

9.65 Feb. 17, 2004 Attention II. HANDOUT

Assigned reading: Luck, S. J., Vogel, E. K., & Shapiro, K. L. (1996, October 17). Word meanings can be accessed but not reported during the attentional blink. Nature, 383, 616-618.

REMINDER: Lab I here on Wednesday.

1. Visual attention: Treisman & Gelade's theory

a. Feature integration theory

b. Visual search

c. Illusory conjunctions

2. Lateral neglect: Involuntary selective attention

3. The Psychological Refractory Period (PRP)

4. The Attentional Blink (AB)

5. The Theory of Signal Detection

1. Visual attention: Treisman & Gelade's theory

a. Feature integration theory:

b. Visual search: simple features versus conjunctions of features:

-Feature maps

Feature integration in the brain: The binding problem

c. Illusory conjunctions

Treisman & Schmidt (1982).

2. Lateral neglect: Involuntary selective attention

When there is damage to the right parietal lobe, a person tends to ignore stimuli appearing in the left visual field, and also ignores the left half of objects or words.

3. The Psychological Refractory Period (PRP)

a. Basic phenomenon

b. Three main theories

c. Pashler's PRP paradigm for studying dual task interference

d. Why is there a bottleneck?

4. The Attentional Blink (AB)

Searching for two targets in rapid serial visual presentation (RSVP): e.g., two letters among a string of digits, presented at 100 ms/item.

Model: Chun & Potter (1995): Two stages of processing:

Luck, Vogel, & Shapiro study:

5. The Theory of Signal Detection:

One important landmark in the understanding of the inferential, bet-placing character of perception was the Theory of Signal Detection, sometimes known as TSD. This theory emerged from psychophysical studies of the ability to detect a faint tone or light.

Absolute threshold?

False alarms

The theory of signal detection [TSD]

Criterion

So 2 factors: **sensitivity** (distance between distributions, d'), and **bias**, or criterion (beta).