**Perspective**

- **Context availability model**: Concrete words and how they are anchored in our semantic network -> Free recall

-**Fiebach & Frederici**: **Left basal temporal areas** involved in higher-level visual processing and mental imagery were more strongly activated during processing of **concrete words**, **left inferior frontal region** showed greater activity during **abstract word** processing (s. 69)

-**Adelman** et al: parallel processing of letters in words

-**Chomsky:** biolinguistics, universal grammar

**Authors’ conclusion:**

**-**Findings demonstrate that **participants hold in mind images affected** by their described **context and visibility**

-Language processing invokes mental **representations** that take **experiential/perceptual traces** into account

**Method** N = 80 undergraduate students. 96 sentences: 48 experimental, 48 fillers

-Each participant saw **24 experimental sentence-picture-pairs (12 congruent and 12 incongruent)** and 48 filler sentences (72 sentences in total, 36 requiring yes, 36 requiring no)

**-Experimental: “Through [medium x], the agent could see the “object Y””**

-Filler (48): 36: “Agent interacting with a concrete object”, 12: “An agent sees an object” (no emphasis on clarity)

-36 no answers, 12 yes answers. -> total 36 yes + 36 no

**How semantic knowledge is stored**

Sensory/functional theory, Domain-specific theory**,** Priming**,** Semantic network**:** Has wings, can fly -> aeroplane, bird, fly

**Criticism**

-Are we measuring **uncertainty**? Is the slower response time for incongruent trials due to participants being uncertain about the correctness of their response given that the object **appears slightly different from the one described**?

--Even if unsure they are **still “aware” of difference** between mental image and the one presented on screen.

**Table 1: congruity produces faster picture verification**

-Significant interaction between pictures and sentences: “Matching sentences and pictures elicited shorter latencies than mismatching.

-Main effect of picture type: response quicker for clear pictures when preceded by clear sentence and vice versa.

|  |  |  |
| --- | --- | --- |
| Sentence verification RT | Clear sentence (*M/SD (ACC)*) | Unclear sentence (*M/SD (ACC)*) |
| Clear picture | **635/150 (97%)** | 658/163 (98%) |
| Unclear picture | 699/154 (98%) | **670/147 (99%)** |

**-These findings demonstrate that language processing invokes the visibility of objects given described environmental context**

**Pilot study**

-Tested how occluded a picture must be to have an effect on object identification, while not effecting accuracy.

**50% occlusion** had some effect on RT but none on accuracy

**Motivation and hypothesis**

“Therefore, comprehenders should be faster to recognize a picture of the described object that matches the level of visual resolution (i.e., high vs. low) than one that does not match. -> **does semanticity transfer to mental images?**

This study was designed to test if the level of visual resolution represented during language processing influences picture verification.“ (p. 231)

**Language:** A shared symbolic system for communication

The article investigates language **processing influence on object verification**

Do language based mental simulations include **perceptual traces** hinted at from environmental factors or are they limited to decontextualized object features?

Yaxley, R. H., & Zwaan, R. A. (2007). Simulating visibility during language comprehension