

What can experimental syntax tell us about *Concordantia Temporum* in Spanish?
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Introduction

The Spanish subjunctive generally obeys a sequence of tense requirement known as *concordantia temporum* (CT): a present tense in the main clause triggers a present tense in the subjunctive clause, while a matrix past tense triggers a past tense subjunctive clause. CT is claimed not to be required, however, if the context allows for a Double Access Reading (DAR), in which the embedded event can be interpreted as either simultaneous with, or posterior to, matrix and utterance time (Laca 2010), as in (1).

- (1) Quería que vengas mañana.
 want.1S.PAST that come.2S.PRES.SUBJ tomorrow
 ‘I wanted you to come tomorrow’

There are two concerns about the general view just described. On the one hand, some speakers appear not to accept the pattern in (1) suggesting that for these speakers CT might actually be some sort of agreement mechanism. On the other hand, some South American dialects seem to allow a present under past matrix clause even when DAR is clearly not available. It is not clear how these speakers could be assimilated into the analysis and still maintain that CT can be accounted for by general principles of tense interpretation.

In this paper we approach this empirical problem in a new way by making use of formal sentence acceptability experiments. Our goals are (i) to determine whether the DAR effect exists since if it does, this would argue against the idea of CT simply being the result of an agreement process, and (ii) to probe acceptability of violations of CT when DAR is not available.

Methodology

In a formal sentence acceptability experiment, with a 3x2x2 design, we crossed the factors MAIN PREDICATE (causative vs. directive vs. volitional), SUBJUNCTIVE TENSE (present vs. past), and INTERPRETATION (past vs. future). The factor INTERPRETATION refers to the temporal interpretation of the embedded subjunctive clause, which was signaled by an overt adverbial in the embedded clause (e.g., *ayer* ‘yesterday’ (past) vs. *mañana* ‘tomorrow’ (future)). Sample stimuli are presented in (2).

- (2) **Hizo/pidió/quería** que Juan se **vaya/fuera** **ayer/mañana.**
 make/ask/want.PAST that Juan reflex go.**PRES/PAST.SUBJ** **yesterday/tomorrow**
 ‘He made/asked/wanted Juan (to) leave yesterday/tomorrow.’

We used a Latin Square design, and participants saw 5 tokens of each condition. 68 fillers representing a range of acceptability were included, so each participant saw 128 stimuli. 110 people participated (34 from Argentina, 38 from Mexico, 38 from Spain); all were natives of and residents in their respective countries.

Results

Results were converted to z-scores and then we ran linear mixed effect models to analyze the data. The results are presented in Fig 1-3. We focus here on two aspects of these results. First, looking just at the past interpretation (dashed line), where DAR is not an issue, we see that the difference between past and present subjunctive tense is significant in Mexico and Spain (Mexico: *causative/directive/volitional* $p < 0.001$; Spain: *causative/directive/volitional* $p < 0.001$), but not in Argentina (*causative*: $p = 0.19$, *directive*: $p = 0.46$, *volitional*: $p = 0.12$). Second, there also appear to be differences across countries in the size of the DAR effect, in

that in Mexico and Spain, the substantial degradation that occurs when present subjunctive tense is embedded under a matrix past verb is partly alleviated when the embedded clause has a future interpretation, but in Argentina, this effect is milder. This apparent difference may be explored quantitatively by computing the DAR effect as a DD (difference in differences) score, as in (3) (Sprouse et al. 2012).

$$(3) \text{ DD score} = (\text{past} - \text{pres})_{\text{Interpretation:Past}} - (\text{past} - \text{pres})_{\text{Interpretation:Fut}}$$

The larger the score, the larger the DAR effect, while 0 or a negative score indicate no DAR effect. Resulting DD scores are in table (1).

Discussion

Returning to our questions from the introduction, we can now see that DAR seems to be a very robust phenomenon, especially in Mexico and Spain. DAR sentences are not always highly acceptable, which is no doubt why some speakers say they do not accept them, but our results show that there is nonetheless a very clear effect, as in Fig. 1-3 and table (1). In addition, Argentina allows some CT violations in non-DAR environments, suggesting that in this variety the “present” subjunctive is not specified as [-PAST].

In sum, these results support Laca’s analysis that CT can be derived from regular principles of tense interpretation, suggesting that CT as a rule need not be stipulated. Moreover, the analysis can still be maintained even if some varieties, such as Argentinean, accept violations of CT without DAR because in these dialects the morphologically present subjunctive may actually be unspecified for tense.

At a larger level, the present study shows how formal acceptability experiments can be a valuable tool for exploring very subtle behavior in the syntax of tense and the dialectal differences associated with it.

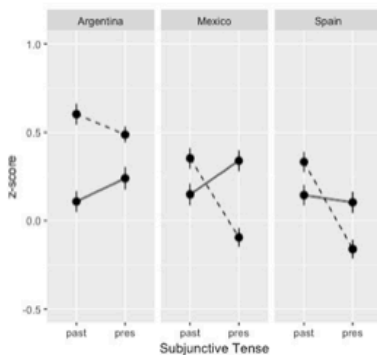


Fig 1. Causative

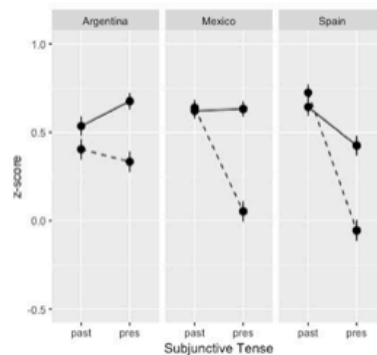


Fig 2. Directive

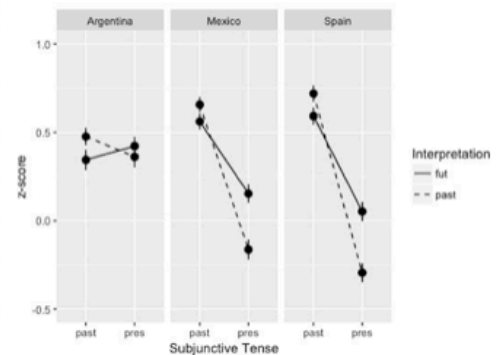


Fig 3. Volitional

Table 1. DD Scores for DAR effect size

	Argentina	Mexico	Spain
causative	0.26	0.64	0.45
directive	0.16	0.64	0.57
volitional	0.21	0.4	0.47
Total	0.22	0.54	0.49

References

- Laca, B. (2010). The puzzle of subjunctive tenses. *Selected Proceedings of Going Romance*, 2008, 171-194.
- Sprouse, J., Wagers, M., & Phillips, C. (2012). A test of the relation between working-memory capacity and syntactic island effects. *Language*, 88(1), 82-123.