

# Situating phonological phenomena within events

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# Overview

1. What's involved in event processing?
2. Experiment 1a: Eventing Phonotactics
3. Experiment 1b: (Partial) Replication
4. Experiment 2: Eventing Binomials
5. Discussion & Conclusion

# Preliminary takeaways:

1. Timing and presence of phonological judgments vary according to event complexity
  1. More complex event → earlier/no judgments
2. Syntactic structure and discourse context appear to affect judgments similarly, suggesting their representations may be also be similar (aka DRT)

# 1. WHAT'S INVOLVED IN EVENT PROCESSING?

# What is an event?

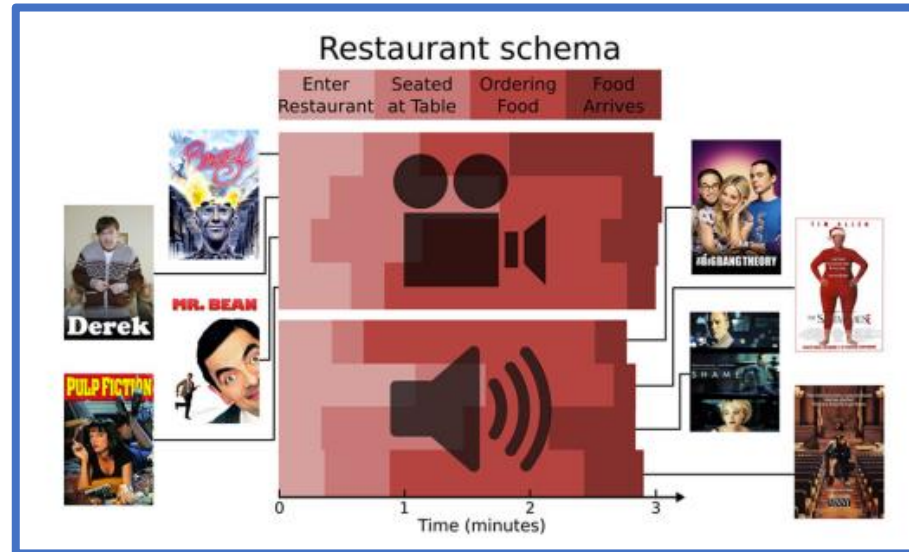


For the purposes of this talk:  
**a discrete representation of  
*some action or set of actions***

# What does an event consist of?

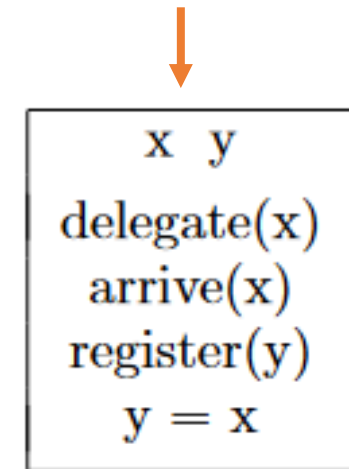
<b>Type:</b> Bombing
<b>PerpInd:</b> Guerrilas
<b>PerpOrg:</b> Tupac Amaru Revolutionary Movement, MRTA
<b>Target:</b> restaurant
<b>Victim:</b>
<b>Weapon:</b> bomb

Gantt et al. 2023



Baldassano et al. 2018

A delegate<sup>1</sup> arrived. She<sub>1</sub> registered.



Kamp et al. 2011

... so what's involved in *processing* events?

At least (some of) this:

What does an event consist of?

<b>Type:</b> Bombing
<b>PerpInd:</b> Guerrillas
<b>PerpOrg:</b> Tupac Amaru Revolutionary Movement, MRTA
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Gantt et al. 2023

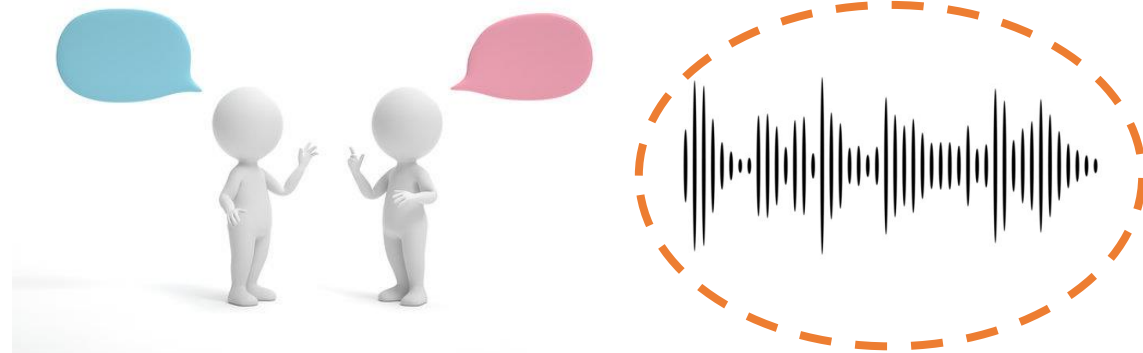
Baldassano et al. 2018

A delegate<sup>1</sup> arrived. She<sub>1</sub> registered.

```
x y
delegate(x)
arrive(x)
register(y)
y = x
```

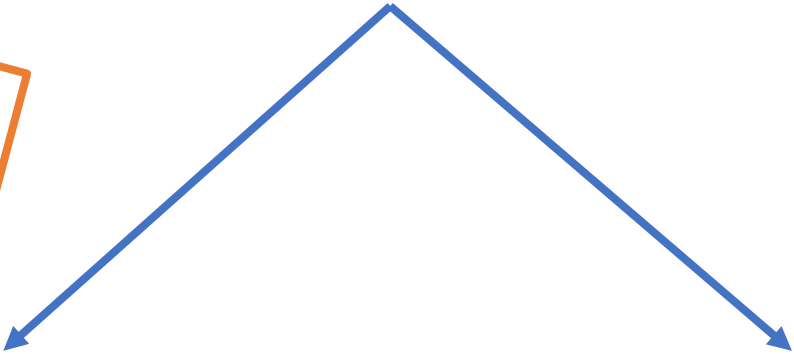
Kamp et al. 2011

But also, (some of) this:  
(during reading, at least)



So how do we do investigate this link?

A delegate<sup>1</sup> arrived. She<sub>1</sub> registered.



/ə 'deləgət ə'raɪvd/. ʃi 'rɛdʒɪstərd/.

x y  
delegate(x)  
arrive(x)  
register(y)  
y = x



First, we chose two well-studied phenomena...:

1. Phonotactic acceptability ratings:

blick vs bnick

Very little (or no) work has investigated these phenomena in controlled contexts!

2. Irreversible binomial ordering preferences:

salt and pepper, pepper and salt

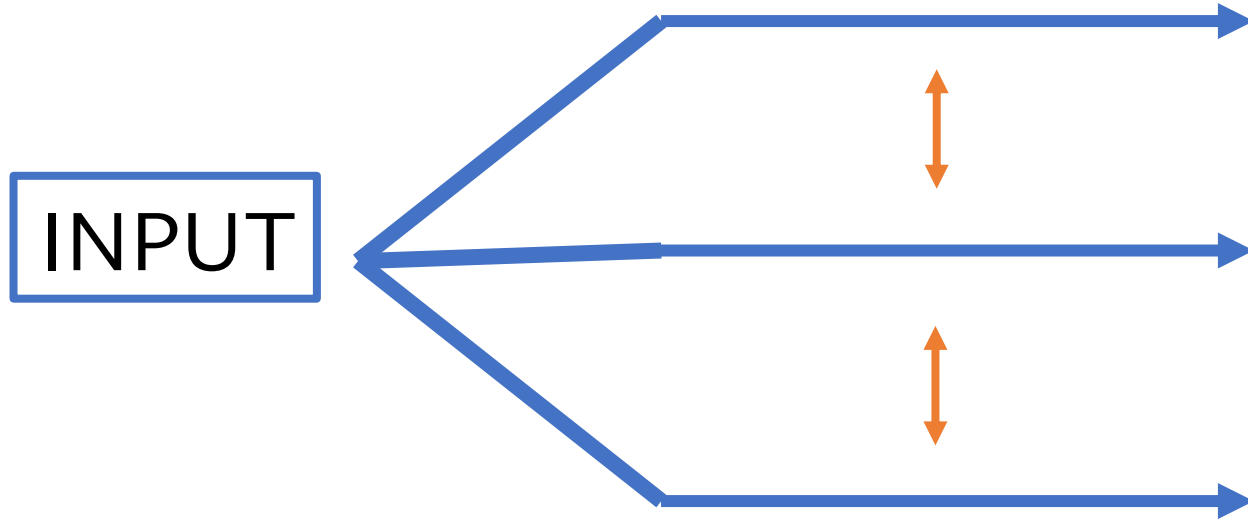
... and then varied their event contexts!

We believed the {trep, tlep} went outside...  
We were so hungry we didn't notice at first.

There was a hush to the crowd.

The {bride and groom, groom and bride} were gone!

# What's at stake?



## 2. EXPERIMENT 1a

# Experiment 1a Design

- Self-paced reading experiment, where participants (N=65) read 16 two-sentence passages:

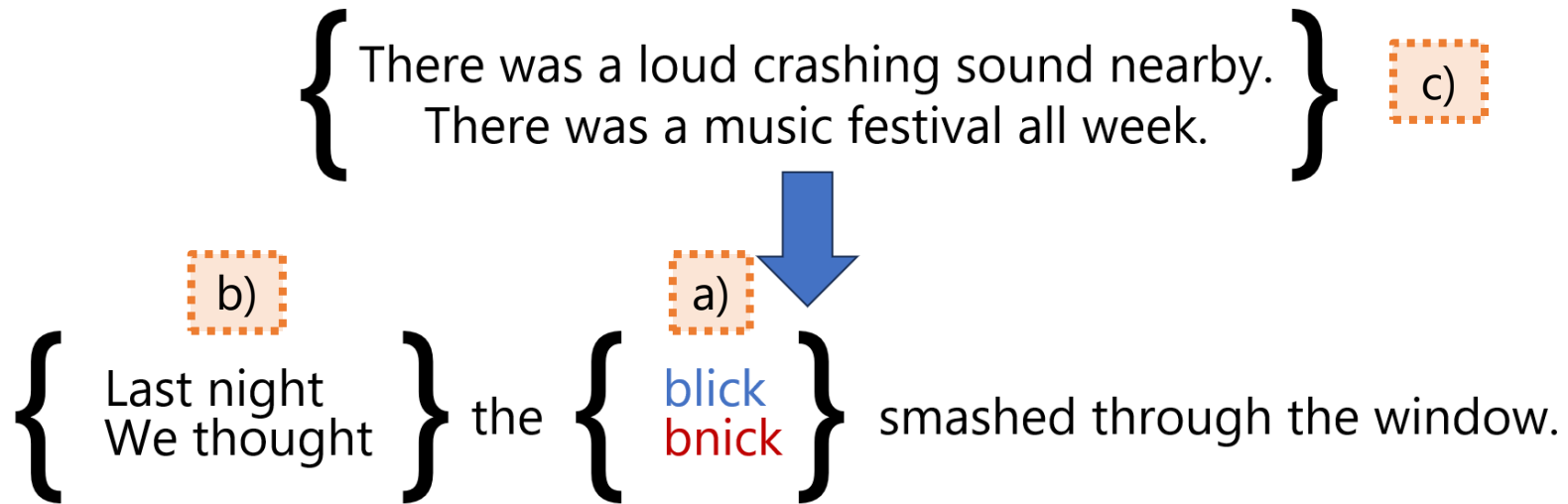
{ There was a loud crashing sound nearby.  
There was a music festival all week. }



{ Last night  
We thought } the { blick  
bnick } smashed through the window.

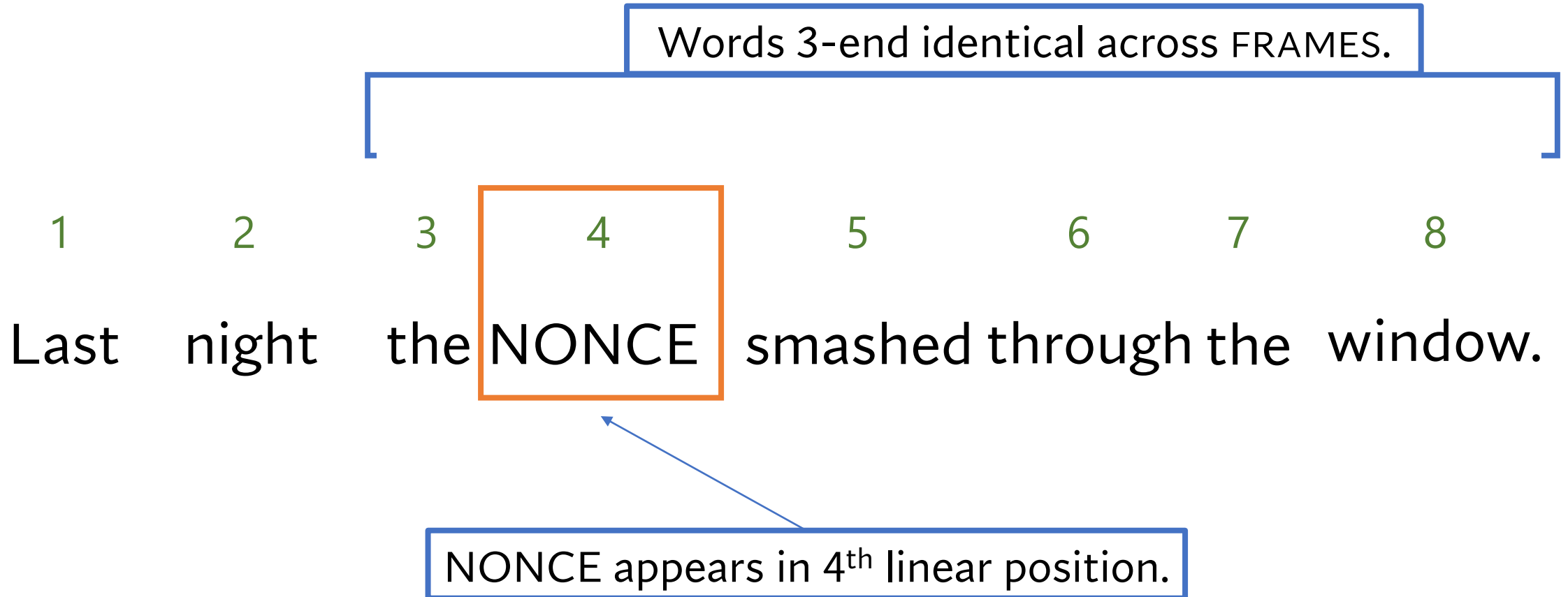
## Experiment 1a Design

- Self-paced reading experiment, where participants (N=65) read 16 two-sentence passages:

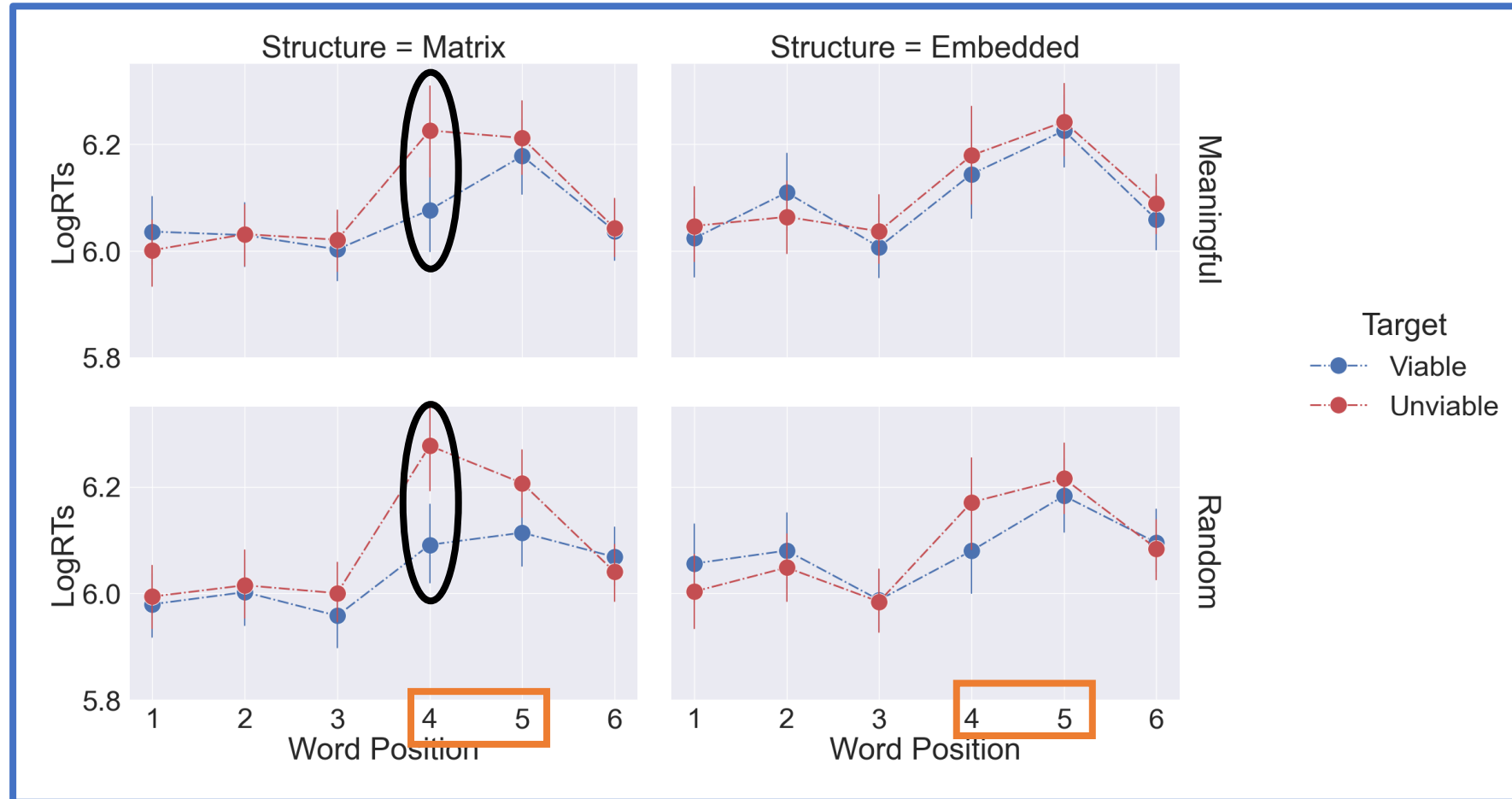


- a) 2 NONCES: {viable, unviable}
- b) 2 FRAMES: {MATRIX, EMBEDDED}
- c) 2 DISCOURSES: {Meaningful Context, Random Context}

# To help read the next graph...



# Experiment 1a Results



1. Phonotactic judgments arise in matrix FRAMES.
2. No phonotactic judgments arise in embedded FRAMES.
3. Discourse context (Meaningful vs. Random) did not have any effect.



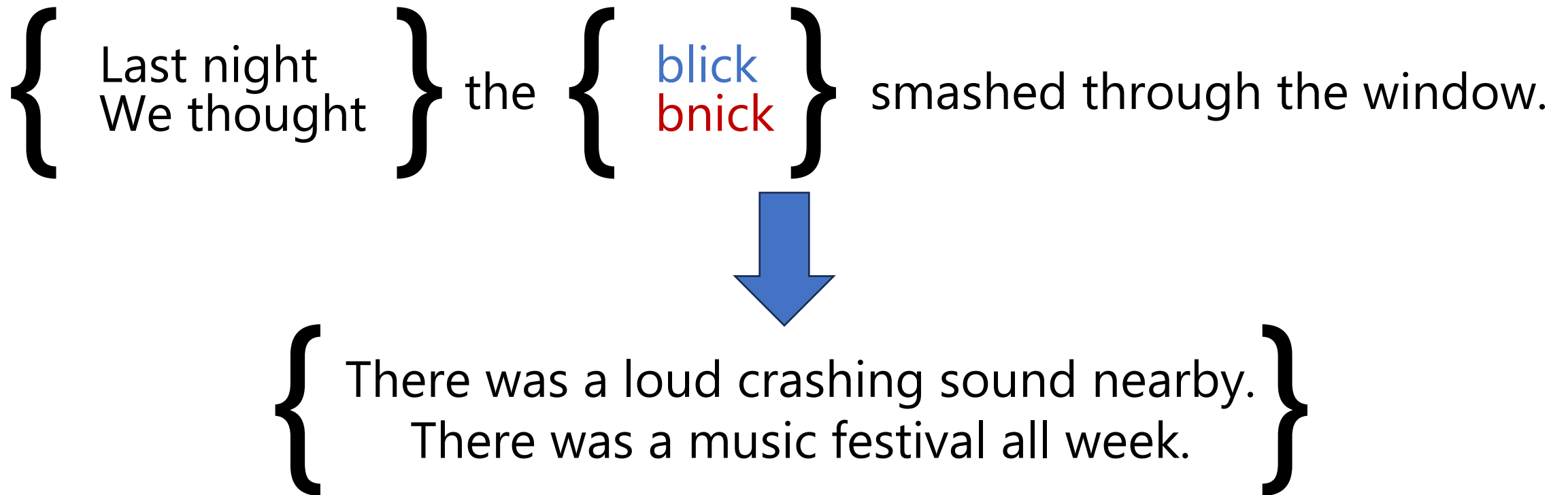
# Experiment 1a discussion

- Phonotactic judgments only surface in MATRIX clauses; no phonotactic judgments surface for EMBEDDED clauses
- The type of discourse context doesn't matter, but the presence of discourse context appears to modulate whether phonotactic judgments surface

# 3. EXPERIMENT 1b

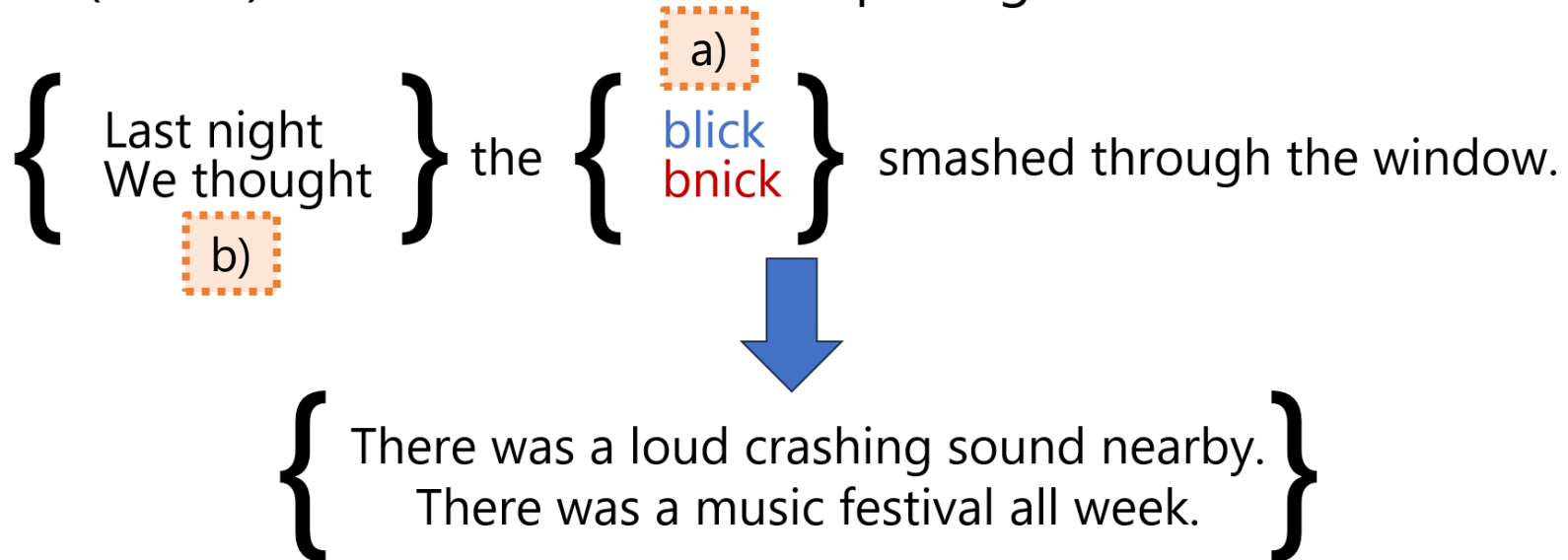
# Experiment 1b Design

- Self-paced reading experiment, where participants (N=40) read 16 two-sentence passages:



## Experiment 1b Design

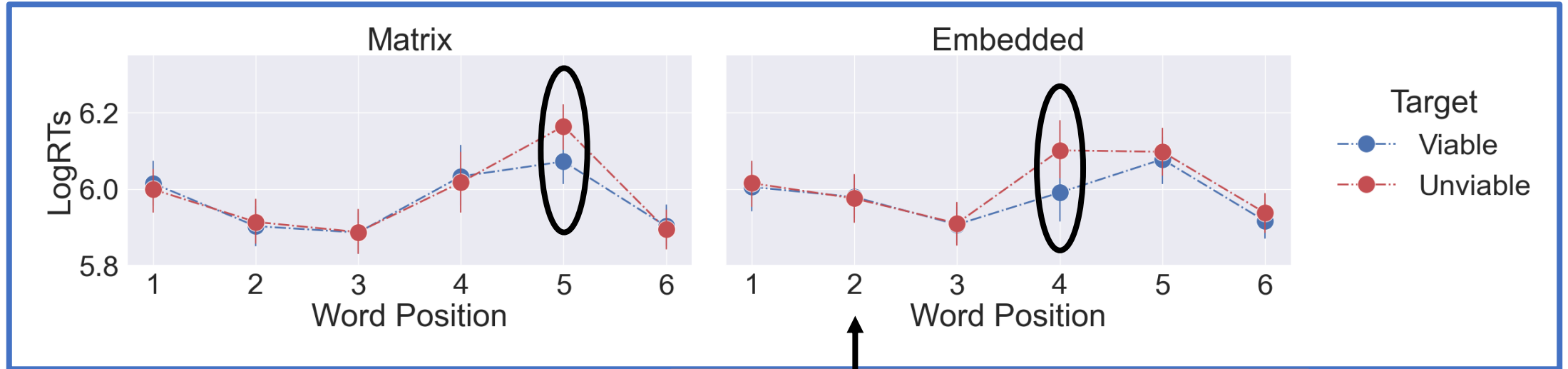
- Self-paced reading experiment, where participants (N=40) read 16 two-sentence passages:



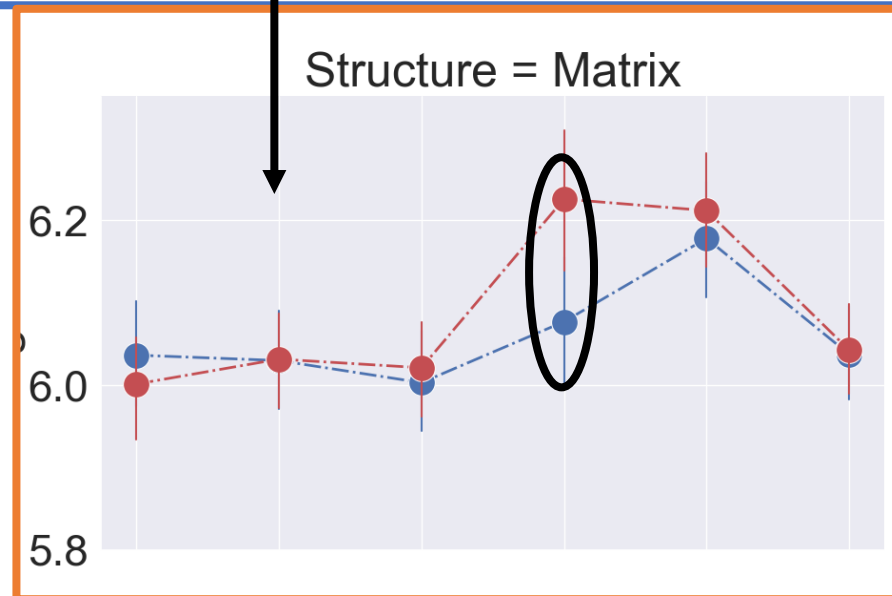
a) 2 NONCES: {viable, unviable}

b) 2 FRAMES: {MATRIX, EMBEDDED}

# Experiment 1b Results



Exp 1a: Matrix Frame, After Discourse



# Experiment 1b Discussion

- Phonotactic judgments are delayed when not embedded in any context.
- One layer of syntactic embedding (this experiment) patterns with one layer of discourse embedding (Experiment 1a)

# 4. EXPERIMENT 2

# Experiment 2 Design

- Self-paced reading experiment, where participants (N=59) read 16 two-sentence passages:

There was an accident in the kitchen.

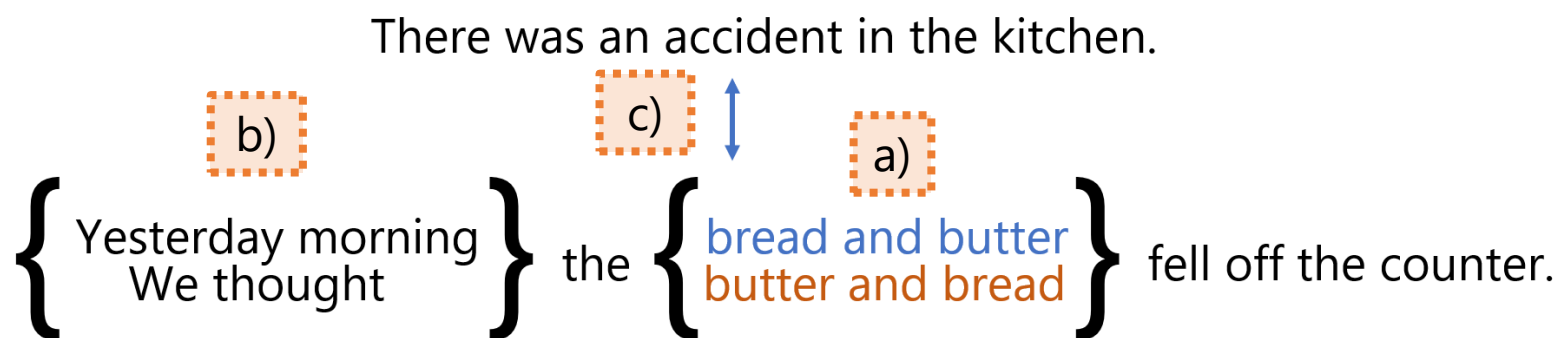
{ Yesterday morning  
We thought } the { bread and butter  
butter and bread } fell off the counter.

In a norming study, all binomials displayed a (near-)irreversible preference (>96%) for one order.



## Experiment 2 Design

- Self-paced reading experiment, where participants (N=59) read 16 two-sentence passages:



In a norming study, all binomials displayed a (near-)irreversible preference (>96%) for one order.

17

- a) 2 ORDERS: {preferred order, dispreferred order}
- b) 2 FRAMES: {MATRIX, EMBEDDED}
- c) 2 DISCOURSES: {No Context, After Context}

# To help read the next graph (again)...

1            2            3            X            and            Y            Spill1 Spill2 Spill3            10

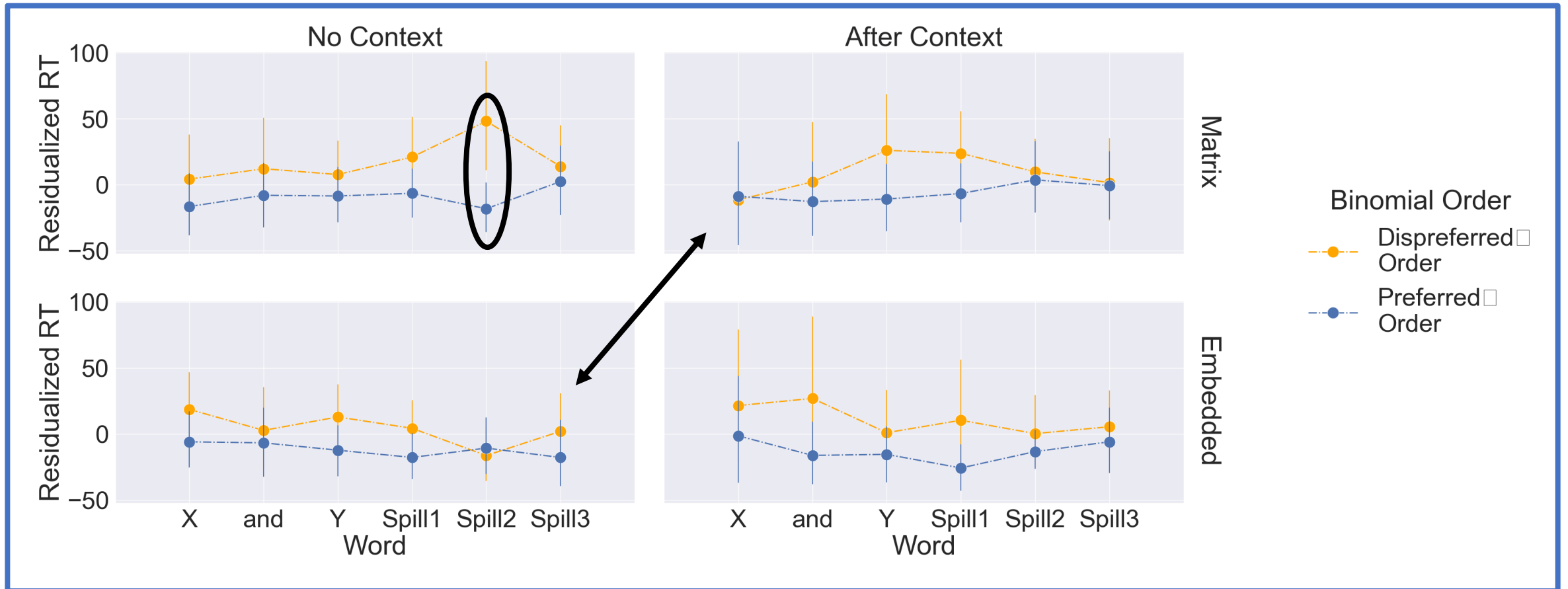
We thought the bread and butter fell off the counter.

*Critical region!*

There was a crash in the room.

This is an example of a **preferred-order** binomial in a MATRIX clause that occurs in No Context.

# Experiment 2 Results



1. Binomial preferences on the second spillover word in MATRIX x No Context.
2. Otherwise, no ordering preferences arise.

# Experiment 2 takeaway

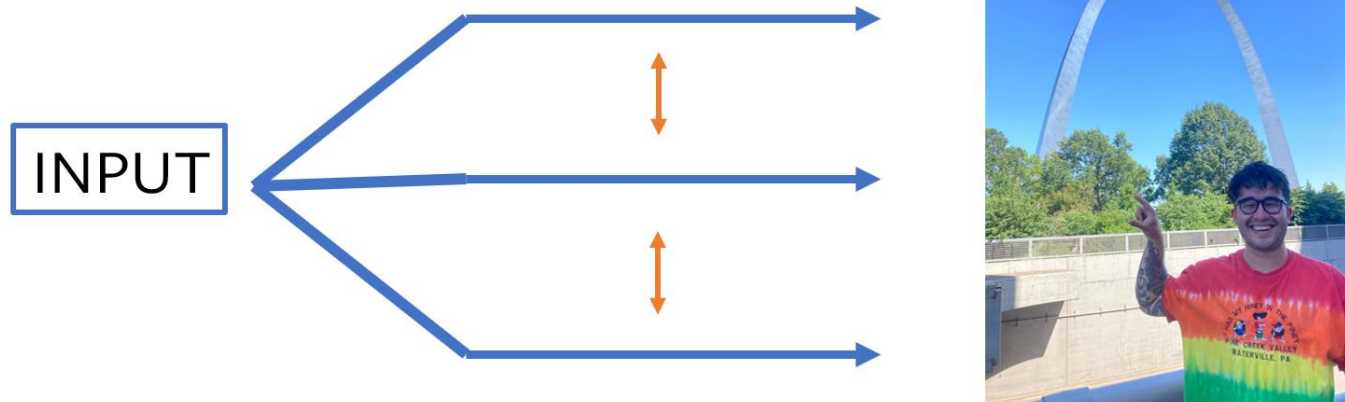
- Despite strong ordering preferences for these expressions (>96%) in isolation, no preferences arise when the expressions are placed in any amount of event embedding.
- ... so maybe these binomials aren't as irreversible as we thought?

# 5. DISCUSSION & CONCLUSION

# Overall summary:

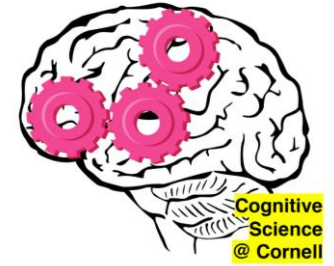
- During reading, event structure modulates both
  - phonotactic judgments AND
  - irreversible binomial ordering preferenceseven though these judgments are very well-established in isolation...!
- Syntactic embedding and discourse embedding appear to pattern similarly...!

# What's at stake?



1. An interaction between high-level and low-level linguistic information
2. A blurry line (?) regarding how event structure interacts with other aspects of the linguistic signal

# Acknowledgements



Marten  
van Schijndel



Draga  
Zec

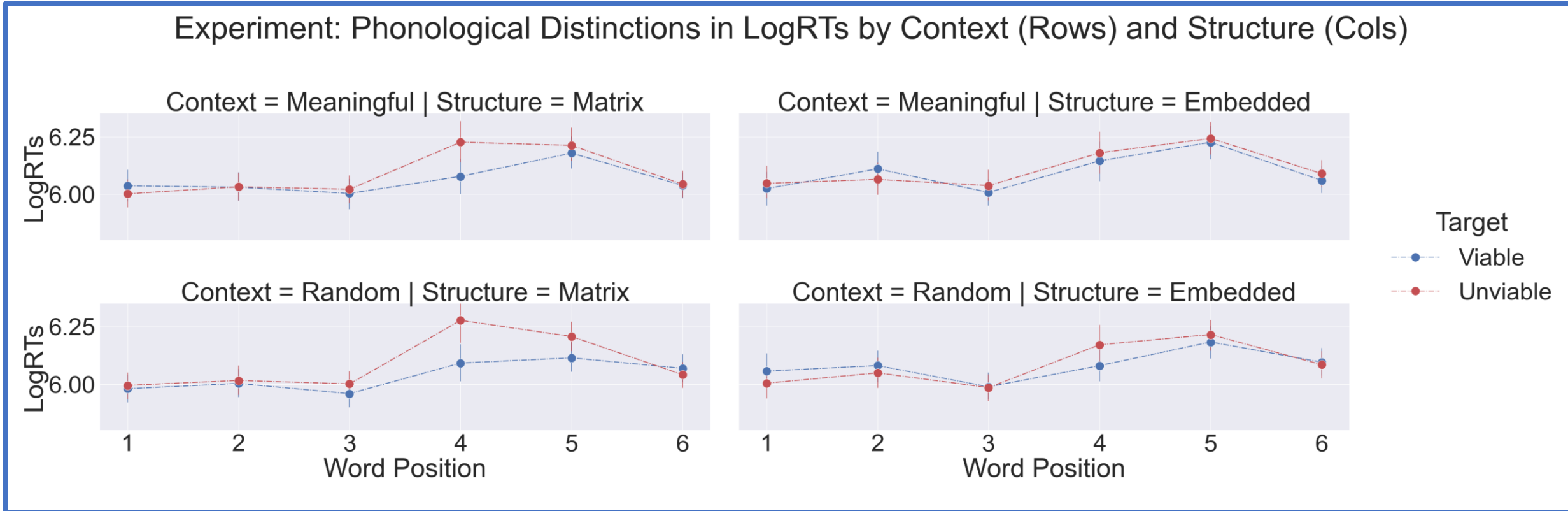


Helena  
Aparicio



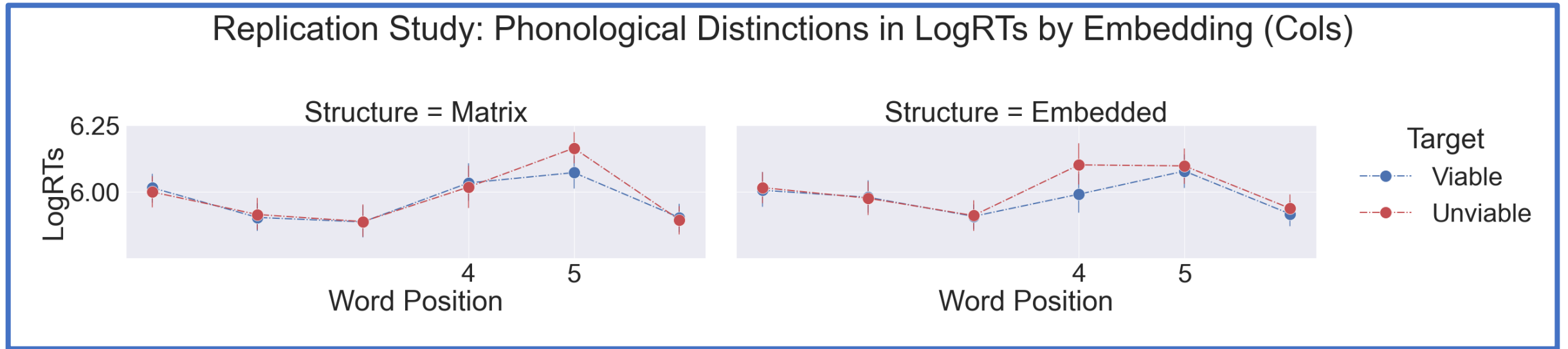
# 7. BACKPOCKET SLIDES

# Word-by-word Positional Results (Exp 3):



Judgments only surface in MATRIX!

# Word-by-word Positional Results (Exp 4):



Judgment patterns from Exp 1 reappear!