



Grounded cognition

Language and action

(Glenberg & Kaschak, 2002)

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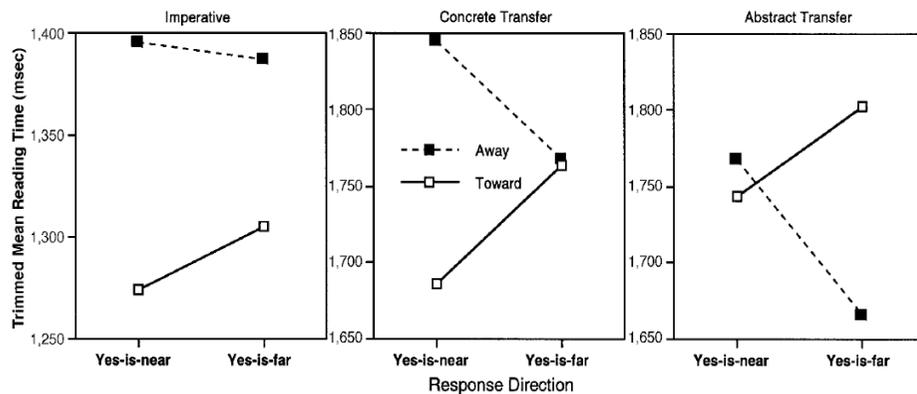
Behavioral evidence

- How does language convey meaning?
 - symbolic view vs embodied view
- Indexical hypothesis – action-based meaning (Glenberg & Robertson, 1999)
 - meaning of a situation = a set of affordances
- According to IH, 3 processes transform words and syntax into action-based meaning:
 1. words and phrases are indexed (mapped) to perceptual symbols
 2. affordances are derived from perceptual symbols
 3. affordances are meshed under guidance of syntactic constructions

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Experiment 1

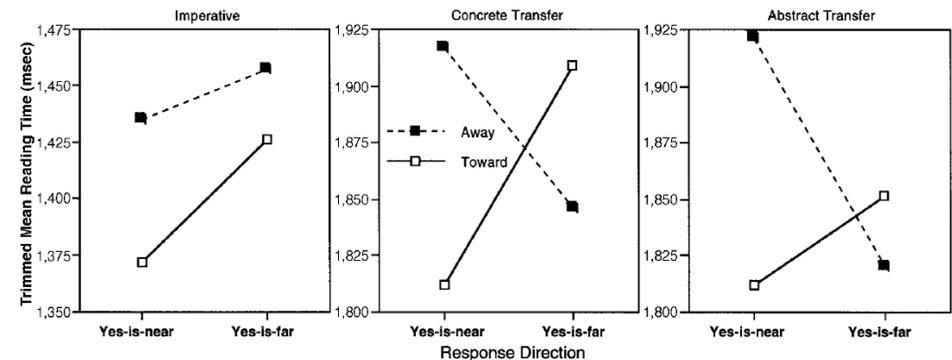
- Task: judging the sensibility of the “transfer” sentences as fast as possible.
 - physical transfer: “John handed pizza to you” / “You handed pizza to John”, or
 - abstract transfer: “Liz told you the story” / “You told the story to Liz.”
- Responses: pressing the “near” or “far” button
- Interaction observed ~ action-sentence compatibility effect (ACE)



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Experiment 2A

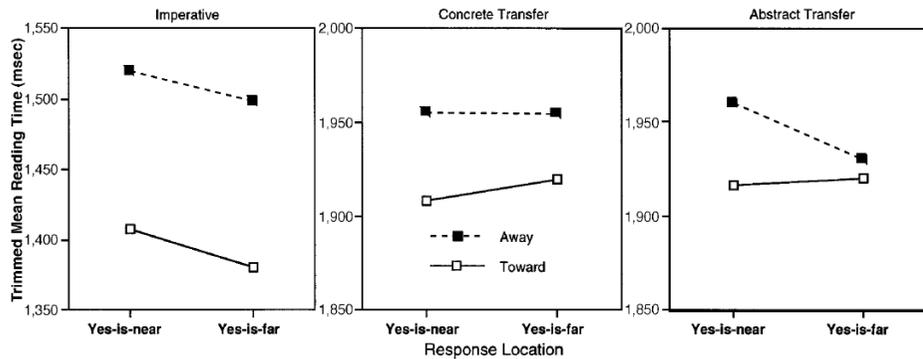
- aimed at replication and extension of effects in Exp. 1:
- response direction manipulated between subjects, left hand used



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Experiment 2B

- Test for spatial location alternative to IH (near/far responses absent)
- ACE depends on action but not spatial location of responses



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General discussion

- ACE is consistent with IH
- Sentence meaning is given by an understanding of
 1. how actions described by sentence can be accomplished, or
 2. how the sentence changes the possibilities for action.
- ACE => description of language understanding is not metaphorical, it involve real bodily action
- Two topics:
 1. How IH proposes that affordances are combined with grammatical information to result in a meshed or integrated understanding.
 2. Can the claim that language is grounded in action be extended to forms of language that seem far removed from action?

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Extending the scope of IH – 3 sketches

1. Some statements are understood as providing new perspectives – as highlighting new affordances for action
 - e.g. “The dog is growling.”
2. Causal reasoning: often concerning abstract ideas
 - Based on (1) covariation of events, or (2) embodied analyses
 - Compatible with force dynamics analysis of causal language (Talmy, 1988).
3. Both professional scientists and naive students attempt to ground language about abstract phenomena in bodily experience (Ochs et al, 1996).

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