How much is too much?
The impact of redundancy on syntax

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Based on Shannon (1948)
There is no consensus on whether redundancy is beneficial or not for human language

- Redundancy ensures robustness against information loss (Levshina 2020 a.o.) and supports learnability (Tal and Arnon 2022 a.o.)
- Redundancy is not economical (Dahl 2004 a.o.) and disadvantageous to learners (Trudgill 2011 a.o.)

These perspectives produce conflicting predictions on the role of redundancy in language acquisition

RQ1
Which perspective is better supported by child language acquisition data?

RQ2
What is the impact of deficient information (i.e. opposite of redundancy) on the (child) parser?

To answer the above, I tested Spanish children’s comprehension of ORCs to see if and how redundant and deficient disambiguating cues assist their parser.

ORCs are problematic structures for children (Lau and Tanaka (2021) for a review)

This has been shown for many languages, and Spanish is no exception.

Because ORCs are difficult, children are a fortiori expected to:
- rely on anything that helps the parser, and
- avoid anything that weighs on it.

In our case, to either prefer or avoid redundant cues
A cue is a grammatical property whose presence or absence implies that a given XP is either the subject or the object of a given clause.

There is a lot of evidence showing that cues ameliorate the comprehension of ORCs by children, for example:
- Gender agreement in Hebrew (Friedmann et al. 2009)
- Case marking in Greek (Guasti et al. 2012)
- ...

In this study, I consider two cues:

1. **Differential Object Marking (DOM)**
   - [animate; specific] Direct Objects (DOs) are marked with the morpheme “a”
   - Pedro saluda el chico
   - Pedro greet.3SG DOM.the boy
   - El chico al que Pedro saluda
   - the boy DOM.the that Pedro greet.3SG

2. **Word Order (WO)**
   - In Spanish ORCs, the XP that precedes the verb within the RC must be the subject
   - El chico al que Pedro saluda
   - the boy DOM.the that Pedro greet.3SG

**Experimental conditions**

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Predictions</th>
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<tbody>
<tr>
<td>1) DOM in-absentia <strong>Deficient</strong></td>
<td>If redundancy assists child processing, then 4 is better than 2 and 3</td>
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<tr>
<td>2) DOM <strong>Non-redundant</strong></td>
<td>If redundancy obstructs child processing, then 2 and 3 are better than 4</td>
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<td>3) WO <strong>Non-redundant</strong></td>
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<td>4) DOM + WO <strong>Redundant</strong></td>
<td>1 is the most burdensome condition, because in-absentia cues are not robust enough (cf. Biberauer and Roberts 2012)</td>
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**DOM** is absent \(\Rightarrow\) el futbolista must be the subject

DOM before que \(\Rightarrow\) the relative head must be the object

El futbolista is preverbal \(\Rightarrow\) it must be the subject

WO + DOM
Participants: 47 Spanish monolinguals aged 4 - 6

Method: sentence-picture-matching task

Based on glmer:
- effect of DOM
- effect of WO
- Interaction between WO and DOM

Deficiency brings about at floor performances

The children’s performances improve with non-redundant cues

But these decrease with redundant cues

RQ1 + RQ2
What is the role of redundancy/deficiency in child language processing?

The child parser is supported by neither redundant nor deficient cues

Rather, it seems to benefit from a trade-off between “too much” and “too little” information
Why are WO cues much more effective than DOM cues?

Accuracy

Thank you

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