# Today

- Questions from last time (incrementality)
- Using eye-tracking

# Online comprehension

- Online processes, like comprehension, call for online experimental techniques
  - Self-paced reading
  - EEG/MEG
  - Mouse-tracking
  - Eye-tracking

- Using any of these requires an account of the relation between cognitive/brain processes and the online dependent measure
  - E.g. what do eye movements index?

# Incremental reference resolution



"Put the <u>five</u> of hearts that is <u>below</u> the <u>eight</u> of <u>clubs</u> above the three of diamonds."

# Incremental reference resolution



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# Incremental reference resolution



"Put the _five_ of hearts that is _below_ the _eight_ of _clubs_ above the three of diamonds."

# Incremental reference resolution
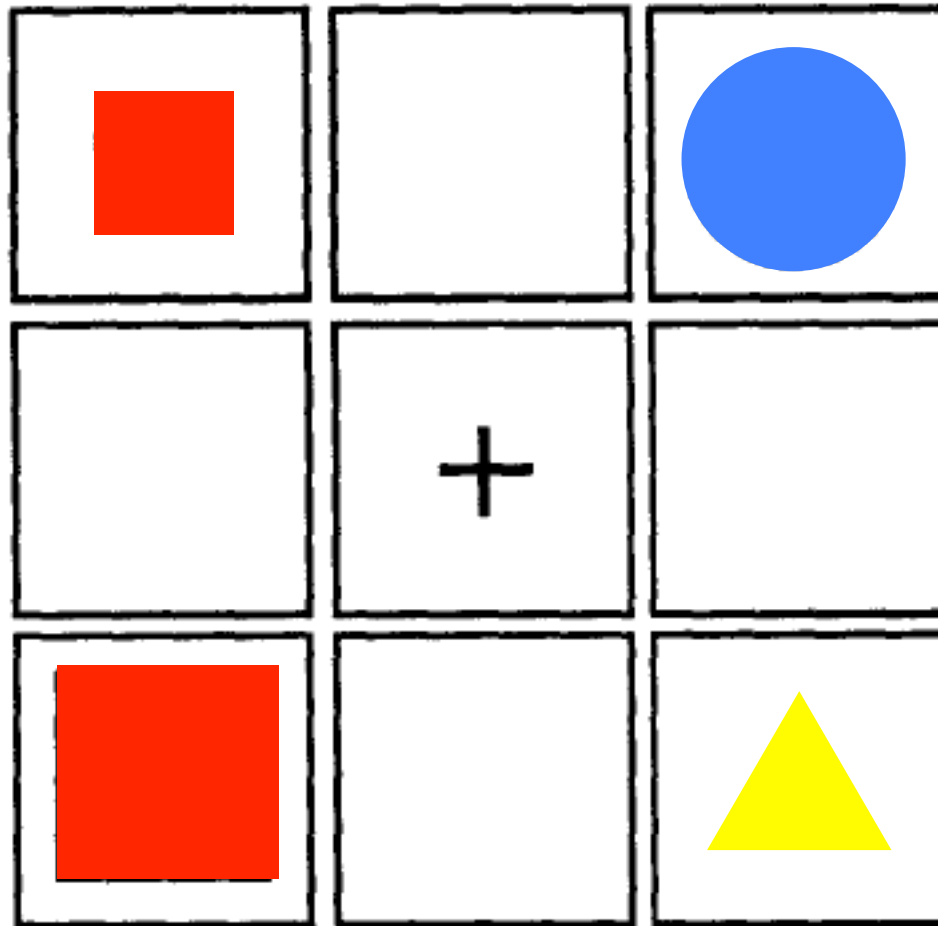


"Put the <u>five</u> of hearts that is <u>below</u> the <u>eight</u> of <u>clubs</u> above the three of diamonds."

# Incremental reference resolution

- Results
  - Ppts always make an eye movement to the card before reaching for it.
  - The earlier the disambiguation point, the earlier Ppts looked at the target object

# Contrastive focus

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- Points of disambiguation
  - "Touch the large <u>red</u> square"
  - "Touch the <u>LARGE</u> red square"

- Finding: Earlier movements to the large red square with contrastive focal stress than without
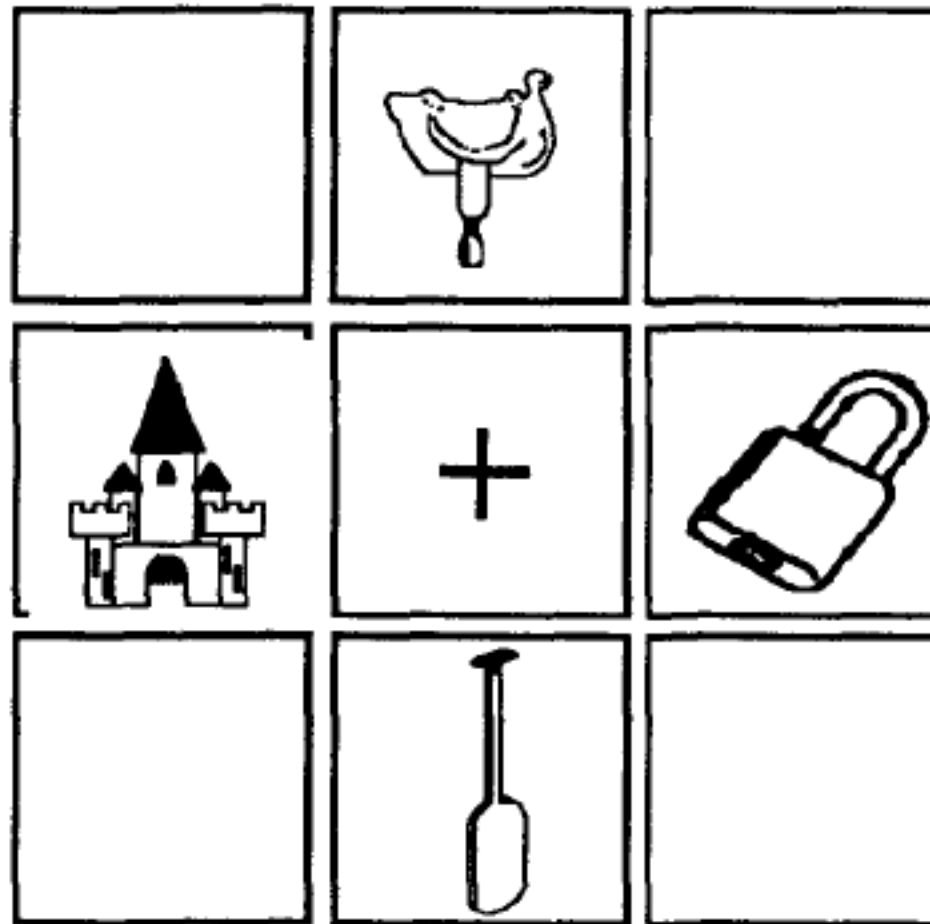
# Word recognition



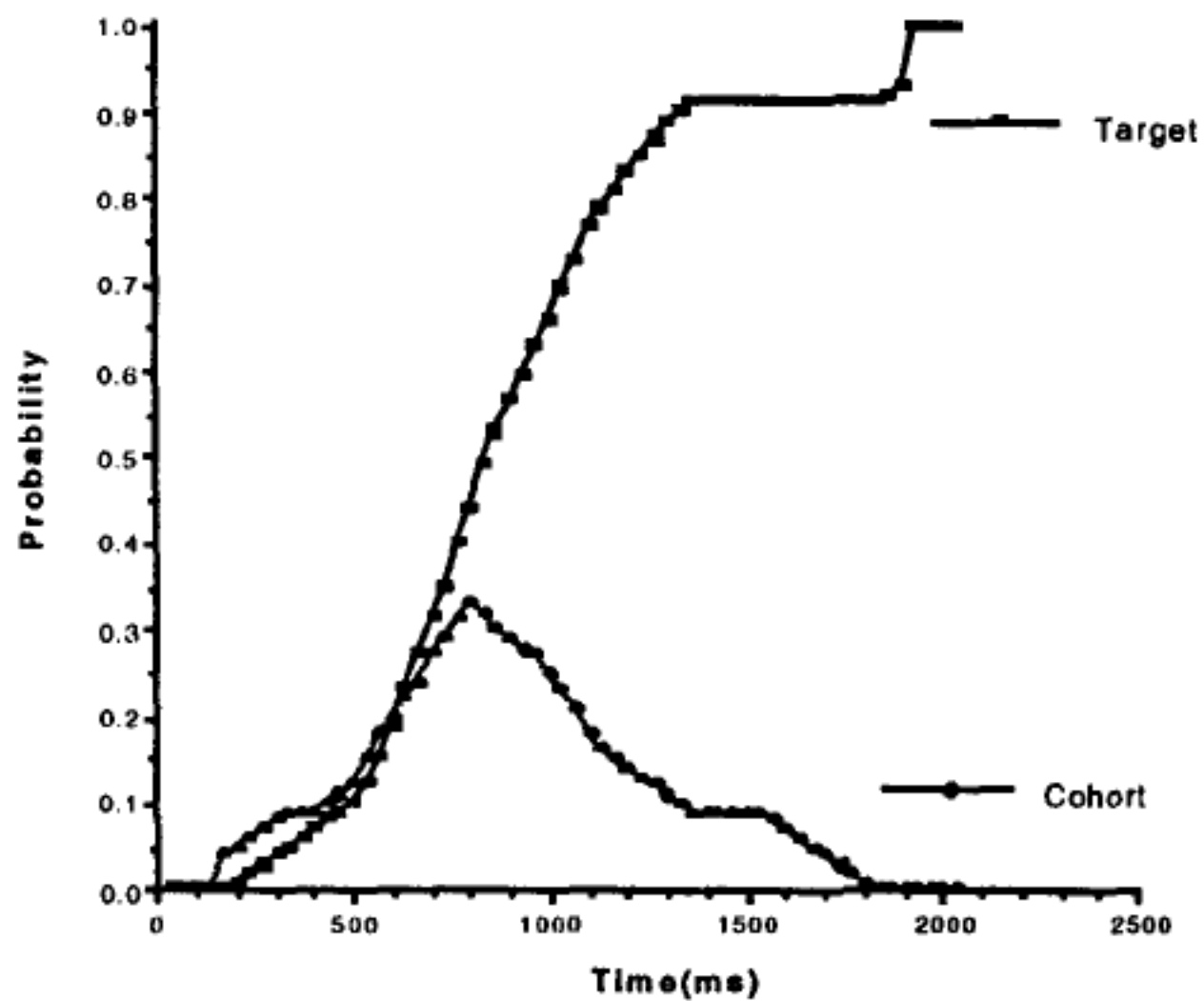Figure 3: Sample Display for the Instruction: "Pick up the paddle."

Figure 4: Probabilities of eye-fixations in a competitor trial.

# Questions

- How could you use eye-tracking to test predictions of the following? (Pick one, and if time allows, talk about the others.) Give an example of what the stimuli would be like (both visual and auditory).
  - An SRN-like model
  - A modal, perceptual symbol model
  - An amodal, abstract symbols model

- What types of language (or comprehension processes) would be particularly hard to study using eye-tracking? Why?