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How long can you hold the filler?
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Overview
- How much information about a filler is maintained in a WH-dependency?
- Is there a difference between active maintenance and re-activation of a filler?
- We present evidence that:
  - Fine-grained information about a filler is maintained across a dependency (c.f. Wagers & Phillips, 2014)
  - The quality of this information is degraded when a filler is reactivated (Martin & McElree, 2008)

Background
• We know that fillers are actively maintained in memory (Stowe, 1986):
  • Ruth wondered who Robert would bring us home to ___ at Christmas.
• We also know that fine-grained information about fillers seems to rapidly decay (Wagers & Phillips, 2014):
  #The cats which the squirrels with the bushy black tails quickly crammed their small puffy cheeks with ___ before scurrying out of the park...
• Presumably, a filler must be reactivated in a coordinate structure due to the coordinate structure constraint (Ross 1967):
  • John wondered what Mary bought ___ and sold ___.
• We further test how much information is actively maintained/reactivated using an agreement attraction paradigm (Wagers, Lau, & Phillips, 2009):
  • The key to the cabinet(s) are on the table.

(1) “Reactivated” WhFGD formation
Which key to the cell/s can be used for front doors and unsurprisingly is/are used for two doors?
- WhFGD and coordination structure where the the wh-filler is linked to the verb in the first conjunct, but the wh-phrase must be “reactivated” at the coordinating connective and.

(2) “Active” WhFGD formation
Which key to the cell/cells that can be used for front doors unsurprisingly is/are used for two doors?
- The wh-V dependency is incomplete at the main verb (the second verb is/are), meaning the wh-phrase is linked to the main verb is/are directly

Experiment 1: Coordinate Structure
A Self paced reading experiment (n=44) at Northwestern University. 32 sets of target sentences, with four conditions balanced in a Latin square.

Experiment 2: Wh vs. The
A Self paced reading experiment (n=76) at Northwestern University. 32 sets of target sentences, with four conditions balanced in a Latin square.

Experiment 3: Reactivated vs. Active WhFGD
A Self paced reading experiment (n=76) at Northwestern University.

- a.b. Which key to the cell/s can be used for front doors and unsurprisingly is used for two doors?
- c.d. Which key to the cell/s can be used for front doors and unsurprisingly are used for two doors?
- e.f. Which key to the cell/s that can be used for front doors and unsurprisingly is used for two doors?
- g.h. Which key to the cell/s that can be used for front doors unsurprisingly are used for two doors?

Comprehenders activate the entire constituent corresponding to the WH phrase, not just the head/syntactic category.

Comprehenders maintain information of a higher quality than they reactivate.

Summary and Conclusion
• We find that fillers can cause agreement attraction effects
  • This effect obtains when fillers are actively maintained, and when they are reactivated.
  • It is larger when they are actively maintained.
  • It is absent when the constituent is not a WH-filler.

• These findings suggest that:
  • Comprehenders maintain relatively fine-grained information about fillers across dependencies (c.f. Wagers & Phillips, 2014).
  • Comprehenders access this information less reliably during retrieval (Martin & McElree, 2008).
  • Wh phrases hold some privileged status in memory.

Open Questions and future directions:
• Does agreement attraction surface to even longer dependencies?
• Why are WH phrases privileged relative to other constituents?

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