RESEARCH QUESTION: Do the verb’s retrieval cues target attachment sites, leading to interference from multiple clauses?

1. Similarity-based interference

- **Cue-based retrieval** guides resolution of subject-verb dependencies [1, 2]
  - Parser launches a search for the subject at the verb, guided by certain retrieval cues
- **Similarity-based interference** occurs when multiple candidates in memory match the verb’s retrieval cues
  - What kind of cues are used for retrieval?
  - Semantic properties, structural position, and case shown to be relevant cues for retrieval [2, 3]

2. Attachment sites or subjects?

- Interference could be due to multiple subjects or multiple attachment sites for the verb
  - Subject properties often correlate with clausal properties
    - Nominative case in finite clauses; accusative case in non-finite [3]
  - Multiple subjects correlate with multiple clausal attachment sites
    - When the parser encounters a DP, it projects an accompanying T, which serves as an attachment site for the verb

Hypothesis: The verb’s retrieval cues target both arguments and attachment sites; clauses should also give rise to interference.

3. Experiment 1a

- Manipulate complexity of interlocutor with PP modifiers: increased activation leads to greater competition at retrieval [3, 4]
  - Initially, the bookie who expected that … was celebrating in the streets.
  - The fighter would defeat the challenger from the city on Saturday.
  - The fighter from the city would defeat the challenger on Saturday.
  - The fighter would defeat the challenger on Saturday in the city.
  - Word-by-word self-paced reading (n = 61)
    - Prediction: Slower reading times at retrieval site in Complex Subject and Complex Clause conditions
  - Retrieval site (was): Complex Subject slower than Baseline (22 ms ± 11 ms; p = .057)
    - Intervening subjects generate interference
  - Spillover (in): Complex Clause faster than Baseline (-21 ms ± 10 ms; p < .05)
    - No evidence for interference from intervening clauses
  - Potential anti-locality effect [6]; clause-final modifiers boost expectation of exiting embedded clause, which could mask difficulty
  - Reading times may be spuriously inflated due to phrase-by-phrase presentation

4. Experiment 1b

- Items from Experiment 1, but without final matrix PP
  - Speeded acceptability judgment task [1], RSVP (n = 76)
  - Error rates highest for Complex Subject, but not significantly different from Baseline (p = .09)
    - High error rates may indicate overall task difficulty

5. Experiment II

- Used pre-head modifiers to keep number of clause-final modifiers constant and avoid anti-locality effects
  - Initially, | the bookie | who expected that | … | was celebrating | in the streets | joyfully.
  - Baseline | the fighter | would defeat | the very determined challenger | on Saturday.
  - Complex Subject | the fighter from the city | would defeat | the very determined challenger | on Saturday.
  - Complex Clause | the fighter | would defeat | the very determined challenger | on Saturday.
  - Phrase-by-phrase SPR (n = 58)
    - Spillover (in the streets): Complex Clause faster than Baseline (-33 ms ± 18 ms; p = .065) and Complex Subject (-32 ms ± 19 ms; p = .091)
      - No evidence for interference from clauses
      - Reading times may be spuriously inflated due to phrase-by-phrase presentation

CONCLUSION: No evidence for interference from attachment sites; elaborated clauses never led to slow-downs, only speed-ups.

- **Stronger interpretation**: clausal interference never occurs
  - Within potential clausal attachment sites, retrieval cues target properties of potential arguments
  - Attachment sites retrieved only indirectly via arguments
- **Weaker interpretation**: language-specific property of English
  - Limited verbal morphology to cue attachment sites
  - Pro-drop and verb-initial languages may use cues differently, since verb must be integrated into structure before an overt argument appears

FUTURE DIRECTIONS:

- Match / Mismatch paradigm instead of elaboration
  - Vary tense or aspect of embedded clause to match matrix verb’s cues
- Examine languages with richer Tense / Aspect / Mood morphology
  - E.g., subjunctive vs. indicative in Spanish

REFERENCES: