

Editorial

New Empirical Approaches to Grammatical Variation and Change

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Research on grammatical variation and change has traditionally been based on diachronic and synchronic corpus analysis, but the growing importance of experimental approaches to the study of language has led many researchers to combine corpus study with experimentation to systematically examine linguistic variability and stability. Using experimental or otherwise innovative approaches to the study of grammatical variation and change can help advance these fields methodologically and broaden their empirical base, open up new perspectives on the phenomena under investigation, and inform theory building. Experimental or combined approaches may provide answers to the question of how constraints imposed by the language processing system influence speakers' usage preferences in variation contexts, or why certain grammatical variants become part of an existing grammar or become dominant, while other variants disappear or become marked options.

The idea for this special issue emerged from a workshop on "Multi-methodological Approaches to Synchronic and Diachronic Variation" which we organized in 2019 at the University of Potsdam. This workshop aimed to bring together researchers investigating language variation and change from different theoretical, empirical, and methodological perspectives. The goals of this special issue are to provide readers with a selective overview of current research in the area of diachronic and synchronic variation, and to emphasize the usefulness of combining different empirical methods to gain more comprehensive insights into grammatical variation than can be obtained from traditional corpus analyses alone. Note that there is only partial overlap between the workshop contributors and the contributors to this special issue. For the latter, a separate call for papers was initiated through *Languages* and all contributions were peer-reviewed by experts in the relevant fields.

This special issue includes a total of eight original research articles which draw together theory-oriented and empirical investigations based on experimental, multi-methodological, and other innovative approaches to investigate diachronic (De Troij and Van de Velde; Truswell; Wallenberg, Bailes, Cuskley and Ingason) and synchronic (Bader and Portele; Felser and Jessen; Günther; Miglio and Gries; Sanfelici and Schulz) variation patterns. Between them, these articles discuss grammatical variation and change from a range of different methodological and empirical perspectives. The three articles focusing on diachronic change base their investigations on corpus analyses of historical English (Truswell; Wallenberg et al.), Icelandic (Wallenberg et al.), and Dutch (De Troij and Van de Velde), and include computational approaches to model linguistic variation patterns. The studies investigating synchronic variation have used a variety of experimental methods such as acceptability judgements (Bader and Portele; Felser and Jessen; Miglio and Gries), split rating tasks (Günther), self-paced reading (Felser and Jessen; Günther), or a combination of these, examining speakers' performance patterns in both language production (Felser and Jessen; Sanfelici and Schulz) and comprehension (Bader and Portele; Felser and Jessen; Günther; Miglio and Gries). Between them the experimental investigations cover several



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languages including English (Günther), German (Bader and Portele; Felser and Jessen; Sanfelici and Schulz), and Spanish (Miglio and Gries), and present data from different populations, including three- to six-year-old children (Sanfelici and Schulz), adult native speakers (Bader and Portele; Felser and Jessen; Günther), heritage speakers, and advanced L2 learners (Miglio and Gries).

The contributions to this special issue provide an attempt to shed light on a variety of sources, factors, and measures potentially influencing grammatical variation or change. De Troij and Van de Velde, for example, go beyond the traditional assumption that grammaticalization processes are mainly visible in an increase in token frequency and instead show that the quantitative investigation of a wider range of formal diagnostics can be useful for unveiling subtle grammaticalization processes. Truswell's study of a previously unnoticed Middle English grammar and its failure to spread despite high flexibility challenges the traditional theory of grammar competition, for which he sketches a possible alternative algorithm in terms of Bayesian approaches. The usefulness of empirical data to inform linguistic theory is also highlighted by Bader and Portele's contribution, in which the authors investigate novel factors influencing the acceptability of object fronting in German. Sanfelici and Schulz's experimental study investigates to what extent frequency in natural speech can shape adult language use and acquisition. The authors conclude that frequency alone cannot account for speakers' grammatical choices and suggest that language-internal factors, such as structural complexity, should also be taken into consideration as potential parameters determining speakers' grammatical choices.

Irrespective of any particular theoretical framework, models of language change have often referred to notions such as processing complexity, economy, and efficiency as factors potentially explaining language change (e.g., [Biberauer and Roberts 2017](#); [Chomsky 2005](#)), but usually without providing any supporting evidence from experimental language processing research. Psycholinguistic methods that tap into real-time language processing can provide more direct measures of how processing-related factors may affect speakers' grammatical choices and thus influence linguistic variability and stability over time. Several contributions to this special issue investigate the influence of real-time processing constraints on synchronic variation patterns. Günther, for example, explores the role of cognitive complexity as a determinant of grammatical variation between preposition stranding and pied-piping in English relative clauses. She concludes that complexity might arise at different processing stages and advocates a multi-methodological approach to detect and analyze grammatical variation patterns from different angles. Felser and Jessen's study on correlative conjunction discusses the role of processing constraints in the computation of subject–verb agreement in present-day German.

Further dimensions to the study of linguistic variation patterns as potential sources of language change are added by Wallenberg et al.'s and Miglio and Gries' contributions. While Wallenberg et al. examine the role of information density on diachronic word order variation and identify linguistic stability, such that speakers exhibit a constant level of information uniformity, across long periods of historical time, Miglio and Gries detect a fully-fledged linguistic change in the use of psych verb constructions in US heritage Spanish that has taken advantage of existing synchronic variability in monolingual language users in this domain.

Taken together, as evidenced by several articles in this collection, linguistic variability and diachronic stability are not only promoted by a variety of triggering factors, but can also only be fully decoded when probed with the help of a wide spectrum of theoretical, empirical, and methodological approaches. That being said, the current compilation of articles only provides a selective portrayal of new empirical approaches to grammatical variation and change, and space for future research remains. First, the typological variety represented in this special issue is limited to a small set of European languages (English, German, Dutch, Icelandic, and Spanish). Future research on typologically different languages from across the world and cross-linguistic comparisons might further demonstrate the benefits of multi-methodological approaches to the study of language variation and

change. Second, the influence of non-native language processing on grammatical variation patterns has only been highlighted by one contribution to our special issue. Further examining multilingual language processing and its influence on linguistic variation phenomena might help advance our understanding of both synchronic and diachronic language change. Finally, the domain of language change *in progress* is not tapped into by any of the contributions of this special issue. We believe that investigating synchronic language change, for example, by systematically comparing data from younger and older speakers, would considerably broaden our understanding of linguistic variability over time and add a substantial but as yet underexplored area of interest to grammatical variation research.

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