

Caramazza & Zurif 1976

- Broca's patients rely on semantics to interpret sentences. So they understand:
 - *The apple that the boy is eating is red*
- They know already that boys eat apples, not vice versa.
- Where they need to use syntactic cues, they fail. They have trouble with:
 - *The girl whom the boy is pushing is tall*
- Both 'the boy' or 'the girl' could be doing the pushing and syntactic information is essential who is the Agent and who is the Patient.

Stimulus



The woman is being chased by the man vs.
The man is chasing the woman

Testing knowledge of Syntax and Semantics

- Semantic roles

Active

The boy is chasing *the dog*

Agent/Subject Patient/Object

Passive

The dog is being chased by *the boy*

Patient/Subject Agent/Object

- Passive voice is worse than active voice

Clefts

Object Cleft

It is the girl who the boy is pushing.

Patient Agent

Worse than

Subject Cleft:

It is the boy who is pushing the girl

Agent Patient

Why?

- Semantic info seems to help,
 - The man is being chased by the woman
 - The apple is being eaten by the man
 - Reversible vs. irreversible
- But when syntax decides:
 - Passive worse than Active
 - Object cleft worse than Subject cleft

Thematic role and word order

- Most English sentences have:
 - Agent ...Patient order
- Grammar allows role reversal:
 - Passive
 - Object cleft
 - Object relative clause
 - The man who kissed the girl vs.
 - The girl who the man kissed
- That is when Broca's are worse - they cannot use syntax in sentence comprehension

Problems with that

- Broca's who have agrammatic comprehension are good at grammaticality judgment tasks
- Syntactic priming seems to improve their performance
- Maybe syntax is not completely lost?

Grodzinsky, TDH

- It was **the girl** who **the man** chased **t**

- Trace is where thematic role is assigned
- Otherwise how do you account for the 'association' between 'chase' 'the girl'

Trace Deletion Hypothesis

- Traces are unavailable to agrammatics
 - This explains comprehension asymmetries
 - Deleted trace removes Agent/Patient role information
 - Only position available to deduce it
 - I English Agent first Patient second

TDH problems

- Not all patients exhibit the behavior
- It is not clear if agrammatism is a syndrome
 - Behavior
 - Lesion
- Not clear what is the criterion.

Agrammatism

- Can patient studies help us in establishing theories of sentence processing
 - Not really unless the data is cleaner
 - Distance between ‘dependency theories’ and agrammatism
 - Although some try to say agrammatic behavior is failure to establish long distance dependencies