

Today

- HW2
 - Cxn examples
- Incrementality

Incremental syntactic processing

The lawyer cross-examined...

The lawyer cross-examined by the prosecutor confessed.

The lawyer cross-examined the witness.

- We can tell that people are building up expectations as they hear or read a sentence because certain words are harder to process than others.
- Some of this is probably about grammar expectations; sentences are more likely to go
 - Subject-Verb-Object
 - than
 - Subject-Participle-By-Agent-Verb

Incremental semantic processing?

- Is there a difference here?

The lawyer cross-examined by the prosecutor confessed.

The witness cross-examined by the prosecutor confessed.

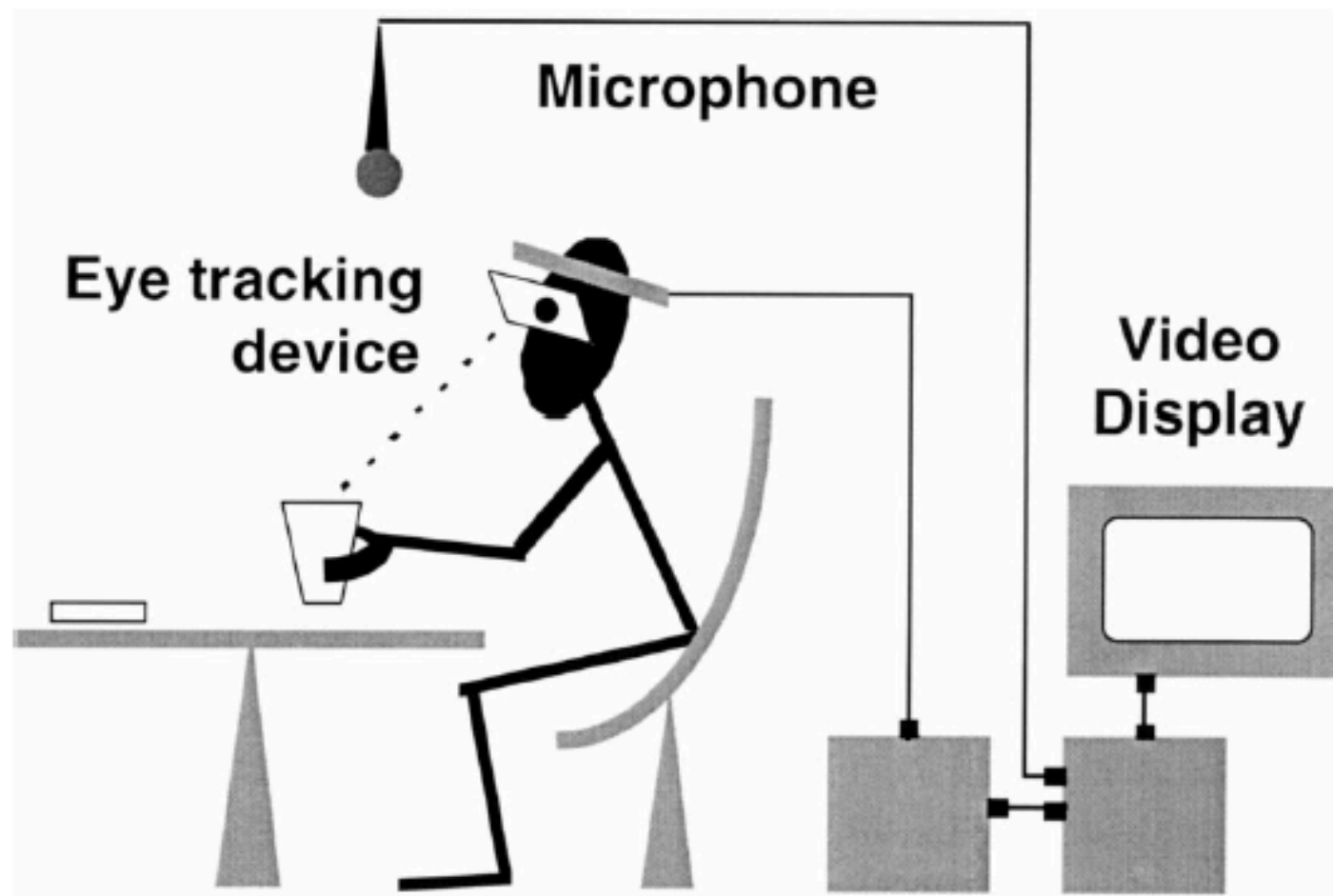
- If there's a difference, then it can't be due just to syntax.
- It could be due to what you know about the likelihood that a witness will cross-examine or be cross-examined, and same for a lawyer.

Incremental semantic processing

- How does comprehension work over time?
 - Do people incrementally build up a notion of what the sentence is about?
 - Or do they wait until the end of a clause or sentence to try to interpret it?

Sedivy et al., (1999)

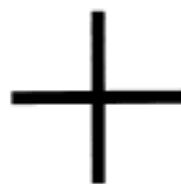
1. When words have relatively fixed meanings (like *red*), do you use those meanings immediately and incrementally?
2. When words have more variable meanings (like *tall*), do you use context in combination with what you know about those words incrementally?



yellow



yellow



pink



Design

- Two conditions

Example: *Pick up the blue pen*

- Early disambiguation condition

- No other blue objects

- So pen is disambiguated at the adjective

- Late disambiguation condition

- One other blue object

- So pen is disambiguated at the noun

- Question: when do people look at the target and distractor objects in each condition?

Results

Condition	Eye-Movement Latency (ms)	Looks to competitor or control (%)	Total looks to non-targets (%)
Early	378	4	16
Late	460	18	21

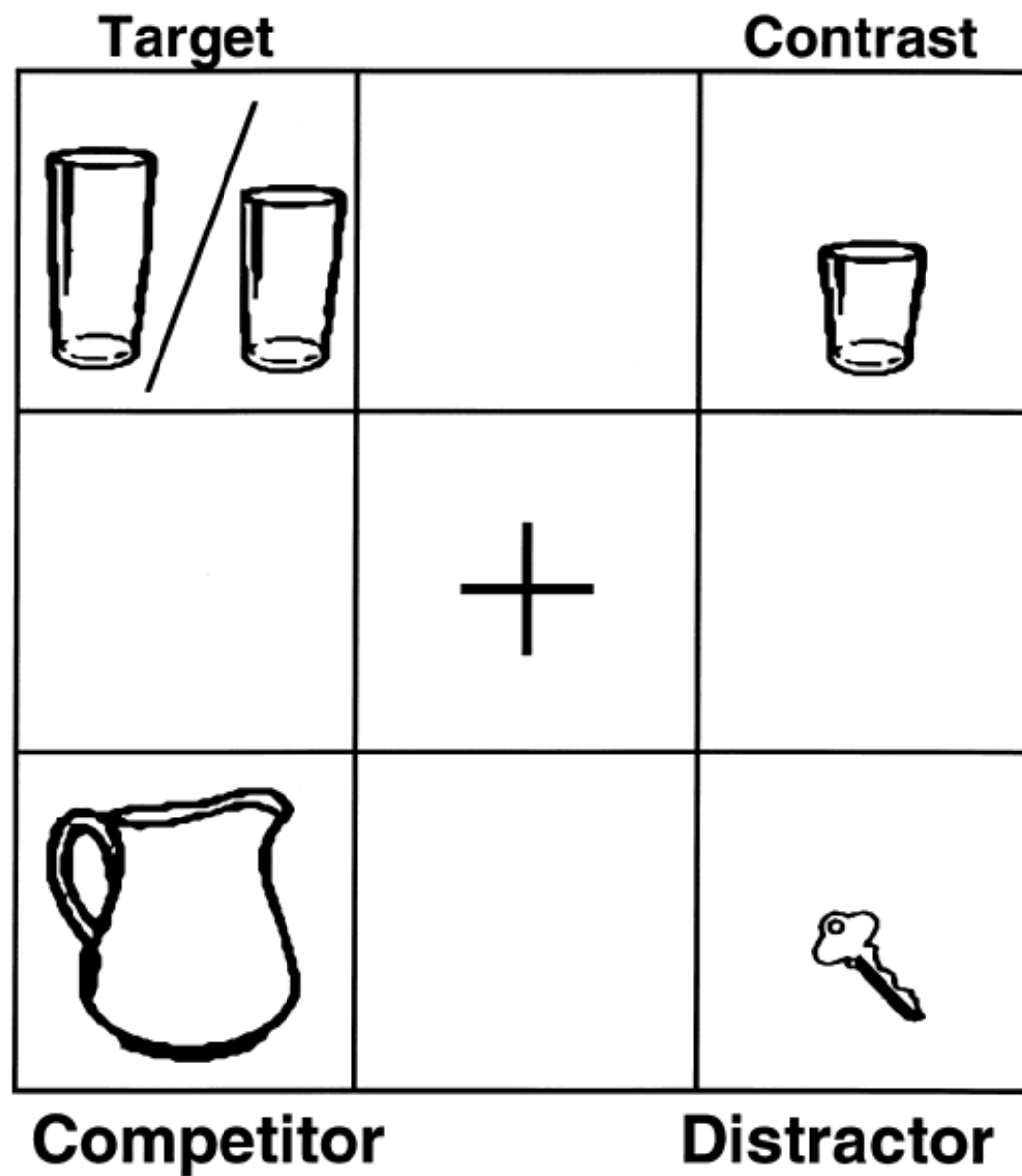


Fig. 4. An example of a display in the contrast condition for Experiment 2. In the no contrast condition, a second distractor (e.g. a file folder) occurred in place of the contrast object.

