

between them lies in the fact that Progovac employs the Darwinian approach, viewing language as an adaptive complexity in the service of communication, while Berwick & Chomsky distance themselves from such a conception, emphasizing that Merge, the recursive generative capacity of language, is designed not for communication but for the expression of thought. While both of their approaches are thought provoking and shed new light on the study of language evolution, Progovac's approach is empirically more testable and falsifiable and thus more convincing. Particularly, her two supporting fMRI experiments provide impressive support. There is little doubt that it will be a challenge for researchers to do similar experiments on the basis of Saltationist hypotheses.

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**Rena Torres Cacoulios & Catherine E. Travis**, *Bilingualism in the community: Code-switching and grammars in contact*. Cambridge: Cambridge University Press, 2018. Pp. x + 372.

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Understanding the relationship between language contact and language change continues to be a central concern within a wide range of linguistic disciplines. One route into this problem is to examine the role of intergenerational transmission of linguistic systems. Here the biases in input received by a child acquiring language may induce reanalysis of linguistic forms and rules. The result is a system that

is similar, but not identical, to that of their caregivers. In this case, change is the result of contact between speakers, or generations, and manifests, ultimately, in diachronic shift. Another potential perspective is synchronic, and here the route is within the same individual where the use of more than one language brings about convergence between the discrete linguistic systems. It is the latter approach that underpins Rena Torres Cacoullós and Catherine E. Travis' main thesis. They set out to examine 'the contact-induced change hypothesis', where change results not from intergenerational transmission but where 'bilinguals' use of two languages spawns similarity between their grammars' (57). In particular, the authors investigate how the practice of code-switching, which they define as 'the use of two or more languages in a single discourse event' (174) is implicated within the process of intraspeaker grammatical convergence.

In order to test this hypothesis, Torres Cacoullós & Travis present an innovative approach which combines both established and pioneering methods from variationist sociolinguistics as well as those from research into bilingualism. This original methodology is further enhanced by the inclusion of rich and expansive speech corpora. Examining '[l]anguage contact through the lens of variation' (1) allows the authors to lift empirical insights and techniques from separate fields which, when combined, amount to more than the sum of their parts. The corpora also add to the lively and engaging style; frequent use of corpus examples and extracts illustrate the data and provide a vivid sketch of the phenomena under investigation. The book comprises 11 chapters: Chapters 1–7 outline the thesis statement as well as the data and method, while Chapters 8–11 report on the findings and implications. At first glance, the book feels slightly weighted away from its original findings; however, as much of the book's contribution lies within its creative method and original corpus, this is arguably justified.

Central to the book's agenda is the question of how we empirically assess grammatical similarity. More importantly, the authors ask how we separate grammatical convergence which results from parallel but independent shifts in the diachronic development of a language from grammatical convergence which results from contact. The key, they argue, lies in utilising the variationist approach alongside a matrix of comparisons. This involves scrutinising the variable details of the bilingual grammar and comparing these with earlier states, as well as synchronous, non-contact equivalents of the contributing languages. The matrix of comparisons adds a final fail-safe of empirical rigour as it is designed in order to eliminate false positives. In this view, features which occur in the bilingual grammar which are not a part of an older form of the language are only diagnosed as resulting from contact if they do not occur in the non-contact counterpart. If a feature occurs within both bilingual and non-bilingual grammars, these are arguably the result of ongoing changes at work in the system whose origins pre-date the contact brought about through bilingualism.

In support of their method of analysis, Torres Cacoullós & Travis cite a change found in Quebec French which sees an increase in preposition stranding, a common feature of English. The feature's presence in this variety of French is often

attributed to its contact with English. A more detailed analysis of the variable patterning, in both languages, reveals divergent variable patterns which, they argue, indicate different, independent processes of change and NOT convergence across the systems brought about through cross-linguistic influence (Poplack, Zentz & Dion 2012). As well as providing a workable empirical diagnostic for grammatical similarity, this method also questions how we designate linguistic typologies where a variationist examination may suggest that presence/absence of a feature, or even matching of rates, between languages or varieties is not enough to compare and catalogue languages into types. While this method undeniably enables a more fine-grained picture of the grammar, whether or not this approach can actually undermine typological categorisation is less convincing. Broader implications aside, the book succinctly concludes its opening chapter by motivating the substance of its endeavour: ‘Does code-switching and language contact lead to grammatical changes? Systematic quantitative analysis of bilingual speech situated in its social context holds the answers’ (12).

Chapters 2–4 provide a detailed description and justification of the data and serve to underline the study’s methodological contribution. As the authors point out, large-scale migration which characterises the present day provides an excellent opportunity to examine the potential for sustained bilingualism to bring about grammatical change. The primary dataset is the New Mexico Spanish–English Bilingual (NMSEB: <https://nmcode-switching.la.psu.edu/nmseb>) corpus which targets the large and well-established community of bilinguals who live within the region, and who, despite intense pressure and stigma, have resisted a shift to English. The corpus construction is informed by sociolinguistic field methods, where the speech community is defined as those with a shared structural base as well as shared social evaluation of forms (e.g. Labov 1972). The corpus is socially stratified via a Principle Components Analysis which enables the use of social and linguistic factors to characterise variable grammars and to identify change.

Chapter 3 details the type of data contained within the main corpus: unelicited code-switching recorded by a community insider. Torres Cacoullous & Travis place a ‘premium on spontaneous speech’ (39) as they argue, not only is this the most naturalistic and ecologically valid, but also the most accurate as speakers of stigmatised codes and varieties will often not report correctly on use – they judge constructions they use themselves as unacceptable. This chapter also describes the strict transcription protocol which organises speech into chunks based on intonation units, a syntactically-informed approach. Chapter 4 presents the linguistic gauge of language contact: language predominance. This entails a clause-level quantification of the relative amount of use of either language, and how each language features in the speakers’ daily life. The authors tentatively suggest that the amount of daily use of each language impacts the amount of relative cognitive ‘activation’ of either language. Despite this careful approach, the resulting categories see speakers assigned to one of three categories: Spanish dominant, English dominant, or mixed.

Chapter 5 provides a comprehensive survey of subject pronoun expression, an extremely well-studied feature within the context of bilingual research. In order to situate the analyses in the following chapters, this section reviews the range of language-internal factors (e.g. contrast/emphasis, clause type, verb tense, semantic verb class, grammatical person, etc.), which have been shown to constrain this variable. The exhaustive review is essential given the methodological approach taken, which sets out to compare the details of the variable patterning across the matrix of languages. The discussion is framed by probing the underlying reason for such variable tendencies; in short, whether variable patterns, e.g. higher use of overt pronouns during lower levels of linguistic accessibility, reflect the arbitrary structures of particular languages or universal effects of heightened cognitive demands. If variability can be explained by the latter, it is not a good test case for linguistic convergence because it would be predicted as a universal tendency cross-linguistically. When a language in contact goes against the grain of its own natural biases, this can be considered satisfactory evidence of linguistic convergence. It is this assertion that forms the foundation for the description of the linguistic tendencies of the languages under study. This description forms the basis for Chapter 6, which suggests that subject pronoun expression is a gradient feature of languages, including English and Spanish. This may be a sticking point for many linguists who, while they may be willing to accept that this feature can be gradient in some languages, are less likely to accept this is the case for either English or Spanish.

Following this detailed framing, Chapters 7–9 present the original findings. Chapter 7 relays the diachronic perspective which compares the variable bilingual grammar with an older, monolingual state of the language. Chapters 8 and 9 survey the evidence as it pertains to grammatical convergence across the two languages. Essentially, has the Spanish subject pronoun expression become more similar to English, or has English drifted towards Spanish in the bilinguals' grammar? The data are subject to a thorough variationist analysis which assesses whether there has been a shift in variable constraints across the feature in the two languages. The findings suggest that the languages, on this feature at least, are distinctly separate: 'On every single comparison . . . we have seen that bilinguals' Spanish aligns with monolingual Spanish and their English with monolingual English' (172). While the design, and generation of hypotheses may imply that this finding was unexpected, given the radically different syntactic statuses of the variable in the respective languages, it is somewhat hard to be surprised by this result (e.g. Dominguez & Hicks 2016).

Chapter 10 takes a different perspective and reports on an experimental approach which investigates the role of linguistic priming. Specifically, the question is how code-switching creates a natural priming environment where the use of a feature, or its pattern within one language, may promote its use or patterning in another. In contrast to the variationist approach, the results from the priming experiment are mixed. Code-switching does not bring about grammatical convergence per se but can induce 'a shift in the frequency of contextual features

contributing to variant choice' (195). In this sense code-switching brings about seeming convergence by virtue of context accretion but not an actual structural shift. In short, '[b]ilinguals maintain grammatical independence even when they are code-switching' (202).

While the choice to focus on one feature enables excellent depth and detail of analysis, it does so at the unavoidable expense of breadth. In this regard, the conclusion that '[t]he hypothesis of convergence is firmly rejected' (203), since it is based on only one feature, appears slightly too strong. However, with its innovative methodology, the book provides an excellent template for anyone wishing take up the mantle and test this hypothesis on other features, possibly those that are more syntactically compatible across English and Spanish (articles, or determiners, for example).

*Bilingualism within the Community* offers a sophisticated and compelling example of how the variationist paradigm can be brought to bear on fundamental linguistic issues. The questions and issues tackled in this work make it a valuable contribution to both sociolinguistics and bilingualism, and the book will exhibit broad appeal to linguistic scholars working within a range of different disciplines. Indeed, the principled construction of the corpus, as well as the detailed description of the analyses and their foundations, offer an exemplary guide to variationist and bilingual postgraduates in the process of designing their own studies.

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