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Bilinguals and knowledge of language: a commentary to “Language Acquisition and Linguistic Theory”

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Abstract: How infant and adult humans learn languages and what this tells us about the various aspects of the language system is currently a central topic in linguistic research, one that more and more includes bilingualism and language attrition in its embrace. Despite the centrality of the problem of language acquisition for Generative Grammar, it is fair to say that other modes of language learning are now entering the arena of discussion, having shown their potential for discovery in Cognitive Science at large. Some aspects of grammatical knowledge that are hard to acquire and yield differences between native and non-native speakers reveal that language learning is indeed a special type of learning, which in turn reveals that knowing more about these entails knowing more about language.

Keywords: language acquisition, Bilingualism, Generative Grammar

1 Introduction: language acquisition and Generative Grammar

The question of how languages are learned is a very late arrival in Linguistics. Despite its tardiness in emerging as a scientific problem in the field, it is now one of its centerpieces. Given today’s outlook, it is surprising what little attention language acquisition received throughout the history of Linguistics. We can count Roman Jakobson (1941) as a pioneer among the rare linguists wondering about how children learn to speak; Jakobson thought of bringing data from children’s linguistic development as evidence for phonological universals. In doing this, he revealed himself to be a truly original and imaginative researcher, capable of finding relevant evidence where others saw only uninteresting babble.

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The problem of language acquisition is not properly presented until the very end of the twentieth century, when Noam Chomsky, in a book review that was meant to question the whole enterprise of Behavioral Psychology (Chomsky 1959), set it out as one of the central goals of research in Linguistics. Language acquisition would from then on be a key question in Generative Grammar, whose main task should be to lay out what constitutes our knowledge of language and explain how (much of) it is acquired (Chomsky 1986; Yang 2002).

The focus of the problem of language acquisition in Generative Grammar (henceforth GG) originally involved human children who are developing their first language and seem to do so without much apparent instruction, in such a way that experience-independent linguistic knowledge (otherwise known as Universal Grammar) is postulated in order to account for the development of very complex grammars in a few year's time. The problem of how much the child knows of language upon being born has begun to unravel during the last decades, and research from early language acquisition in the field of developmental psychology has brought a far more nuanced perspective on what is the organism-internal initial state the child brings to the world with her (Werker and Tees 1984; Saffran et al. 1996; Gervain et al. 2008 among others).

2 Second language acquisition, Bilingualism and Generative Grammar

It was only at the very end of last century that generative linguists started asking the question of how a second language is acquired and whether it taps on the same processes as first language acquisition (see White 1989 for a pioneering example). We must wait for the twenty-first century to see the related issue of bilingualism and its many varieties enter the arena of discussion and theory construction in GG (Sorace 2003, 2011; White 2003, constitute relevant examples). Despite the many scientific challenges and opportunities that the realm of bilingualism poses for the language sciences, I think it fair to say that it still does not occupy the place it deserves in GG research, particularly given the important explanatory role this approach to language grants to experience-independent knowledge, and to the interplay between universal and variable properties of grammars that any human language learner must confront.

The expand in research on bilingualism in recent years, lead mostly by Psycholinguists, Cognitive Psychologists and Neuroscientists, has provided us

with fascinating insights about how bilinguals control what language to use (Costa and Santesteban 2004), and how preverbal infants only a few months old can detect and differentiate the languages spoken around them (Bosch and Sebatián-Gallés 2001), for example. These feats involve cognitive processes and mechanisms that interact with but are not specific to language, and so they provide linguists with an ample panorama of all the knots and bolts implicated in language acquisition, processing and representation.

3 Language variation and Bilingualism in Generative Grammar

Generative linguistics (at least since Chomsky 1981 and up to Chomsky 1995) conceives of language diversity as a systematic phenomenon. This view is most clearly articulated in the *Principles and Parameters* model of language (Chomsky, 1981), which holds that particular languages all share the invariable principles of grammar, whereas linguistic variability is the result of specific combinations of a finite number of discrete parameters of binary values (Baker 2001, 2003). Despite debates on specific aspects of parametric theory (Kayne 1994; Roberts and Roussou 2003), this model of language assumes that, in addition to a set of universal principles, the human language faculty provides a set of parameters which jointly define the limits of language variation. In this sense, then, the language learner must not worry about the universals, which are known, and must set the task of determining what the values of the parameters are in the language(s) to be learnt.

This is by no means the prevailing view among language researchers, many of whom argue that linguistic traits are not discrete properties, but at best constitute statistically based generalizations, and that individual languages offer radically different answers to communicative needs of shared intentionality (e.g. Evans and Levinson 2009). This confrontation regarding the very nature of human language and the ultimate source of its diversity has generated a lively debate in the field (e.g. Rooryck et al. 2010). The study of different modes of acquisition and bilinguals can be a fertile ground to contribute to it, by investigating whether the hypothesis about language variation put forth by the P&P model in terms of binary-valued parameters can account for the data that these populations yield.

For Linguistics specifically, bilingualism can provide crucial evidence regarding the nature of linguistic knowledge, with its shared and its variable

aspects. If shared aspects of language need not to be learned because they form part of UG, as often argued in formal approaches to language acquisition, we should expect that only the variable aspects of language form, dependent on experience (perhaps on early experience) will be sensitive to the amount of exposure, the age of the learner, and the differences with respect to the native language. Indeed, many studies on native versus non-native language processing reveal differences between these populations when morpho-syntactic phenomena are considered, but not so when the open class lexicon is tested (Zawiszewski et al. 2011).

4 On evidence

Two main research questions are taken up by the papers constituting this Special Issue: First there is the issue of “how data and phenomena from the acquisition of (different types of) Romance language(s) (mainly Spanish) inform and shape generative linguistic theory” to borrow the words of Professor Pedro Guijarro-Fuentes, editor of the Special Issue. The second central issue is whether and how generative linguistic theory frames and/or constrains research on the acquisition of Romance languages, again, mainly focusing on Spanish.

Let us consider the evidence that informs the theory. Originally, the type of evidence employed in generative linguistics consisted of well-formedness judgments on externalized linguistic expressions provided by native speakers of a given language. However, recent discussions on the validity of introspective acceptability judgments of isolated expressions have brought many linguists to gather acceptability judgment data in formal ways that can be statistically treated (Schütze and Sprouse 2014), and it is increasingly frequent to bring evidence from corpora (written or oral) and from different types of experimental tasks where participants are unaware of what is being tested, either measuring only responses or the time required to provide those responses, or including also measures of eye movements or electrophysiological activity.

The only condition evidence must meet is to be relevant to the support or rebuttal of a given hypothesis; therefore it is desirable that all sources of evidence be brought into discussion, although it is still the case that native acceptability judgments are the main lore in GG research. Nevertheless, as this Special Issue nicely shows, a full account of linguistic knowledge must also strive to explain how it is represented and used in populations who know and use two or more languages in their full variation span, and it must do so by

gathering all evidence that might bear on the issue, be it well-formedness judgments, interpretation preferences, frequencies found in corpora or others.

5 On how the evidence relates to a Hypothesis

Let us briefly consider, then, how the evidence provided in these papers bears on at least one of the hypotheses tested. One of the most influential hypotheses in formal approaches to second language acquisition, known as the Interface Hypothesis, holds that non-native linguistic performance is particularly challenged by interface phenomena, particularly by those that relate syntax to pragmatics (Sorace 2011, originally named in Sorace and Filiaci 2006). The Interface Hypothesis (henceforth IH) has been much explored, modified and discussed since it was originally proposed, and its developments aim at making the hypothesis more predictive, by clarifying what “interface” is and restricting it to the interplay between syntax and pragmatics (see Montrul 2011; Sorace 2011).

As discussed in Sorace (2011), the observation that gave rise to this hypothesis was that non-native speakers tend to overuse and misinterpret overt subject pronouns, an observation that was replicated in language attrition speakers regarding their L1. Hence, one central phenomenon that has captured the attention of researchers attempting to test the Interface Hypothesis is the acquisition/use of null and overt subjects, the very phenomenon that originally gave rise to the IH, where it is predicted that non-native and attrition speakers will present a pattern of overt pronominal subject use that deviates from the native one, regardless of the L1 language of the L2 speakers or the L2 language of attrition speakers. One effect predicted by the IH is an overuse of overt pronominal subjects in L2 and attrition speakers.

Estela García-Alcaraz and Aurora Bel set out to test this hypothesis in a corpus study of native peninsular Spanish versus non-native Spanish of native Moroccan Arabic speakers. No significant differences are observed in the use of null versus overt arguments between the native and non-native groups, contrary to the predictions of the Interface Hypothesis. These results align with findings by Montrul and Rodríguez-Louro (2006), Domínguez (2013) and Bel et al. (2016), who also report that bilingual and L2 speakers display a native-like distribution of overt subject pronouns. Katrin Schmitz and Anna-Lena Scherger set out to explore the distribution of null versus overt subjects in a native Italian versus Heritage Italian group, in order to determine whether there is any sign that Heritage Italian speakers diverge from their native monolingual peers. No

significant differences are found regarding the production of null/overt subjects, again contrary to predictions by the IH. José Aménos, Aoife Ahern and Pedro Guijarro-Fuentes also set out to test this hypothesis in their study on mood choice and they also report no significant differences in the choice of mood in Spanish among natives and two different groups of L2 speakers, contrary to what the IH predicts, if mood choice and interpretation is indeed an Interface Phenomenon linking syntax and pragmatics.

We thus see that the predictions of the IH regarding the distribution of null/overt subjects in the production of second language learners and attrition speakers are not met in the two papers tackling the question in this Special Issue, and a third paper tackling a different one very likely to engage the syntax/pragmatics interface does not find evidence to support this hypothesis either. However, as discussed in Sorace (2011) and references therein, a number of studies turn evidence in support of the IH. This is not an infrequent situation in science, and the way to adjudicate one way or another requires a thorough revision of the studies involved, to verify that they have the power required to avoid false positives, so that we do not compare large sample studies with small sample ones, that they involve similar phenomena and experimental methods and task, and that different language pairs of bilinguals are systematically compared, so that the possibility that the effect is due to certain types of language pairs can be ruled out. In short, it would be advisable to undertake a meta-study of studies testing the Interface Hypothesis to provide a broader view of the degree empirical validation it finds. Also, since the IH has been most intensely studied in Romance languages, studies from other language types and pairs ought to be undertaken to ascertain its cross-linguistic validity.

6 Conclusion

Understanding the sources of difficulty in language learning is one foremost goal of Applied Linguistics. This is both a basic scientific question engaging many teams across the many fields that tackle the problem of language learning, and a practical, very much *applied* question if we want to improve our language teaching methods in an increasingly multilingual world. Differences between native and non-native linguistic knowledge and use have been found in many studies, but others report no differences given an appropriate level of competence. What we are still missing is a systematic perspective that can enlighten both what is hard to learn in a new language, and also why this is so. The ultimate answer is unlikely simple, the sources of difficulty likely many, but

from the perspective of linguistics across its many varieties, it would be desirable to arrive at a consensus on what aspects of the language system are responsible for it and why.

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