Context lets you flop and flip binomials

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RESEARCH QUESTION

How does context modulate processing preferences that are influenced by…

1.… direct experience? (Exp 1)

2.… abstract linguistic knowledge? (Exp 2)

To answer these, we study two types of **binomials**:

Irreversible: *salt and pepper, #pepper and salt* (Exp 1)

Non-word: *blim and blam*, *#blam and blim* (Exp 2)

BACKGROUND

- **Prior work** → people have ordering preferences of **{irreversible, non-word} binomials** [1, 2, 3, 4, 5, 6, 7], where *preferred orders are read faster than dispreferred ones* [8, 9].
- **Gaps** → Binomials mostly studied in isolation or in single sentences of varying syntactic structure. Also, context has been shown to (greatly) affect on-line processing [10, 11].
- **Our contributions** → *two self-paced reading studies* [12] where participants read sentences with {real, non-word} binomials in different structures and contexts.
  - **Norming** → two forced-choice studies where participants chose their preferred order for {irreversible, non-word} binomials taken from prior work.

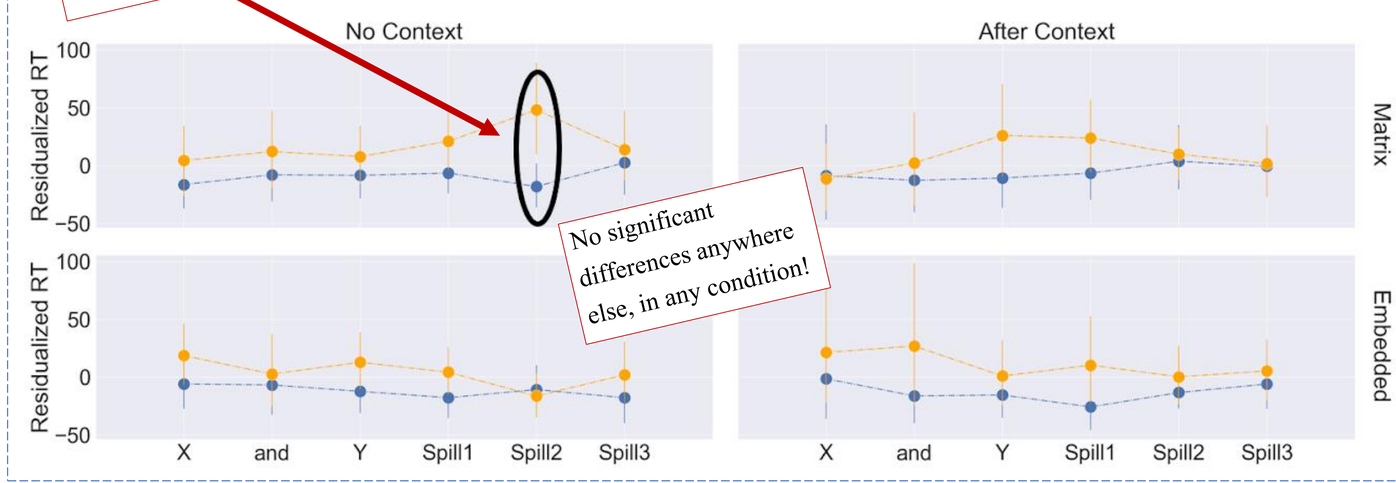
EXPERIMENT 1

There was an accident in the kitchen.

{ Yesterday morning / We thought } the { bread and butter / butter and bread } fell off the counter.

Binomial sentence could occur before or after the context sentence!

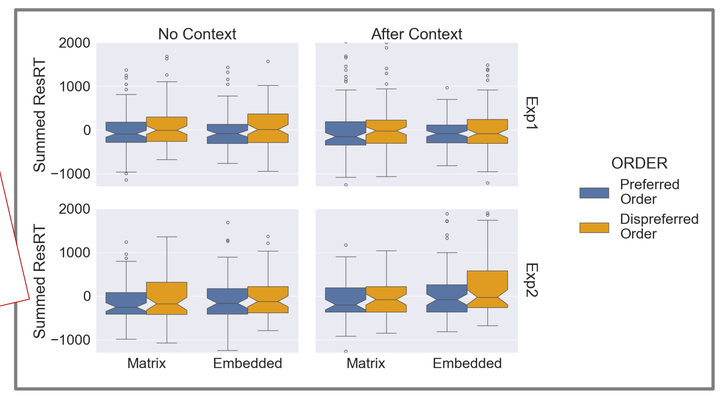
Significant difference in the second spillover region, but *only* when there is *no embedding of any kind!*



No significant differences anywhere else, in any condition!

EXP 1 TAKEAWAY

- Despite strong ordering preferences in prior work and our norming study (>95% selection rate), no ordering preferences arise for irreversible binomials **when they are placed in a context.**
- No significant differences in total RT across critical region for any condition.



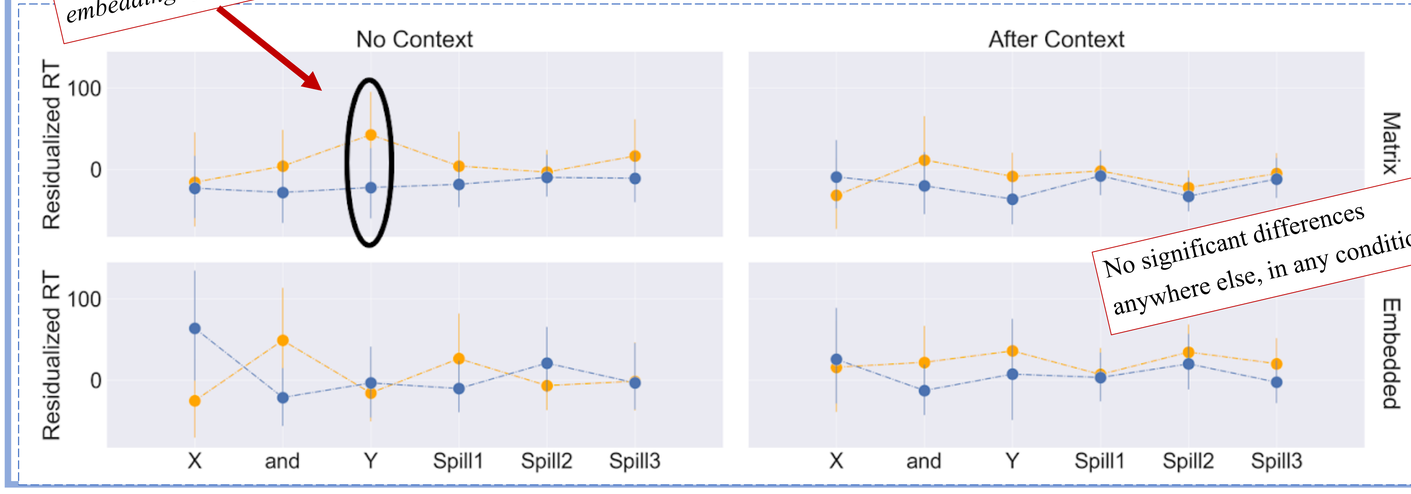
No significant differences in total RT of the critical region for either experiment in any condition!

EXPERIMENT 2

There was an accident in the kitchen

{ Yesterday morning / We thought } the { pag and frappy / frappy and pag } fell off the counter.

Significant difference in the second word of the binomial, but *only* when there is *no embedding of any kind!*



No significant differences anywhere else, in any condition!

EXP 2 TAKEAWAY

- Despite ordering preferences in prior work and our norming study (>75% selection rate), no ordering preferences arise for non-word binomials **when they are placed in a context.**
- No significant differences in total RT across critical region for any condition.

SUMMARY

Binomial ordering preferences do not surface when the constructions are embedded syntactically or discursively.

SELECT REFERENCES

[1] Malkiel (1959). *Lingua*. [2] Pinker & Birdsong (1979). *Journal of Verbal Learning & Verbal Behavior.* [3] Cooper & Ross (1975). *Papers from the Parasession on Functionalism.* [4] Benor & Levy (2006). *Language.* [5] Mollin (2012). *English Language & Linguistics.* [6] Green & Birdsong (2018). *Language Sciences*. [7] Ryan (2018). *Natural Language & Linguistic Theory.* [8] Siyanova-Chanturia et al. (2011). *Journal of Experimental Psychology: Learning, Memory, and Cognition.* [9] Morgan & Levy (2016). *Cognition*. [10] Crain & Steedman (1985). *Natural Language Parsing*. [11] Warner & Glass (1987). *Journal of Memory and Language*. [12] Just & Carpenter (1982). *Journal of Experimental Psychology.*