

## Theory of Mind and Common Ground underpin mechanisms of language variation that lead to change: the Imperfective domain across three Spanish varieties

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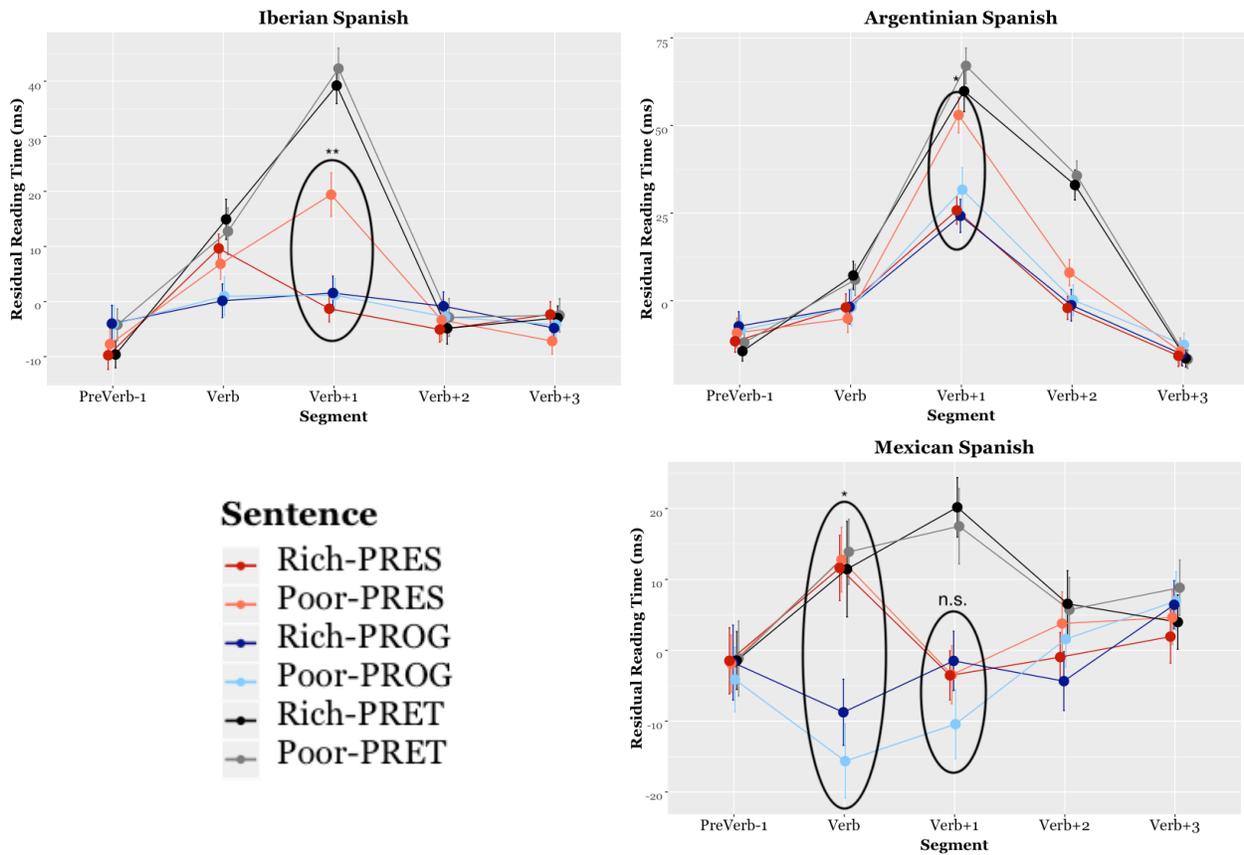
We test the hypothesis that language variation partially results from communicative pressures at play during real-time comprehension and is constrained by patterns of diachronic change ([1]). We focus on the Progressive-to-Imperfective shift ([2]), and look at three Spanish dialects for which variation has been reported between the use of the Simple Present (PRES: [V-<sub>PRES</sub>], as in *corro* “I run”) and the Present Progressive markers (PROG: [*estar* + V-*ndo*], as in *estoy corriendo* “I am running”) to express the *progressive* meaning. The use of PRES to convey a *progressive* meaning is restricted to contexts in which speaker and hearer **share perceptual access** to the event described by the predicate. By contrast, PROG does not need such perceptual support ([3]). Which marker is used thus depends on the contextual circumstances available: the “poorer” the context, the more likely that PROG is used. Shared perceptual access –mostly obtained by physical co-presence between speaker and hearer [4]– is a perceptual means to attain **Perspective Alignment**, a fundamental communicative goal manifested as the speaker’s need to bring the hearer’s point of view closer to her own. This goal is grounded on two complementary communicative constraints: Common Ground ([5]) and Theory of Mind ([6]). While the *Common Ground* between speaker and hearer affords the speaker greater reliance on context, *Theory of Mind* forces her to be linguistically explicit, because the hearer may not experience context exactly like her. Summing up: a speaker may use the PRES marker only when Perspective Alignment is achieved by non-linguistic means; that is, by shared perceptual access. A speaker may use the PROG marker regardless of shared perceptual access, thus evidencing that this marker is the preferred *linguistic* means to achieve this goal. Accordingly, if PRES use is subject to these communicative constraints, they should be at play during real-time sentence comprehension.

**The Study.** We tested sentences containing PRES, PROG, or the (unacceptable) Simple Past (PRET) marker as a baseline condition, in two contexts, RICH (with shared perceptual access) vs. POOR (without shared perceptual access), in three varieties: Iberian, Argentinian and Mexican; using a Self-Paced Reading task (word-by-word moving window). **Subjects:** 180 adult native speakers (60 per variety). **Materials:** 144 items (2 Contexts x 3 Markers, 24 items per condition), and 180 fillers (see Table 1). **Predictions:** 1) RTs for PRES marker with RICH context < RTs for PRES with POOR context. 2) No such contextual modulation will be observed for PROG. 3) Variation across dialects should be in the direction of PROG < PRES<sub>RICH</sub>=PRES<sub>POOR</sub>, thus indicating the expected diachronic change towards less acceptability of PRES.

**Results.** A GLMM on word-number and letter-length corrected residual reading times revealed **a)** longer RTs for PRET over PRES/PROG, verifying that participants were attending at the intended *progressive* meaning, **b)** a significant Context\*Marker interaction one word post-verb in Argentinian ( $p < .05$ ) and in Iberian Spanish ( $p < .005$ ), due to longer RTs in the POOR context condition for PRES. No such effect was observed in Mexican Spanish, but **c)** a main effect of Marker was found at the verb, favoring PROG over PRES/ PRET ( $p < .05$ ). (see Figures).

**Discussion.** Results show that when shared perceptual access is independently provided by the context, processing of PRES is facilitated in Argentinian and Iberian Spanish. By contrast, the Mexican Spanish pattern reveals that shared perceptual access is no longer playing a role in improving PRES comprehension in that dialect, and the only available marker is PROG. This suggests that this dialect is further along the diachronic path of Progressive-to-Imperfective shift. Altogether the pattern observed across dialects is consistent with a model of variation embedded in a communicative system, visible during real-time comprehension, and shown to be subject to identifiable contextual factors. The communicative system uses linguistic markers to optimize Common Ground and Theory of Mind pressures and, in doing so, supports each variety’s independent advancement from one stage to the following one in their own larger path of change, manifesting predictable patterns of synchronic variation in the process.

## Figures



**Table 1** (stimuli examples, contexts presented only in English for brevity)

<b>General Context</b>	<b>Context Type</b>	<b>Sentence with PROG/PRES or Pretérito (PRET) Marker</b>
‘Anna gets home from work and goes to her son’s room to see how he is doing. She knocks on the door...’	<b>Poor:</b> ...but her son does not answer. <i>Before she gets to open the door</i> , her son tells her.’	<b>Estoy haciendo</b> la tarea ‘I am doing my homework’
	<b>Rich:</b> ...opens it, and <i>sees her son sitting at his desk</i> . Before she says anything, her son tells her.’	<b>Hago</b> la tarea ‘I do my homework’
		<b>Hice</b> la tarea ‘I did my homework’

## References

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