Processing Syntax

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COGS 4780

Prosody and ambiguity

- [Disambiguate](#)

Syntactic Category Ambiguity

desert trains

Syntactic Category Ambiguity

- Another type of ambiguity has to do with lexical categories

- *trains* can be a noun or a verb (same with *watches*)

- It seems like our strategy to deal with this is to delay processing until the syntactic category is clear
  - Usually we don't have to wait that long (typically resolved by next word)

Syntactic Category Ambiguity

desert trains

- Noun Verb interpretation (*desert*-N *trains*-V)
- Noun Noun interpretation (*desert*-N *trains*-N)

- I know that the desert trains
- I know that the desert trains

Frazier & Rayner (1987)

desert trains

- Noun Verb interpretation (*desert*-N *trains*-V)
- Noun Noun interpretation (*desert*-N *trains*-N)

- I know that the desert trains young people to be especially tough
- I know that the desert trains are especially tough on young people

Frazier & Rayner (1987)

desert trains

- Noun Verb interpretation (*desert*-N *trains*-V)
- Noun Noun interpretation (*desert*-N *trains*-N)

- I know that this desert trains

Frazier & Rayner (1987)

desert trains

- Noun Verb interpretation (*desert*-N *trains*-V)
- Noun Noun interpretation (*desert*-N *trains*-N)

- I know that these desert trains

Frazier & Rayner (1987)

desert trains

- Noun Verb interpretation (*desert*-N *trains*-V)
- Noun Noun interpretation (*desert*-N *trains*-N)

- I know that this desert trains young people to be especially tough
- I know that these desert trains are especially tough on young people

Frazier & Rayner (1987)

- I know that the <mark>desert trains</mark>
- I know that the <mark>desert trains</mark>
- I know that this <mark>desert trains</mark>
- I know that these <mark>desert trains</mark>

- Reading times for <mark>desert trains</mark> **shorter** in ambiguous condition ("the") than unambiguous condition ("this"/"these")

Frazier & Rayner (1987)

- I know that the desert trains ==young people== to be especially tough
- I know that the desert trains ==are especially== tough on young people
- I know that this desert trains ==young people== to be especially tough
- I know that these desert trains ==are especially== tough on young people

- Reading times for ==disambiguating regions== **longer** in ambiguous condition ("the") than unambiguous condition ("this"/"these")

Frazier & Rayner (1987)

- Explanation: delay

- When we encounter the ambiguity, we don't really do much (shorter reading times)

- We know to wait for the disambiguation, and once we encounter that, we update our representation (longer reading times)

- Background information is involved in this process too, though
  - If *trains* is statistically more likely to be a noun than a verb, that may influence our initial interpretation
    - same with *trains* in *desert trains*

Shadowing

- Shadowing task