Special Issue "Formal Approaches to Grammaticalization"

Introduction

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Across languages and language families, it has been observed that some changes in the conventions of interpretation of specific functional meanings and their corresponding linguistic markers are not random, but actually follow clear and consistent patterns. In light of these systematicities, unidirectional grammaticalization "pathways" or "trajectories" have been proposed to capture these diachronic phenomena. Less well-understood, however, is *how* and *why* these particular changes occur, *why* they should be unidirectional and/or cyclic, and *what* (communicative) mechanisms and (semantic) representations support them.

Diachronic Semantics is an emergent research program, one that seeks to address these questions on the basis of two (theretofore) distinct lines of inquiry: grammaticalization theory and formal semantics. Grammaticalization research had usually approached language change phenomena from a functionalist perspective, disregarding the formal tools that are used in semantic/pragmatic theories and seek to formally characterize linguistic meaning synchronically. Conversely, formal semantic/pragmatic work has traditionally abstracted away from the inherent variability (both dialectal and diachronic) shown in the associations between grammatical markers and their meanings. By reconciling these approaches and addressing 'semantic change' phenomena, Diachronic Semantics has offered new insights which constrain both the synchronic formal characterizations of meanings and the general theories of language change as a phenomenon borne of language use and variation.

The five papers in this collection emerge from talks presented at an Organized Session of the 94th Annual Meeting of the Linguistic Society of America, which took place in New Orleans, Louisiana, on January 5th, 2020, and represent the first special issue of *Proceedings of the LSA*. The aim of this session on Formal Approaches to Grammaticalization was to assemble a number of scholars working across different empirical domains—and with different theoretical backgrounds and commitments—to take stock of advances in this research program over the past decade. The general goal was to reflect on the challenges that we have encountered as a discipline, and the development of new ways of understanding semantic change phenomena.

Presentations were expected to provide insight into the following programmatic questions: **(a)** how—and to what extent—can we formally generalize over *grammaticalization pathways*? and **(b)** can we describe the forces or mechanisms at play in the advancement of semantic change phenomena? These questions were intended to guide interrogation of the utility of a formal apparatus—one that has had considerable success in modeling the semantic components of synchronic natural language grammars—in explaining changes between different stages of these grammars. Consequently, the presentations explored data from a number of different languages and grammatical domains, and, in so doing, characterized the formal and functional "forces" that

drive grammaticalization, identified specific payoffs of (or problems with) deploying formal semantic tools to understand these forces, and explained cross-linguistically attested meaning change "pathways." For example, formal semantic and pragmatic conceptions of a number of linguistic phenomena—including lexical and grammatical aspect, presupposition, aspectual "coercion", "implicative" predicates, "expletive" negation—are brought to bear on traditional notions from the language change literature, such as grammaticalization, metaphorization, bleaching and reanalysis. Diachronic Semantics provides a venue for these research programs to mutually inform and nuance one another.

In the first paper of the volume, '*Sich ausgehen*: Actuality entailments and further notes from the perspective of an Austrian German motion verb construction', Remus **Gergel** analyzes an emergent implicative construction in Austrian German that results from combining the motion verb *gehen,* 'go', with the particles *sich* 'REFLEXIVE' and *aus,* 'out'. He proposes that these constructions (SAGs) are implicatives, giving rise to an actuality entailment (i.e., that their complements hold true in the actual world.) In this way, they are similar to some German modals. However, a series of experimental tasks in which native speakers had to assess whether an eventuality under the scope of a modal or a SAG held in the actual world show both that the German modals are more variable in their implicative behavior than what was previously thought, and that SAGs in Austrian German are strongly actualistic, even more so than German modals. To account for these data, the paper argues that SAGs include a heavy presuppositional component; crucially, they presuppose that their prejacent is desirable. Diachronically, this meaning emerged by the use of the construction in contexts that gave rise to an implicature that later became conventionalized and lexically encoded as a presupposition. Building on Heim's MAXIMIZE PRESUPPOSITION, Gergel argues that the overt marking of a presuppositional component is advantageous not only in specific communicative situations, but that the advantage accumulates over time. Thus, he advances a general principle of diachrony, MAXIMIZE PRESUPPOSITION MARKING OVER TIME, such that interlocutors would increase the signaling of presuppositions by using triggers when it is appropriate. Once these markers have developed to fill in those paradigmatic gaps, there would be a general tendency to systematically keep them in the language. Additionally, Gergel considers the role of contact in inducing grammaticalization phenomena; specifically, he suggests that a similar construction in Czech likely facilitated the development of SAGs in Austrian German.

In 'Pseudo-grammaticalization: The anatomy of *come* in Modern Hebrew pseudo-coordination constructions', Nora **Boneh** presents an analysis of a pseudo-coordinative construction in Modern Hebrew: *ba və-*VERB 'come and VERB'. *ba və-* constructions are generally understood as encoding a singular eventuality (*sc.* that which is described by its complement) and encoding information about the speaker's attitude with respect to this eventuality (such that they perceive it as "unexpected" or "unacceptable.") While other authors have described motion verbs (relevantly English *come*) as participating in a grammaticalization cline and developing readings as auxiliary or light verbs, Boneh proposes a unified semantic treatment for *ba* 'come' in both its pseudo-coordinative use and its "simple" use as a change-of-location predicate. On the basis of these data, Boneh gives evidence for a more constrained notion of exactly what comprises "grammaticalization", rather presenting these semantic developments as novel interpretive properties emerging out of treatments of aspect that are well-defined in the formal semantics literature.

Elitzur **Bar-Asher Siegal**'s contribution, 'A formal approach to reanalysis: The case of a negative counterfactual marker', recasts *reanalysis*—that phenomenon that is often taken to be the key mechanism driving language change—in formal terms and subsequently considers whether this characterization as the driver of language change is appropriate. He takes as key data the Semitic negative counterfactual particle *ʾilmale,* whose semantic contribution differs depending on its syntactic environment: *ʾilmale* receives a 'positive conditional' reading when introducing the antecedent of a subjunctive but a 'negative conditional' reading when it occurs prenominally (as a type of privative marker). Interrogating what is meant by *reanalysis* (notably, highlighting the independence of syntactic/formal and semantic/functional reanalysis and arguing for a conception of 'reanalysis' as a *constraint* on loci of language change), Bar-Asher Siegal shows how *ʾilmale* was subjected to a string of reanalyses, each generating linguistic conditions that account for this lexical item's distribution and interpretive conventions synchronically. However, he argues that the reanalysis of a linguistic form does not change the truth conditions of the proposition in which that form appears, regardless of the kind of reanalysis (grammatical or semantic). These data make a convincing case for the utility of considering historical processes in accounting for the appearance of "strange beasts"—surprising synchronic semantic phenomena.

In French, *passé composé* forms are often understood to have displaced corresponding *passé simple* forms in realizing past perfective predication. Marshalling data from diachronic French corpora, Patrick **Caudal**'s contribution, 'Coercion for the ages? : A thousand years of parallel inchoative histories for the French *passé simple* and *passé composé*' sheds new light on the trajectory of this semantic change, particularly as it relates to the availability of inchoative readings for each form (that is, the cooccurrence of a perfective form with a stative predicate "coercing" a state change reading). Investigating distributional facts for each of these forms diachronically, Caudal argues that 'type-mismatch' accounts of coercion phenomena are inadequate, particularly insofar as they fail to predict the resistance of some classes of individual-level predicates to inchoative readings with the *passé composé.* Caudal ultimately suggests that these diachronic data provide a serious challenge to type-mismatch-based accounts of aspectual phenomena and calls for rethinking coercion in terms of conventionalized and inferential meaning.

Closing the collection, 'Linguistics meets Economics: Dealing with Semantic Variation', by Adam D. **Clark-Joseph** and Brian D. **Joseph**, presents a transactional model of linguistic communication based on notions from economics. Their model is designed to analyze semantic variation and change phenomena that arise in conversational settings. They agree with previous models (*viz.* Grice's Cooperative Principle, Rational Speech Act Theory) in analyzing conversations in which speakers and listeners are cooperative and have shared motivations in communicating, but they depart from those models in that they consider cases in which there is no communicative success and, consequently, a *cost* is incurred, since either speaker or listener needs to accommodate the message. The authors first ask whether there is such a thing as *semantic change*. They argue that to talk about semantic change (besides the cases in which new referents are created in the world and are given a new name), we need to study changes in which a given, existing referent gets connected to a different string of phonemes —that is, changes in the association between sounds and meanings, and not in the meaning itself. After restricting their domain to these phenomena, they observe that related variation can occur whenever two different speakers have attached a different meaning to the same string of sounds. For example, while some speakers will define *impeach* as the process of formally accusing a public official of

wrongdoing, others appear to have added a new condition: namely, that some scrutinized official has already been removed from office. So, in their model, what happens when the speaker uses a word that the listener has never heard being used in that way? The listener might not be able to understand what the speaker meant, producing a disruption in the transmission of the message, and disturbing the success of the communicative exchange. According to the authors, there is an *opportunity cost* in these miscommunications, which is usually minimal but that in particular circumstances can actually be very large. They bring up the case of meetings between venture capitalists and entrepreneurs; in these meetings, whenever there is miscommunication, opportunities are missed on both sides. Their model explicitly incorporates this *economic* dimension into the process of communication: is it the effort to avoid these costs that constrains semantic variation and change?

As should be clear on the basis of these summaries, the papers of this special issue address a number of open questions and important conceptual issues, characteristic of a lively research program that has emerged out of distinct strands of investigation, containing important insights for the discipline more broadly. Again, we would like to thank each author for their work.

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