Cross-linguistic variation in sensitivity to grammatical errors: evidence from multilingual speakers

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Do speakers of more than two languages receive a stronger influence of their native (L1) or their second language (L2) when they process a third language (L3)? While some previous studies suggest that an L1 determines the processing of an L3 more strongly than an L2 [1,2,3], other studies report stronger L2 transfer effects [4,5]. We addressed this question by testing two L3 German groups in their sensitivity to errors using a speeded acceptability judgment task (SOA: 500 ms; response deadline: 3 s). We compared two groups of speakers with inverse/mirror L1-L2 distributions: a group with **L1 SPANISH–L2 ENGLISH**, and a group with **L1 ENGLISH–L2 SPANISH**, (*n* = 16 p/group; groups matched for German proficiency and age of acquisition). Our sentences obeyed similar grammatical constraints in German and English, but differed between German and Spanish. We show that speakers with L1 Spanish are worse than speakers with L1 English in detecting German infelicitous sentences. This suggests that speakers' L1 plays a decisive role in their processing of an L3. However, we also find that Spanish native speakers' detection of errors increases with their English proficiency, which suggests that second language exposure can affect L3 processing by improving speakers' sensitivity to grammatical constraints.

Design. We tested L3 speakers' sensitivity to infelicitous German sentences involving possessive (Experiment 1) and null pronouns (Experiment 2). In English (as in German), possessive pronouns need to agree in gender with possessor nouns, and null pronouns are ungrammatical in finite clauses. In contrast, Spanish differs from German because it does not require possessor-possessive gender agreement, and null pronouns can be used in finite clauses. We hypothesized that if speakers' L1 affected L3 processing more than their L2, Spanish natives should be worse at detecting infelicitous sentences than English natives. The converse pattern was expected if learners' L2 prevailed.

Results. We observed clear effects of L1 influence: Spanish natives wrongly accepted infelicitous sentences more often than English natives across experiments (*possessives*: 50% vs. 36%; *null pronouns*: 30% vs. 21%). In addition, we observed an L2 effect with possessive pronouns: Spanish speakers who were highly proficient in English were less likely to make errors than speakers with lower English proficiency (*error rates*: 45% vs. 56%). These results suggest that speakers' L1 strongly shapes their ability to compute agreement in an L3, but that L2 exposure can further impact L3 processing by increasing sensitivity to L3 grammatical constraints.

Experiment 1 (possessives)

Possessor match / Herr Boch$_{possessor}$ untersuchte {**seine** / **#ihre**} Patientin$_{possessee}$ mit dem neuen Gerät.
mismatch *Mr. Boch examined {his / #her} patient$_{fem}$ with the new equipment.*

Experiment 2 (null pronouns)

Pronoun present / Bevor der Arzt mit dem Patienten sprach, hatte {**er** / ***ø**} die Rezepte geschrieben.
omitted *Before the doctor with the patient spoke, had {he / *ø} the prescription written.*

[1] Hermas (2010) *International Journal of Multilingualism* [2] Lozano (2002) *Durham Working Papers in Linguistics* [3] Na Ranong & Leung (2009) *Third Language Acquisition and Universal Grammar* [4] Bardel & Falk (2007) *Second Language Research* [5] Falk & Bardel (2010) *Second Language Research*.