitei-ru] gakusei$_i$]
John-NOM Mary-NOM book-ACC give-PAST C-ACC regret student
'Lit. a student to whom John regrets that Mary gave a book.'

Lastly, we show that another property of factive clauses, i.e. the ban on long-distance licensing of negative polarity items is not attested in Japanese either. Accordingly, the truncation analysis suits Japanese factive clauses better than the operator movement account.

Polish nasal vowels are autosegmental: word game evidence

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In addition to six oral vowels, [a ɛ i ɔ u ɨ], Polish has two mid nasal vowels, spelled *ą* and *ę*. The vowels are phonetically polysegmental, consisting of an oral vocalic part, analogous to /ɔ/ and /ɛ/, and a nasal part. Before spirants and word-finally they are realized as nasalized diphthongs [ɔ$^{\tilde{w}}$] and [ɛ$^{\tilde{w}}$]. Before stops and affricates they are realized as a sequence of a vowel and a homorganic nasal segment. They do not appear before sonorants or in word-initial position.

Phonologically, these vowels seem to function as a single unit for the purposes of some phonological processes, while as disegmental vowel+nasal sequences for other processes. As a result, there is little agreement on how they should be represented underlyingly. Some scholars have analysed them as monosegmental units, in which the nasal element belongs either to a simple or a branching nucleus (e.g. Stankiewicz 1955, Bethin 1988, Gussmann 2007). Others have proposed disegmental analyses, in which an oral vowel is followed by a glide or a nasal segment occupying the coda position (e.g. Biedrzycki 1963, Gussmann 1974, 1980, Rubach 1977, 1984). An autosegmental analysis, where the nasal element is a floating segment with no syllable position of its own has also been suggested (Bloch-Rozmej 1997).

Arguments that definitively decide between the monosegmental vs. disegmental analysis of nasal vowels can be somewhat hard to come by. There are, however, potential ways out of this labyrinth, one being the use of language games (often called ludlings; see Bagemihl 1995) as a tool to reveal hidden phonotactic structure. Our focus in this study is on transformational language games that add, delete, replace, or invert segments or syllables, with no apparent trigger from inflectional or derivational morphology. In a series of experiments, we recorded a total of 105 speakers in Warsaw, who learned 5 different language games:

1. A **coda deletion game**, which involved deleting the coda segment(s) in each syllable of disyllabic words. In **89.75%** of the cases, nasality was retained., allowing us to decide between the disegmental representation on the one hand and autosegmental/monosegmental representation on the other.
2. An **iterative infixation game**, which involved infixing the sequence [pɔ] after every vowel in a word. This, like game 1, allows us to decide between the disegmental and autosegmental/monosegmental representation but does not require the participants to rely on syllabification, which proved to be problematic for some informants in a pilot run of the study. Nasality was retained on the original vowel in **92%** of the cases.
3. A **vowel swapping game**, which involved changing the order of vowels in disyllabic words. This allows us to decide between the monosegmental and disegmental representations of nasal vowels. Results here were not clear, likely due to task difficulty.
4. An **o- (a-, e-, u-) replacement game**, which involved the replacement of all the vowels in the word by the vowel *o* (or *a*, *e*, *u*). This, like experiment 3, allows us to decide between the monosegmental and disegmental representations and to see whether all vowels are equally likely to be realized with nasalization. Results here showed preservation of nasality in early trials, with a shift in task strategy during later trials.
5. A **Pig-Latin type game**, which involves taking the word-initial onset, moving it to the end of the word (thus making the resulting word vowel-initial) and suffixing an /u/. The overall percentage with the nasal vowel realized at the beginning of the word was **94%**.

Taken together, the results allow us to dismiss any representation of the nasal vowels in which the nasal element occupies the coda position. They also seem to indicate that nasality is an autosemental element, linked to the syllable node. Here the results were not as clear, possibly due to orthographic interference, and require an additional experiment. Finally, the results strongly indicate that the ban on word-initial nasal vowels is an accidental gap that should not be used when modelling the grammar of Polish, *contra* Bloch-Rozmej 1997.

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