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## **When there's no mirror image, and other L3 research design challenges**

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The keynote article by Schwartz and Sprouse (2021, henceforward S&S) presents a compelling case for wholesale transfer of just one of a third language (L3) learner's prior grammars at the initial state of L3 acquisition. In doing this, the authors call for renewed precision in the conceptualisation and design of L3 research. They highlight the utility of separating the terms *transfer* and *crosslinguistic influence*, so that the former is used only to indicate adoption of a prior-language grammar at the initial state, while the latter may refer to any influence from prior languages over the course of L3 development, including influence triggered by extra-linguistic factors. They suggest a refocusing of research goals, to focus either on transfer at the initial state, or on the process of L3 development. And they emphasise the mirror-image L1-L2 research paradigm as optimal for yielding clearer evidence about which prior language transfers. This commentary addresses, and develops further, their focus on research design issues.

There is no doubt that the mirror-image paradigm is ideal for potentially identifying the source of transfer. In the study that S&S use to exemplify this paradigm, Puig-Mayenco and Rothman (2020) investigated knowledge of negative quantifiers and negative polarity items (NPIs) in two groups of very early L3 learners of English whose prior languages were either L1-Catalan L2-Spanish or L1-Spanish L2-Catalan. The participants' responses in an interpretation task were consistent with transfer from Catalan, and not Spanish, thus suggesting clear support for the view that transfer can take place from either prior

language, but that just one of those languages is selected for transfer. However, the mirror-image design alone cannot rule out an alternative interpretation of results such as these, which is that the results could represent some universal default response pattern that learners of any language background might give. This issue could be resolved by including an additional group: in the present case, L1-Spanish speakers of English as an L2. This group would have no possibility of exhibiting transfer from Catalan, so should produce a different response pattern if the L3 responses outlined above are indeed shaped by Catalan. In fact, relevant evidence from an L1-Spanish L2-English group exists in a precursor L3 study by Puig-Mayenco and Marsden (2018). This study used a different test instrument (acceptability judgement), but two of the sentence types overlap: the NPI *any* preceding negation (1), and in a conditional clause (2) (equivalent to 10b and 10d in S&S).

1. \*Anybody does not drink coffee.
2. Mary will call us if Peter says anything.

These correspond to ungrammatical structures in Spanish. Puig-Mayenco and Marsden found that beginner L1-Spanish L2-English speakers had significantly lower rates of acceptance than L1-Catalan L2-Spanish L3-English speakers on these two sentence types. This L2 English result clearly suggests transfer from Spanish. The contrast between these data and Puig-Mayenco and Rothman's L3 speakers' response pattern strengthens the interpretation of the latter as reflecting transfer from Catalan, thus illustrating the value of including relevant L2 groups alongside the mirror-image L3 groups.

In addition to incorporation of comparable L2 data, several further desiderata for L3 research on the role of prior languages come to mind. First, S&S interpret Puig-Mayenco

and Rothman's (2020) results as support for wholesale transfer rather than property-by-property transfer. But proponents of property-by-property accounts could object that the evidence comes from only one property. This does not rule out that on a different, unrelated property, transfer from the other prior language could be identified. Clearly, this issue could be addressed through investigation of the same L3 groups' knowledge of more than one property. Second, there is a need for measurement of the L3 participants' knowledge of the relevant properties in their L2-interlanguage. This need has been articulated by others before, and S&S's careful use of the term "L2-interlanguage"—rather than simply "L2"—as a possible source of transfer highlights the need: the interlanguage knowledge may well not be the same as that of an L1-speaker of that language, so predictions of what L2 transfer might look like need to be modulated by information about the participants' current L2 knowledge. Finally, each of the L3 studies that S&S detail uses just one data collection method: an acceptability judgement task (AJT), an interpretation task, or a production task. Since, as Puig-Mayenco, Gonzalez Alonso and Rothman (2020) point out, comprehension-based tasks and production tasks may each bias towards particular types of outcome, it seems maximally informative to include both types of task.

Adoption of the gold standard mirror-image paradigm will not always be possible, because one of the two L1-L2 combinations may be too scarce or even non-existent. This is the case in a recent thesis by Gunawardena (2020), which investigates L3 French speakers whose L1 is Sinhala and L2, English. There is no pool of mirror-image L3 French speakers with L1 English and L2 Sinhala. However, this absence is mitigated by inclusion of an L1-English L2-French group of equivalent (intermediate-level) French proficiency. The logic is that, if the two groups exhibit distinct response patterns, the difference could be due to influence from Sinhala (using *influence*, here, rather than *transfer*, because the learners in

this study are not in the initial stages). Gunawardena’s study also incorporates the other desiderata listed above: he investigated two properties, sentence-medial adverb placement, and null objects; and he measured both comprehension and production in the participants’ L2 English and L3 French, using AJTs, and an elicited production task. The remainder of this commentary briefly outlines Gunawardena’s research.

Key crosslinguistic differences between the three languages include the following (3):<sup>1</sup>

### 3. Adverb placement and null objects in Sinhala, English, and French

Structure	Sinhala	English	French
S-V-Adv-O	✓	*	✓
S-Adv-V-O	✓	✓	*
null objects	✓	*	*

From the information in (3), preliminary predictions are that, if the L3 French is influenced by Sinhala, then the participants may accept or produce both grammatical and ungrammatical adverb order, and they may allow null objects; whereas if it is influenced by English, the participants may be target-like with regard to null objects, but may favour the non-target pre-verbal adverb position. The results showed that in the AJTs, both the L2 and L3 French groups rated ungrammatical structures significantly lower than their grammatical counterparts (though notably not as low as a native French control group rated them).<sup>2</sup>

However, differences arose in the production task. The L2 group produced significantly

<sup>1</sup> Sinhala is an OV language, so the most basic adverb order is S-Adv-O-V. The word orders in (1) occur commonly and are derived by focus movement. See Gunawardena (2020) for details.

<sup>2</sup> The grammatical counterparts of null object sentences (\*S-V<sub>transitive</sub>-∅) contained object clitics: S-clitic-V.

more non-target S-Adv-V-O structures than the L3 group (L2: 21.72% v. L3: 8%), but the L3 group had a significantly higher rate of non-target object omission (L3: 11.33% v. L2: 1.85%). The AJT results suggest that both groups have acquired the target structures, but the between-group differences in the production data suggest that the presence of Sinhala in the L3 group plays a role. The data on the L3 participants' L2 English knowledge is noteworthy here. As in the French tasks, significant differences between grammatical and ungrammatical AJT ratings suggest that the participants had acquired both the relevant properties in English. However, in the production task, the rate of production of the non-target structure was again higher for null subjects (27.5%) than for adverbs (10.82%). Taken together, this set of results suggests that, while the L3 group has acquired the target French representations for adverb placement and obligatory objects, in production there appears to be property-by-property influence from Sinhala (potentially—but not necessarily—via the L2 English). Exploration of why null objects are affected but not adverb placement is beyond the scope of this short commentary. The fact that this arises in production but not in comprehension is in line with Puig-Mayenco et al.'s (2020) contention that the seemingly greater complexity of the former may introduce additional cognitive variables, leading to different results.

Gunawardena's study illustrates that, even when the mirror-image design is not possible, the combination of a comparison L2 group, testing more than one structure with more than one method, and measuring the L3 group's L2-interlanguage, can provide valuable data for understanding—and raising yet more questions about—the roles of prior languages in L3 development. Moreover, even if wholesale transfer of just one prior language turns out to be correct, there are property-by-property effects that still demand an explanation.

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