

Review of Tamaredo, Iván. 2020. *Complexity, Efficiency, and Language Contact. Pronoun Omission in World Englishes*. Bern: Peter Lang. ISBN: 978-3-034-33902-5.  
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This is a really interesting monograph with a precisely defined goal: exploring the intersection of the two topics mentioned in the title, linguistic complexity as evidenced in patterns of pronoun omission in World Englishes. This research design translates a fundamental question in linguistics into an appealing, multi-faceted project: Does language contact result in simplified linguistic varieties? World Englishes are seen as typical manifestations of contact-induced varieties, and the deletion of pronouns in subject or object position, not typically regarded as a characteristic feature of World Englishes, is considered as a model case which allows the investigation of processes of linguistic simplification and restructuring. Both aspects are systematically and comprehensively introduced, and a variety of perspectives and data types selected allows insights into the interrelationship between the two and, more widely, the fundamental questions raised.

Perhaps surprisingly, the “Introduction” starts with an outline of a biological experiment which shows that humans exploit energy maximally efficiently (in walking), and from there it extrapolates in a most appealing fashion to a consideration of language processing, arguing that languages also strive towards an optimal encoding in communication, as shown in ‘Zipf’s law’ and work by Hawkins (2004). The author argues that pragmatic inference contributes to that efficiency, allowing under-specified information to be drawn from context and thus contributing to complexity reduction. Pronouns are introduced as model instances of units whose referents can be retrieved

and which can thus be omitted fairly readily. In the light of contact influences as manifested in different branches of research on World Englishes, pronoun omission is thus argued to be a suitable test case for the interrelationship between complexity reduction and contact. Two convincing research questions are consequently formulated, asking for the contexts and conditions of pronoun omission in the light of efficient information encoding and for the constraints governing this process.

The next two chapters circumscribe the two main topics underlying the study and point out what is known (or postulated) about them from earlier research, and they do so in a highly informative, concise and well readable fashion.

The notion of linguistic complexity and the question of whether all languages are equally complex (with a postulated internal trade-off between structural domains with high complexity and lower complexity in others compensating for this) has been discussed and researched intensely over the last few decades, with a number of classic publications and collective volumes on the issue. The author provides a masterful survey of the history of the notion (with a special eye on the idea of complexity invariance, now largely refuted), different approaches towards and assumptions on it, earlier investigations, and metrics suggested to measure it. Sources of complexity variance, such as the passage of time, language contact, or the role of adult language acquisition, are considered, leading to a discussion of underlying processing principles posited by Williams (1987) and Filipović and Hawkins (2013). Comparing sociolinguistic and typological claims on the issue, it is argued that short-term adult contact reduces complexity but long-term childhood bilingualism increases it. Three proposals on how to measure complexity and associated principles (e.g., economy, transparency and isomorphy, the number of distinctions encoded, or postulated properties of the ‘human processor’) are discussed and compared in great detail and with sensitivity to the difficulties involved, resulting in a distinction between different kinds (and concepts) of complexity, namely, systemic vs. structural complexity, and also global-local, absolute-relative and overt-hidden complexity. For anybody interested in the complexity debate this chapter offers a recommendable summary. It concludes with a survey of work on the interrelationship between complexity levels and varieties of English, arguing in general that high-contact varieties (language shift varieties as well as pidgins and creoles) are simpler in some respects than low-contact varieties (traditional dialects).

Chapter 3 focuses on pronoun omission, highlighting different approaches to the phenomenon (the generative notion of a pro-drop parameter or cognitive explanations along context and accessibility), earlier findings concerning its occurrence cross-linguistically and in the history and varieties of English and, perhaps most importantly, constraints which have been found to govern the process. Several factors that license pronoun omission are identified, discussed and illustrated, including the presence of agreement morphology, the retrievability of an antecedent, priming effects, verb semantics, coordination, style or chunking effects. Considering some of the complexity distinctions assessed earlier, the author then concludes that pronoun omission represents a case of simplification, since “formal complexity is minimized” (p. 92) with one form less to process, while for the hearer online processing is not made more difficult.

The next two chapters present empirical studies which, although sharing the topic, are completely independent. Chapter 4 scrutinizes data from the *Electronic World Atlas of Varieties of English* (eWAVE; Kortmann *et al.* 2020), which documents the presence or intensity of 235 linguistic features in 77 varieties. Five of the features represent different types of pronoun omission, and these are analyzed with respect to their region—with varieties assigned to eight large-scale world regions which are viewed as a proxy for possible substrate influences, a somewhat problematic assumption given the high degree of multilingualism in many world regions—and variety type (as categorized within eWAVE). These two factors are treated as predictors in a linear regression analysis, with indexes of attestation and pervasiveness as dependent variables, and both sum values and the individual features are considered. The results show that contact varieties (shift L1s, indigenized L2s, pidgins, and creoles) have higher attestation rates than low-contact varieties (traditional and dialect-contact L1s), and region has a significant but weaker impact (merely residual after accounting for variety type) on the pervasiveness of the feature in Asia and the Pacific region. The impact of region is stronger, however, for individual pronoun omission features. A global assessment of these findings, including a comparison to distributions in the *World Atlas of Language Structures* (WALS; Dryer and Haspelmath 2013) confirms these tendencies and supplements a few more details.

Chapter 5 adds a full-blown corpus analysis of the constraints effective in pronoun omission. Three components from the *International Corpus of English* (ICE; Kirk and Nelson 2018) were chosen, namely Great Britain as a low-contact variety, India as a

high-contact L2 variety, and Singapore as a language form in between (also considered high-contact, but with many speakers using English as an L1). This is a decision which is defensible, though it might have been even more interesting to pick an African variety instead of Singapore, which is exceptional in many ways, and perhaps investigate one or two more varieties overall. While pronouns can be retrieved automatically, zero pronouns cannot (which requires a lot of reading and manual searching), so it makes sense to restrict the source texts to a small fraction of ICE. The selection criteria described (p. 136) are convincing. A really interesting methodological decision which might have been argued for a bit more extensively is the selection of an equal number of zero forms as the random sample size of attested pronouns, since in reality pronoun omission occurs substantially less frequently. Thus, while internally the relationship between constraints with and without omission is of interest (and certainly comes out more clearly forced like this), a certain distortion effect cannot really be ruled out (pp. 171–172), since the set and number of omitted pronouns considered, as opposed to attested ones, is boosted. The analysis itself considers two language-external variables and eleven language-internal variables, which are well explained and illustrated, together with hypotheses on their expected impact on pronoun omission. Data presentation then shows both univariate results (i.e., frequencies of present vs. omitted pronouns per variable, presented graphically) and, for complex interaction effects, binary mixed-effects regression modelling as well as random forests per variety, to be able to compare effect strengths.

The results presented in Chapter 5 are rich and manifold, and clearly too voluminous to be reported in detail here. The univariate description of findings is concluded by a nice summary, which identifies a disproportionately high omission rate in Singapore (in my view clearly a substrate effect), and higher omission rates in writing than in speech (which may have to do with more processing time available and easier access to antecedents in written texts). Omission occurs strongly but clearly not exclusively in contexts which reference grammars have described as ‘canonical’ for this phenomenon (like in coordination, clause-initial position, or declarative main clauses). It is also shown that cognitive and processing effects indicate a trend towards efficiency, that is, when omission does not increase the addressee’s processing load in decoding.

The multivariate analysis shows eight predictors and two random effects (speaker and verb form) to have a significant impact. The state-of-the-art statistical machinery

employed is explained by the author in an accessible manner, and goodness-of-fit tests show the model to have strong explanatory power. Boxplots visualize the model predictions and help to make the results accessible. Factors which promote the omission of pronouns include high accessibility of the antecedent, priming (by another instance of omission in the preceding context), main clauses, pronoun reference to other than the speaker or hearer, and lexical and modal (as opposed to non-modal auxiliary) verbs. In addition, a few interaction effects involving variety are worked out; for example, Singaporean English and less so Indian English but not British English tend to omit pronouns also in non-initial positions. Random effects (i.e., different verbs and speakers) also have varying preferences. Overall, as is shown convincingly in the “Discussion” (5.4.1.2), the contact varieties tend to display higher omission rates in more contexts than British English. The findings are compared to earlier claims on the issue and to the author's preliminary hypotheses. Structurally, pronoun omission is evaluated as contributing to simplicity and efficiency, as it is favored in contexts associated with “independent cognitive and processing motivations” (193). Relative system complexities are then measured by running random forests per variety, again yielding strongly predictive model fits. Regional per-variety grammars show some similarities in the ranking of effective constraints (for example, coordination is always the strongest) but also differences in the ranking and number of factors (with Singapore showing nine rather than eight predictors to be effective). The line of argumentation is interesting, though I am not wholly convinced whether the small number of differences is sufficient to attribute to Indian English as the only pure L2 variety the simplest pronoun omission grammar (197), with the same number of constraints effective as in GB.

Overall, the author finds the interaction between contact and complexity to be “intricate” (p. 199), summarizing and highlighting some varying but also some shared tendencies. Pronoun omission is argued to represent structural simplification and to contribute to communicative efficiency, with reduced production and processing efforts. A distinction between structural and systemic complexity is strictly upheld; British English is regarded as the variety with the most complex grammar structurally, and Indian English, as a clear product of L2 acquisition, is claimed to be the simplest systemically. Substrate impact is largely rejected because Singapore's constraint ranking is similar to (and statistically positively correlated with) that of Great Britain.

This is a claim of which I am not totally convinced, since Singapore's proportion and frequencies of omission tend to be highest in many contexts, which, to my mind, is perfectly in line with positing a Sinitic substrate (pp. 208–209). Perhaps the small difference in the number of significant constraints in the random forest analyses (in addition to variable results as to their ranking) is given a bit too much weight as opposed to other findings.

Chapter 6, “Concluding remarks and suggestions for further research,” summarizes the author's views and findings on the interrelationship between linguistic complexity and communicative efficiency, as showcased in his thorough investigation of pronoun omission as a model application case. While coming down to a clear preferred baseline interpretation (pronoun omission contributing to simplicity), the author always provides a balanced argumentation. He juxtaposes his finding of “support for the claim that pronoun omission results in simplification without a loss in communicative efficiency, at least in structural terms” (p. 205) with the opposite position that “in systemic terms, pronoun omission produces more complex grammars as it entails a larger set of referential expressions and, possibly, more rules to account for their use” (p. 205). And I agree that one of the impressive and interesting findings of the study is having “uncovered a potential trade-off between structural and system complexity in S[ingapore] E[nglish]” (pp. 206–207).

The author is to be congratulated on having provided a fine, most sophisticated case study which tackles the issue investigated systematically, comprehensively, and with great theoretical and methodological awareness and rigor. His research has creatively combined some theories and branches of linguistics which, as is clearly shown, could profit from more regular and substantial interaction. This is a tightly circumscribed model case study digging deep and offering valuable insights and also a lot of food for thought. Still, understanding linguistic complexity (and even more so in its interaction with contact) simply remains a most complex task.

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