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Some challenges of relating wholesale transfer approaches to L3 linguistic behavior

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This commentary addresses a keynote article by Schwartz and Sprouse, which examines the advantages of wholesale transfer approaches for third (L3) language acquisition research. We acknowledge the value of wholesale transfer as a hypothesis that makes strong and clear predictions about the properties of the early L3 grammar. But we raise two concerns about its empirical support. These concerns relate to the interpretation of null effects and to underlying assumptions about the relationship between linguistic behavior and grammatical knowledge, which impact the potential usefulness of differentiating between the concepts of "transfer" and "crosslinguistic influence".

Keywords: L3 acquisition, wholesale transfer, crosslinguistic influence, morphosyntax

In their keynote article, Schwartz and Sprouse (2021) review current theories of third (L3) language acquisition. They argue that *wholesale transfer accounts* (i.e., accounts that predict transfer from only one of speakers' previously acquired grammars) are conceptually and empirically advantageous over *piecemeal transfer accounts* (i.e. accounts that predict transfer from more than one grammar). This claim is illustrated through the discussion and sometimes re-interpretation of findings from previous studies in second (L2) and third language acquisition. The joint treatment of L2 and L3 findings as well as the pursuit of a unified framework to account for both are valuable contributions of the article. We agree with the authors that L3 research would greatly benefit from incorporating the insights and theoretical constructs articulated by L2 research, and that these apply both to discussions about transfer (piecemeal or wholesale) and about the

possible involvement of universal grammar in development. The article does a great job articulating points of connection between the L2 and L3 fields.

We also value the article's emphasis on theories that make strong and clear predictions about the properties of the early L3 grammar. Wholesale transfer is one such theory, because the claim that only one grammar is a source of transfer allows for testable predictions about the expected L3 linguistic behavior: Early L3 speakers should show accurate performance for grammatical constraints that align between the L3 and the transfer grammar, but they should make errors with constraints that differ between grammars. In other words, the assumption that a single grammar transfers "in one fell swoop" appropriately predicts the selective pattern of grammatical successes and failures often seen in L3 data.

Due to the clear conceptual advantages of wholesale transfer accounts, this commentary focuses on their empirical coverage. Specifically, we bring up two concerns about how empirical data is used to argue for wholesale transfer. The first concern relates to the interpretation of null effects in experiments with mirror-image L3 groups: for example, two groups of L3 English speakers, one with L1 Spanish-L2 Catalan and the other with L1 Catalan-L2 Spanish. The article describes a recent study using such groups to test the interpretation of English negative quantifiers and polarity items like "*anybody*" and "*nobody*" (Puig-Mayenco & Rothman, 2020). The groups of very early "ab initio" L3 learners performed "virtually identically" across the experimental conditions, a pattern proposed to support wholesale transfer, because it reveals that "irrespective of whether Catalan is the L1 or the L2, Catalan is the language these true-beginner L3ers overwhelmingly rely on". We think that this inference is problematic both statistically and conceptually.

From a statistics standpoint, the lack of differences between the ab initio learners reflects a non-significant interaction between the factors L3 group and experimental condition (Puig-Mayenco & Rothman, 2020: Table 5). This represents a failure to reject the null hypothesis that the two L3 groups performed differently across conditions. Crucially, absence of evidence is not evidence of absence (Altman & Bland, 1995). If one fails to reject a null hypothesis, it does not mean that the null hypothesis is true (i.e. that the two L3 groups behaved identically). Thus, non-significant differences in mirror-image L3 designs do not necessarily support wholesale transfer. Instead, one may conclude that the observed effect size was not sufficiently different from zero to reject the null hypothesis, or that the study did not have enough power to detect the true effect.

The concern above applies more generally to any experiment arguing for wholesale transfer based solely on non-significant differences between two mirror-image L3 groups. This logic, which is widespread in the L3 literature,

should be reassessed or we run the risk of building support for theories based on a set of null effects. Importantly, this does not mean that the absence of an effect can never be meaningfully assessed. There are several statistical approaches that can quantify the degree of support for a null hypothesis, such as equivalence tests, Bayesian estimation, and Bayes factors (Harms & Lakens, 2018; Makowski et al., 2019). Proponents of wholesale transfer have these procedures at their disposal to appropriately assess the lack of between-group differences, but we are not aware of L3 studies that have done so.

From a conceptual standpoint, the lack of between-group differences between two mirror-image L3 groups—even if assessed correctly—is not only consistent with wholesale transfer. Paradoxically, this pattern is also consistent with the absence of transfer, i.e. the hypothesis that both groups have constructed a similar L3 grammar, regardless of their prior grammars. For the study above, this would mean, for example, that beginning learners of L3 English assign single negation readings to sentences with “*nobody*” or “*anybody*”, but not due to Catalan transfer but rather because this is the default interpretation that learners of all languages fall back on when initially interpreting English negative quantifiers and polarity items.

This type of *general learner effect* is not uncommon in L2 acquisition (Marinis et al., 2005; Roberts et al., 2008; Sato & Felser, 2010). For example, research on phenomena like question formation and negation has shown that beginning learners often make similar errors in their L2 and that they go through the same developmental stages, independently from their native grammars (e.g., Zobl, 1980). Research on these so-called “developmental sequences” has demonstrated that some behaviors that may initially look like transfer are actually due to general-purpose learning mechanisms, which may be used universally across learners. These findings are important for L3 research, because they highlight the need for experimental designs whose outcomes can appropriately distinguish between wholesale transfer and general learner effects. For the study above, one such design could involve an additional L3 group who did not know Catalan (or any language with similar constraints) and indeed differed from the other groups in the interpretation of “*nobody*” and “*anybody*”.

The second concern relates to the mapping from behavioral data to grammatical knowledge. As Schwartz and Sprouse acknowledge, “much of the L3 data are not as clean as a wholesale transfer proponent might desire; in other words, the data may look like they have properties from both the L1 and the L2-Interlanguage”. In connection with this mixed empirical record, the authors advocate a distinction between *transfer*, defined as “the onset of a cognitive state”, and *crosslinguistic influence*, a broader category that also includes “performance strategies deployed under time pressure or limited cognitive resources”.

If this distinction between transfer and crosslinguistic influence is to be used to clarify the empirical record, an outstanding question is how to apply it. Production and comprehension experiments can only measure linguistic behavior, not grammar, and learners' utterances are often produced during real-time interactions. Even simple interactions require the integration of linguistic and non-linguistic information and the tracking of other communicative agents—all tasks that involve cognitive resources and thus performance-related factors. Which criteria should researchers use to decide which aspects of an utterance truly reflect “a cognitive state” (and thus may constitute good evidence of wholesale transfer), and which reflect “performance strategies”, and thus do not indicate what learners know (or don't) about their language? The answer to this question is not straightforward, and it should be tackled by L3 empirical researchers, regardless of their theoretical stance. But it is an important question to address, otherwise we run the risk of dismissing as “performance strategies” linguistic behaviors that do not align with our own theories.

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