The processing of direct discourse: When a subordinate speech act sticks around

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Structure in Performance

At what stage does processing reflect discourse-level organization?

Direct discourse (DD): A secondary stream

Direct discourse (DD) speech reports contain two speech acts (SAs): the reporting sentence and the reported sentence. The reported sentence is not part of the current discourse.

(1) **DD:** Evan said, "The cruise departed three hours late."

Cf. indirect discourse (ID) reports, only a single SA.

(2) **ID:** Evan said that the cruise departed three hours late.

Is this kind of subordinate discourse unit treated differently in incremental processing?

Some existing evidence: DD, and not ID, is perceptually simulated separately, in the voice of its reported speaker.

- DD is associated with increased activity in voice-selective areas of the auditory cortex [1].
- First-pass and go-past times of DD are modulated by described speech rate [2, 3].
- The narrator's voice is subject to the same simulation [4, 5].

Is this foreign status during uptake reflected in later-stage computation (e.g. naturalness judgements, filler-gap resolution)?

The downweighting of appositives

Appositive relative clauses (ARCs) are less influential in later computation than restrictive relative clauses (RRCs) [6–8].

(3) **ARC:** That evil man, the one who was on the cruise, tried to intimidate the waitress.

(4) **RRC:** That evil man who was on the cruise tried to intimidate the waitress.

- Naturalness judgements are less sensitive to the complexity of an ARC than the complexity of an RRC [6].
- ARCs, unlike RRCs, are generally not-at-issue, but even at-issue ARCs show decreased influence on judgements [7].
- Filler-gap dependencies (5) are more quickly and easily integrated across ARCs than RRCs [8].

(5) The butcher asked who the lady, who bought Italian ham, was cooking dinner for ____.

ARCs, like DD, contribute distinct, secondary SAs. Are these effects the result of processing organized by SA units, as [8] suggest?

Hypothesis

Online comprehension processes are organized at the level of maximal discourse meaning, the speech act.

When a sentence contains multiple speech acts, **secondary speech acts are downweighted** in late-stage computation.

Prediction: DD should demonstrate the same downweighting as ARCs.

- Acceptability judgements will be less sensitive to the complexity of DD than ID.
- Filler-gap dependencies will be more easily integrated across DD than ID.

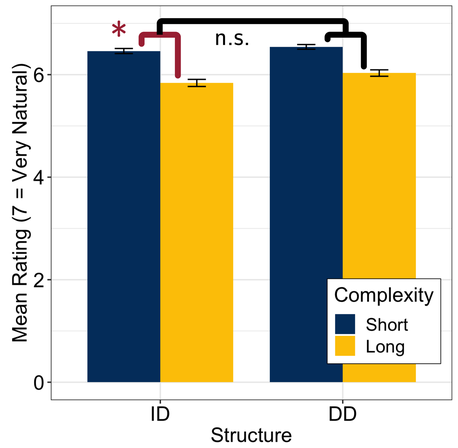
Experiment 1: Is DD less influential in judgement? ($n = 48$)

We collected naturalness judgements (1-7) on Prolific for 32 items crossing Structure [ID, DD] × Complexity [Short, Long].

Complexity	ID	DD
Short	Evan said that the cruise departed three hours behind schedule.	Evan said, "The cruise departed three hours behind schedule."
Long	Evan said that the cruise Mary took to the Pacific Islands departed three hours behind schedule.	Evan said, "The cruise Mary took to the Pacific Islands departed three hours behind schedule."

Fillers and guided practice were identical to [6].

Discussion: We find only a main effect of Complexity, and not the predicted difference of differences interaction. We find **no support for the hypothesis.**

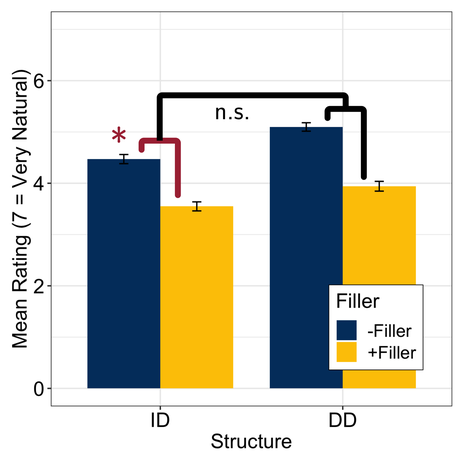


Experiment 2: Does DD provide less retrieval interference? ($n = 48$)

We collected naturalness judgements (1-7) on Prolific for 32 items crossing Structure [ID, DD] × ±Filler(-Gap Dependency).

Filler	ID	DD
-Filler	The butcher asked if the lady who said that she would like a nice big ham was cooking for a party.	The butcher asked if the lady who said, "I would like a nice big ham," was cooking for a party.
+Filler	The butcher asked who the lady who said that she would like a nice big ham was cooking for ____.	The butcher asked who the lady who said, "I would like a nice big ham," was cooking for ____.

Discussion: We find main effects of Complexity and Structure, but no predicted difference of differences interaction. We continue to find **no support for the hypothesis.**



General discussion

No evidence that DD is downweighted in late-stage computation.

How might we explain the contrast between ARCs and DD?

A. The hypothesis is well-founded, but DD does not qualify.
   - DD is an argument of its embedding predicate.
   - Dependencies from the primary SA may counter-balance downweighting.

B. The hypothesis is well-founded, but discourse status of DD varies.
   - DD may sometimes receive primary status.
     - Not supported: ratings seem unimodal.

C. The hypothesis is wrong, discourse is not implicated.
   - Processing may be organized by large prosodic units [9].
   - ARCs are prosodically isolated, downweighted accordingly.
     - Supported: In line-by-line SPR, standalone RRCs behave like ARCs [7].
   - DD may not have strong enough prosodic correlates to result in isolation in implicity prosody.
     - Supported: Corpus studies show DD prosody is highly variable, often lacks clear boundaries [10, 11].

Conclusions

Though DD is treated as an independent discourse unit online, we observe no corresponding patterns of reduced influence downstream.

- No evidence that judgement weights DD less than ID as evidence of naturalness.
- No evidence that filler-gap retrieval and integration can exclude or limit interference from DD.

The general hypothesis that the processor backgrounds secondary discourse units is too strong.

Either DD is a marked exception, or we should entertain a prosodic alternative hypothesis.

References

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