Meaning in flux: Connecting development, variation, and change

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Yale University
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<u>Invited speakers</u>

Semantic Theory as the Study of Human Concepts
Ray Jackendoff, Tufts University

Connecting language acquisition and language emergence: Clues from Nicaraguan Sign Language
Ann Senghas, Barnard College

Bridging the gap: bringing concepts into content
Mandy Simons, Carnegie Mellon University

Blending, unblending and the rise of uninterpretable features
Lyn Frazier, University of Massachusetts Amherst

Fine-tuning the progression of grammaticalization paths
Ashwini Deo, The Ohio State University

<u>Talks</u>

Do different types of cognitive effects reflect the diachronic stage of use conditions?
Petra Schumacher, University of Cologne

Certain referential expressions are used to refer to rather distinct entities in the world depending on the context of use, e.g. Dickens to refer to the author or his work or ham sandwich to refer to the food or the food orderer/eater (as in The ham sandwich wants to pay.). A systematic investigation of the processing of different types of such metonymic expressions registered discrete electrophysiological patterns that cannot be explained in a straightforward manner by theoretical models of meaning selection/enrichment. The observed pattern shows two classes of metonymic types – one showing no processing differences for different uses and the other yielding a late positive electrophysiological signature for the extended meaning relative to the more basic reading. This latter effect is discussed within a discourse representational account, in which reconceptualization from the basic to the intended meaning results in discourse updating costs for less conventionalized meaning extensions. It will be discussed whether the source of the observed neurotypology is rooted in the historical development of the particular uses.

Mind the generation gap: differences between young and old in everyday lexical categories
Anne White, University of Leuven
Barbara Malt, Lehigh University
Gert Storms, University of Leuven
Steven Verheyen, École Normale Supérieure

Considerable stability of the meanings associated with concrete nouns is arguably important for their effective use. On the other hand, variability is observed across time, individuals, and communicative contexts. This study examined the balance between stability and flexibility in meanings of common, basic level artifact nouns by evaluating speaker differences in their use as a function of age, education, and gender. Diverse samples of monolingual Dutch- (N≈400) and French-speaking (N≈300) Belgian adults made lexical category judgments for pictures of storage containers. Mixture IRT-analyses revealed the presence of latent groups of categorizers related to age but not gender or education in each language. In both languages, older adults relied more on traditional materials such as glass or cardboard in their judgments, whereas younger adults emphasized relatively new materials such as plastics. This generational difference demonstrates how elements of word meaning can shift over the short-term, linking individual to larger scale variation and providing the foundation for meaning evolution over time.

Meaning-making and signal change in the gestural communication of baby great apes

Federico Rossano, The University of California, San Diego

Following Plooj (1979), Tomasello and colleagues (1994) proposed that the learning process involved in great ape gestural development was ontogenetic ritualization: individuals learn their gestures in the context of regularly occurring dyadic interactions such that parts of fully functional social behaviors become ritualized. Recently, Byrne and colleagues have argued that ape gestures are actually innate or genetically canalized rather than ontogenetically ritualized (Genty et al. 2009; Hobaiter and Byrne 2011, Graham et al. 2016; Byrne et al. 2017). In this paper I will present evidence for the close semiotic relationship between the final gesture and the original act and most importantly I will show how actions can transform into gestures through time. In particular I will introduce the 3 mechanisms through which actions become gestures: 1) synecdoche, 2) responsive action gets used in 1st position and 3) reduction and acceleration of the behavioral sequence. Specifically, I will introduce an alternative way to investigate gesture acquisition in great apes and highlight how the current coding procedures do not allow to observe change in the signal and therefore have erroneously led many scholars to reject ontogenetic ritualization as one viable mechanism for gesture acquisition both in great apes and humans.

The emergence of focus in a laboratory communication game

Gareth Roberts, University of Pennsylvania
Jon Stevens, The Ohio State University

We present an experimental study investigating the emergence and dynamics of linguistic focus. Focus is a linguistic system that allows the identification of new or contrastive information. Stevens (2016) argued for a theory of focus based in information theory: To communicate successfully, language users must deal with noise — the random deletion or alteration of parts of a signal. A solution is to compensate by adding redundancy. However, redundancy takes time and effort; we argue that focus is a reflex of a general system for adding redundancy to critical items in an utterance while minimizing time and effort costs. We tested this by having pairs of participants play a simple non-linguistic communication game, in which we manipulated noise, time, and effort constraints. We then observed patterns of redundancy, which were consistent both with natural language and with predictions grounded in information theory. Our experiment investigated the emergence of focus-like behavior in repeated interaction. However, we argue that the emergence of focus systems occurs over multiple timescales: In single interactions, speakers respond dynamically to information theoretic constraints; developmentally, learners acquire strategies for responding to them, and over generations, such strategies become grammaticalized. Future work will extend the paradigm to investigate this process.

Reconciling the effect of frequency on semantic extension in language acquisition and language change

Zara Harmon, University of Oregon
Vsevolod Kapatsinski, University of Oregon

An increase in frequency of a form has been argued to result in semantic extension (Bybee, 2003; Zipf, 1949). Yet, research on the acquisition of lexical semantics suggests that a form that frequently co-occurs with a meaning gets restricted to that meaning (Xu & Tenenbaum, 2007). The current work reconciles these positions by showing that – through its effect on form accessibility – frequency causes semantic extension in production, while at the same time causing entrenchment in comprehension. Repeatedly experiencing a form paired with a specific meaning makes one more likely to re-use the form to express related meanings, while also increasing one's confidence that the form is never used to express those meanings. Recurrent pathways of semantic change are argued to result from a tug of war between the production-side pressure to reuse easily accessible forms and the comprehension-side confidence that one has seen all possible uses of a frequent form.

Roles of meaning predictability in language production and learning

Chigusa Kurumada, University of Rochester
Scott Grimm, University of Rochester

Recent work suggests that language production exhibits a bias towards efficient information transmission (Aylett & Turk, 2004; Genzel & Charniak, 2002; Gibson et al., 2013; Jaeger, 2006, 2010; Kurumada & Jaeger, 2015; Levy & Jaeger, 2007; Lindblom, 1990a; Piantadosi, Tily, & Gibson, 2011, 2012; see also Zipf, 1949). Speakers tend to provide more linguistic signal for meaning elements that are difficult to recover while reducing contextually predictable (more frequent, probable, or expected) elements. This trade-off has been hypothesized to shape grammatical systems over generations, contributing to cross-linguistic patterns (Fedzechkina, Newport & Jaeger, 2012, 2015). We put this idea to an empirical test examining learning of an optional plural marking system in a miniature artificial language. Two experiments were conducted to demonstrate that the predictability of plurality information inversely predicts the likelihood of overt plural marking, as would be expected if learners prefer communicatively efficient systems. The results were obtained even with input frequency counts of the plural marker counteracting the bias, and thus provide strong support for a critical role of predictability of meaning in language learning and production. We discuss the current results in relation to roles of markedness and iconicity in grammatical systems attested cross-linguistically.

Must be tricky: On using child experimental studies to test diachronic predictions

Ailís Cournane, New York University

Functional modals (e.g., must, have to) present a particularly difficult mapping relationship for learners, as a single lexical item like must expresses more than one abstract meaning (see Clark 1993; Papafragou 1998; Hacquard & Cournane 2016). In brief, must is interpreted deontically with a bare verb complement, and epistemically with an aspect-marked complement (see Hacquard 2006, i.a.). In this talk, we use forced-choice experiments to investigate (a) whether preschool children use aspect cues to syntactically bootstrap (Gleitman 1990) epistemic meaning for must, and (b) whether in doing so children diverge from their input in patterns consistent with diachronic changes. Our findings show input-divergent child patterns compatible with predictions from modal change, as by age 5, children treat must as more uniformly epistemic than adults. Children may be contributing to the loss of root meanings for must, an ongoing phenomenon across English dialects (for

our Toronto-English sample, see Tagliamonte & D'Arcy 2007). We conclude that acquisition experiments lend new ways to directly test the proposal that the child developmental process creates (e.g., Lightfoot 1979) – and increments (e.g., Labov 2001) – (at least some) innovative variants that may then diffuse into the speech community and become diachronic changes in the historical record.

Acquisition of copula distinction in Venezuelan Spanish: a comparison study between children and adults

Fraibet Aveledo, University of Reading
Sara Sánchez Alonso, Yale University
María Mercedes Piñango, Yale University

Children have more difficulties identifying acceptable sentences with *estar* and accept this copula in *ser*-preferred contexts (e.g., Holtheuer 2012; Schmitt & Miller 2007). A recent study on copula distribution across varieties of Spanish (Deo et al, submitted) revealed that copula choice varies across Spanish dialects and this variation is contextually constrained. The authors propose that the difference between the copulas is that *estar*presupposes that the predication is contextually restricted.

We investigate whether children 4-12 years old show contextual modulation in copula use. Children performed a picture-matching task and a sentence repetition task in which a context followed by two copular sentences was presented. Contexts had information that either supported or was neutral with respect to *estar*'s presupposition. The picture-matching task showed a 50% chance for each of the copulas. For repetition, all children showed a significantly greater use of *estar* over *ser*. The 10-12 year old group, however, showed an adult-like pattern: greater use of *estar* with supporting-contexts in repetition. This developmental path is explained because *estar´*s contextual constraints are expected to depend directly on linguistic experience, which is expected to take longer to develop.

Why looking for a blue triangle is different in English than in Spanish

Paula Rubio-Fernandez, Massachusetts Institute of Technology

People tend to produce redundant color adjectives when referring to the world around them. For example, they might refer to 'the blue triangle' in a situation where there is only one triangle. In previous work, I have observed that this tendency is greater in English than in Spanish (Rubio-Fernandez, 2016) and explained this finding as a result of the differential efficiency of redundant color adjectives in pre-nominal and post-nominal position (with pre-nominal adjectives exploiting color contrast to facilitate the hearer's visual search for the referent).

In this paper, I present an eye-tracking study investigating the processing of modified Noun Phrases in English and Spanish (e.g., 'Click on the blue triangle' vs. 'Haz clic en el triangulo azul'). During the processing of the color adjective, English speakers first considered the two color-competitors in a display (e.g., a blue triangle and a blue heart), whereas Spanish speakers initially hesitated between the two shapes of the same kind (e.g., two triangles) and used the color adjective to resolve the temporary ambiguity. These results support my hypothesis that redundant color adjectives are used contrastively in English, only that the contrast is established across categories (blue vs. non-blue objects), rather than within (triangle-blue vs. triangle-red).

Schematic motivation, constructions and prototypicality in discourse. From FILL to PAY in Ancient Greek

Georgios Ioannou, Universidad de Chile

This is a multivariate corpus-based study of the development of the verb pleróo in Ancient Greek, originally meaning FILL, from 6th c. BCE, up to 4th c. CE. It implements a multiple correspondence analysis of about 5.000 attested occurrences of pleróo for that period, manually annotated for a set of formal and semantic features constituting its behavioral profile. It looks at the correlational diachronic patterns that lead to the emergence of a proliferation of senses such as COMPLETE, FULFILL, REPLENISH, MATURE, PROLIFERATE, PERFECT and finally PAY. It observes how subsequent entrenchments of certain featural patterns correlate to shifts in perspectival salience within the gestaltist organization of the container image-schema embedded in the prototypical construction of the sense of FILL. It also follows the way these shifts are meaningfully linked to i) non-literal extensions of the term´s prototypical and historically prior meaning and ii) the di-transitivization of FILL into a constructional schema that requires an additional indirect object, namely that of the SELLER in the COMMERCIAL TRANSACTION frame. Finally, it sees how the variants of featural configurations and constructional schemas can be methodologically linked to a sequence of featured discourse themes profiled as a macro-textual prototypicality evolving through time.

The verbatim-access effect: Implicature interpretation in context

Muffy Siegel, University of Pennsylvania
Hezekiah Akiva Bacovcin, University of Pennsylvania
Jérémy Zehr, University of Pennsylvania
Lynne Steuerle Schofield, Swarthmore College
Florian Schwarz, University of Pennsylvania

We investigated experimentally the effects of contextual factors (A) and (B) on rates of conversational implicature interpretation:

(A) concurrent instructions to think carefully about exactly what is being said
(B) later access to the verbatim form of what has been said

Participants encountered (1), which can give rise to the relevance implicature in (2), as feedback during a decoy task.

(1) I'm not suggesting that you're responding too slowly, but it's important to give the first response that comes to mind.
2) (I am suggesting that) you're responding too slowly.

When participants were questioned post-task, (A) showed no effect on the majority proportion of participants choosing (2) as having been said as part of the feedback, but (B) significantly reduced such implicature interpretations, from 65% to 50%.
In appropriate contexts, then, speakers routinely replace literal meaning with implicature as remembered gist. Since in this case the implicature (2) contradicts the literal meaning (1), "gist" is not just the essence of an utterance's literal meaning, but may be inconsistent with it, the result of an alternative interpretation strategy. We find that a context including access to an utterance's verbatim form can vitiate this shift toward implicated gist.

When one must learn multiple meanings for one word: learning polysemy

Sammy Floyd, Princeton University
Charlotte Jeppsen, Princeton University
Sarah Reid, Princeton University
Adele Goldberg, Princeton University

Words are very commonly polysemous in that they are associated with multiple conventional senses that are related to one another. For instance, a child, an engine and water can all run, but in different ways; a cap worn on the head is distinct from the cap of a pen and the cap of a bottle. Research has primarily focused on pragmatic inferences or productive rules that can be applied on-the-fly to allow for extended word senses, but little is known about learned polysemy: multiple senses that are related but not predictable on the basis of productive rules or pragmatic inferences. These related senses often do not lend themselves to a single definition, instead requiring learners to acquire a word's range of meanings through experience.

In a series of novel word learning experiments, we show that adults and typically developing children show a polysemy advantage relative to ambiguous words (multiple, unrelated mappings), indicating that learners track relatedness between individual form-meaning mappings without being derailed by the lack of shared attributes across instances. We suggest that hypotheses or associations are cumulatively added to one another, gaining strength over exposure, and benefitting from relations across exemplars. Implications for word learning theories are discussed.

'Cutting', 'tearing', and 'breaking' in Mandarin, Tzeltal, and Tamil child language

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Bhuvana Narasimhan, University of Colorado, Boulder
Penelope Brown, Max Planck Institute for Psycholinguistics

Children acquiring a first language rapidly map words to their referents with minimal exposure. However, identifying the category of referents for each word is challenging given the crosslinguistic variations in categorization patterns. Prior research suggests crosslinguistic agreement "in the dimensions along which cutting and breaking events are distinguished" (Majid et al. 2008: 235), but also reports variation in the number of categories and category boundaries. Here we examine: How early do children become attuned to language-specific semantic dimensions? How adult-like are their categories? We address these questions by investigating 'cutting', 'tearing', and 'breaking' categories in child and adult speakers of Mandarin, Tzeltal, and Tamil. We asked 4-year-olds, 6-year-olds, and adults to describe 28 videoclips of cutting, tearing, and breaking scenes (Bowerman et al., 2003). Correspondence analysis (Greenacre 1984) was used to identify the two most important dimensions of similarity for each group. Our findings show that although children home in on language-specific semantic dimensions by 4 years of age, even 6-year-olds do not have adult-like categories. Children rely on powerful learning mechanisms to extract categorization patterns from variable input in broad outline at an early age, but later semantic development is a gradual process involving considerable reorganization of semantic space.

Finding the way: The role of language in isolating motion event components in language

Roberta Golinkoff, University of Delaware
Haruka Konishi, Michigan State University
Natalie Brezack, University of Chicago
Kathy Hirsh-Pasek, Temple University

Languages differ in how they encode events in verbs and prepositions (e.g., Jackendoff, 2002; Talmy, 2000). Our question is how infants learn the particular way their language encodes the components of events they observe (Golinkoff & Hirsh-Pasek, 2008). This question is important because children must perceive and discuss events in a way compatible with their language community if they are to be successful communicators. Yet we know very little about the process by which infants turn into speakers of their native

language(s). This paper presents six studies with toddlers that illuminate the role of language in the event encoding. They focus on whether infants detect the Japanese ground-path distinctions in nonlinguistic dynamic events and whether language can influence their perception.

How communicative contexts affect meaning change and pragmaticalization – The register-dependent development of the German particle *so*
Kathleen Schumann, University of Potsdam

In German, the particle so can have a number of different usages which have emerged via pragmaticalization. From its starting point as a full lexical item with a core modal indexical meaning ('such a', 'in this way'), it gradually loses lexical meaning (as a quotative marker, vagueness marker, and in hedging constructions) and shifts from the semantic level to the discourse level. As a focus marker, it has lost all of its lexical meaning (similar to English like) and is reduced to its information structural function to highlight the focused constituent. Since pragmaticalization leads to an increase of grammatical freedom, focus marking *so* is described here in various grammatical environments, specifically in three optional positions around its co-constituents of any major lexical category in various topological fields). By investigating the usage of focus marking *so* in four different communicative contexts, I will illustrate the unequal pragmaticalization of *so* in these registers by showing that the focus marker is used with different frequencies and with a different range of grammatical options. I am going to show that the pragmaticalization process of the focus marker depends on the communicative contexts it is used in. This grammatical and socio-linguistic study aims to contribute to our understanding of how such meaning dynamics are driven by communicative and discourse-based factors.

Then too...
Benjamin Slade, The University of Utah
Aniko Csirmaz, The University of Utah

We explore the historical relations of different adverbials connected to the temporal realm, including element corresponding to English *then*, *again*, various senses of *still*, and interactions with additive and scalar particles, focusing on Hungarian, Hindi, and Nepali. Connections between adverbials like THEN and AGAIN and STILL in Hindi/Nepali and Hungarian suggest an underlying generalized ordering adverbial, for which we provide a formalization. Of particular interest is the appearance of additive particles in the formation of a number of temporal (and non-temporal) adverbials, found in Hungarian, Hindi, and Nepali, where we find the form used for "concessive" STILL is essentially composed of "again"+additive particle. Hindi *bhī* and Nepali *pani* are additive/scalar particles often meaning something like "also, even". Capturing the interrelations between ordering adverbials in languages like Hindi/Nepali and Hungarian is facilitated by the positing of a generalized ordering adverbial. Here, for instance, *again* and *then* are identical, save for the position of focus and thus the resulting focus alternatives. This also accounts for the apparent homophony of THEN and AGAIN in Nepali *pheri*, Hindi *phir*, which can rather be thought of as a type of polysemy.

On the development of adverbial prospective clauses
Lukasz Jedrzejowski, University of Cologne

In this talk, I will analyze the variation and the development of different adverbial clauses introduced by a single infinitival complementizer. The main focus will be on a presuppositional relation between purpose clauses and prospective clauses in the sense claimed by Leys (1988). The aim of this talk is twofold. First, I will illustrate that

prospective clauses emerge out of purpose clauses and that it is a cross-linguistic grammaticalization path. Second, since no additional formal markers were required in the development of prospective clauses, I argue that their emergence is due to a presuppositional meaning added to the common ground by explicit textual evidence in preceding context and, simultaneously, by entailment relationships between both types of the adverbial clauses.

Embedded V2 is anti-licensed by discourse familiarity

Spencer Caplan, University of Pennsylvania
Kajsa Djärv, University of Pennsylvania

A current topic of research concerns the licensing of embedded Main Clause Phenomena [MCP]. We present corpus data (code available and open source) of the distribution of Swedish embedded V2 [EV2]—a classic MCP, and demonstrate that EV2 is anti-licensed by discourse familiarity.

Previous accounts have proposed that EV2 is licensed in the complements of certain classes of attitude predicates (e.g. say, believe, know, vs. deny, regret). Other accounts have argued that factivity blocks MCP/EV2, since these select a clause headed by a D-layer, already common ground.

We observe that the predicates types that disallow EV2 share the semantic-pragmatic property of requiring their complements to be discourse familiar: the emotive factives and the response-stance predicates. However, the cognitive factives, like non-factive volunteer-stance predicates, do allow EV2—and additionally, allow the embedded proposition to serve as discourse new information.

Moreover, we show that volunteer-stance predicates, when negated, also require the embedded proposition to be discourse familiar. Given this, and the proposal that EV2 is blocked by discourse familiarity, we predict that volunteer-stance predicates should show lower rates of EV2 under negation. This prediction is borne out; rates of EV2 for volunteer-stance predicates are significantly higher than their negated counterparts.

Non-native speaker identity influences pragmatic judgments

Sarah Fairchild, University of Delaware
Anna Papafragou, University of Delaware

The statement "Some giraffes have long necks" appears to be under-informative: the speaker used the weaker term in a logical scale (some) when s/he could have used a stronger, more informative scalar term (all). In many contexts, this utterance will give rise to a not all implicature known as a scalar implicature. Scalar implicature is thought to require consulting another person's mental state (their intentions), which raises a question - how does pragmatic meaning differ across speakers? Here, we manipulate non-native speaker status (known to affect language processing) in order to investigate whether or not comprehenders are sensitive to speaker identity in pragmatic processing. Experiment 1 demonstrates that under-informative sentences - but not patently true or patently false statements - are judged to be better when they are attributed to a non-native speaker (with a presumably poorer command of their second language) as compared to a native speaker (p = .047). Experiment 2 replicates this finding (p <.001) and further shows that the effect holds whether or not the non-native speaker has a heavy accent. These findings provide support for a model of pragmatic processing in which listeners take into account stable speaker properties when making inferences about intended meaning.

Factivity, Definiteness, and Clausal Complementation
Kajsa Djärv, University of Pennsylvania

This talk examines the presuppositional and selectional requirements of three classes of attitude verbs: emotive and cognitive factives (resent vs. discover) and volunteer-stance verbs (deny). We present a new analysis connecting a well-established—but less well-understood, semantic-pragmatic distinction between the two types of factives (cf. Abusch 2002; Abrusán 2011; Jayez et al. 2015; Djärv et al. 2017), with the observation that they differ with respect to the size and status of their complements (Hooper and Thompson 1973 et seq). Recent work (e.g., Haegeman 2014; Kastner 2015) argues that all factives, along with the deny-verbs, obligatorily select a nominal/definite clause, which encodes 'familiarity', and prohibits extraction and projection of an extended C-domain. This generalization, however, is incorrect: only the resent and deny-verbs require a (syntactically and semantically) nominal/definite complement clause. For the cognitive factives, as for the volunteer-stance predicates (believe, say), it is optional. We argue for a new analysis of factivity, which unlike the traditional Stalnakerian approach, does not require Common Ground status. Rather, the relevant semantic notion is the predication of justified belief. Clausal definiteness, although related, is a distinct theoretical notion, which we furthermore demonstrate, varies much in the same way as definiteness in the nominal domain (e.g., Schwarz 2009, 2013).

Cognitive constraints behind the unfolding lexico-semantic battle for Swedish PINK and PURPLE
Susanne Vejdemo, The City University of New York, College of Staten Island, Queens College

Some 55-70 year old Swedish speakers adapt their lexico-semantic partitioning and naming of color space to that of younger generations. This creates a lack of in-group consensus for both color category denotations and color category focal points. This leads to an interesting synchronic variation that reveals even more interesting diachronic processes. In this talk I argue that the seniors' language behavior is driven by both universal cognitive constraints which further the subdivision of color space into smaller units; by their changing color perception physiology; and by the social realities of having to adapt to ongoing lexico-semantic language change during their lifetime. We will look at both experimental results from color naming tasks; corpus data from color descriptions in botanical encyclopedias and works of fiction; and interview data.

Roles of prototypes vs. situation-based inferences in the learning of absolute gradable adjectives
Crystal Lee, University of Rochester
Chigusa, Kurumada, University of Rochester

A key question in the study of word learning is about how learners acquire the meanings of words despite tremendous variability in how they are used in context. Absolute gradable adjectives (e.g., full, straight, wet) present a challenge to extant theories because denotations of these adjectives often include referents that do not represent a maximum standard defined by their semantics (e.g,, a 90% full cup is "full" when served at a dinner table). We test the hypothesis that learners extrapolate a maximum standard by taking into account contextual justifications that explain away visually observable variations across referents (e.g., a 90% full cup is sufficiently "full" or else it will spill). Two groups of subjects were exposed to a nonce adjective ("pelty", roughly meaning tight-fitting) used with visually variable exemplars. One group was consistently provided with contextual justifications and the other was not. We found that only those who received contextual justifications learned the adjective to be an absolute gradable adjective meaning "maximally tight-fitting". This highlights the importance of contextual reasoning in word learning, suggesting that

exposure to prototypical examples (e.g., completely full cups) is a useful but not a necessary condition for acquisition of maximum standards of absolute gradable adjectives.

GIVE in Vera'a
Stefan Schnell, University of Melbourne

The Oceanic language Vera'a does not have a verb equivalent to English give that lexicalizes strictly a sense of cause possession. In principle, the sense of caused possession is a matter of pragmatic inference rather than an encoded meaning. Yet, a corpus analysis of 395 instances of a verb *le* (which has the meaning of caused motion with alternation of control) reveals that its combination with a dative PP (which denote human locations) always yields a caused possession interpretation. All other combinations of *le* and other caused motion predicates with directionals or datives are open to both a caused possession or a caused motion interpretation. I propose an account that treats *le* as well as dative prepositions as monosemous. Datives' interpretation as the role of goal arises only where they co-occur with a caused motion predicate. Where *le* (entailing alternation of control) and datives co-occur, the inference of a recipient interpretation is not just the most plausible one (under which circumstances it might still be defeasible in principle), but apparently the only possible one (as suggested by initial judgments by speakers). I hypothesize that *le* plus dative form a "specific lexical construction" that conventionally bears the meaning of caused possession.

A formal semantic analysis of two types of locative-to-aspect grammaticalization paths
Hongyuan Dong, George Washington University

This paper explores the mechanisms for the common grammaticalization path from locative expressions to imperfective aspect markers, such as the continuous and the progressive aspect markers. Two types of such grammaticalization paths will be contrasted, i.e. the IN-type (e.g. "I am in the middle of starting over") and the AT-type (e.g. Old English "ic wæs on huntunge", lit. "I was at hunting") . It will be shown that they correspond to different ontological objects, and can be characterized by different semantic theories. For the IN-type aspect markers, which are usually continuous markers, a semantics based upon situations and a temporal inference can explain how such semantic changes took place. For the AT-type aspect markers, which are usually progressive, a semantics based upon eventualities will be shown to explain the semantic change. This work not only draws connections between formal semantic theories and historical semantic change, but also tries to shed light on the cognitive and semantic foundations of common historical change patterns.

Between zero and optional progressives: A case study across varieties of German
Dankmar Enke, LMU Munich
Roland Mühlenbernd, University Ca' Foscari Venezia

It has long been recognized that language change is cyclical in nature. Grammaticalization as the main component in such a 'Linguistic Cycle' often displays a typologically (near)-universal diachronic course. The so-called progressive (PROG) cycle starts with the language having only one broad imperfective (IMP) covering all IMP meanings, (zero-PROG). Then an optional PROG form is innovated, (optional-PROG); it becomes obligatory for PROG meanings, (categorical- PROG); and at the last stage it generalizes and takes the semantic place of the old broad-IMP form (generalized-PROG). The history of English reveals a process of changes, starting from a zero-PROG (Middle English) over an optional-PROG (Early Modern English) to a categorical-PROG grammar (Modern English). We assume that the German 'am'-PROG is its final stage of the innovation phase of

grammaticalization - before becoming a standardized optional-PROG. While English is a good instance for depicting the historical process of the PROG cycle in its (almost) full range, German is a good instance for understanding factors driving the shift from one grammatical system to the other. Studying both cases together results in a better understanding of the innovation and propagation of general mechanisms and dynamics driven by communicative constraints in language change and grammaticalization in particular.