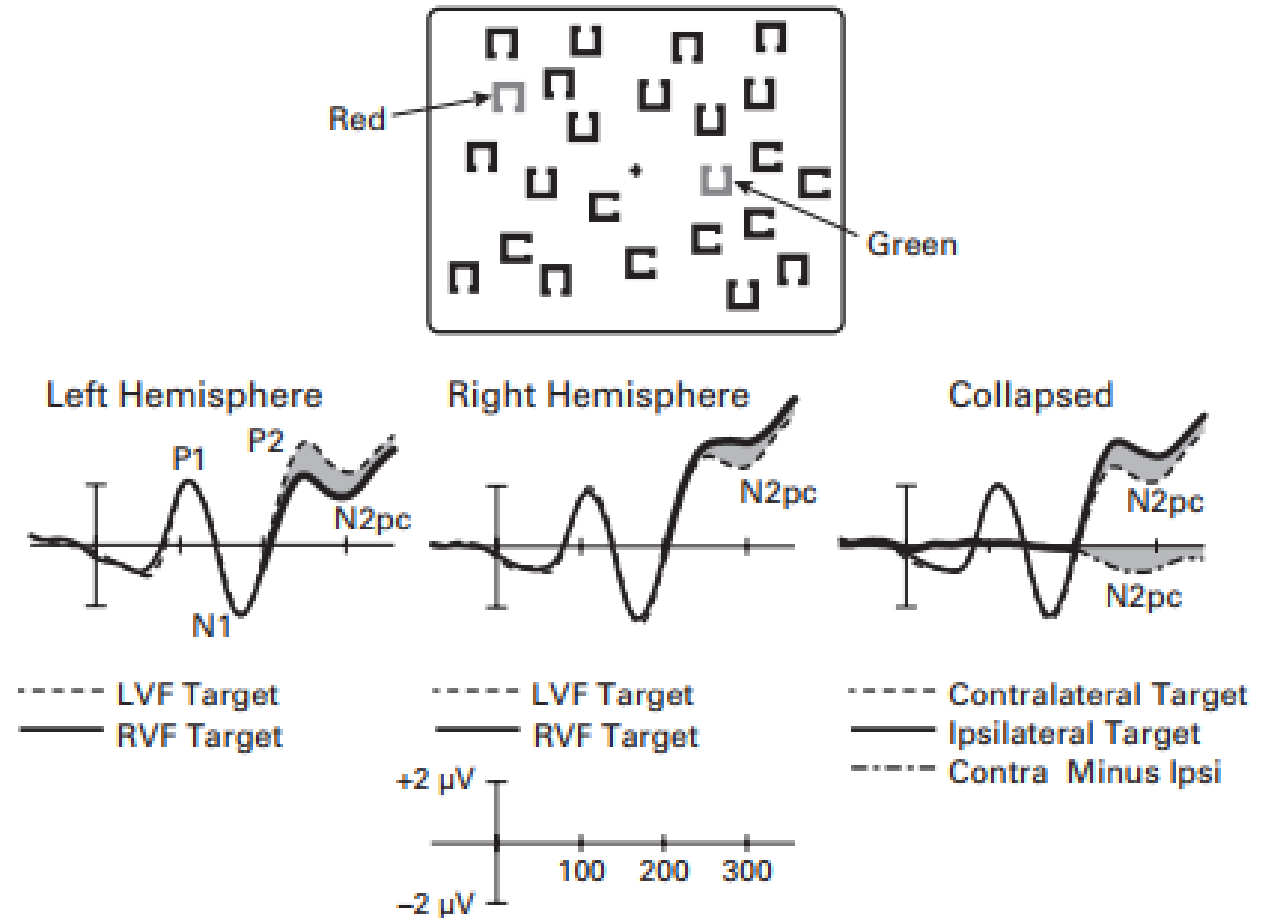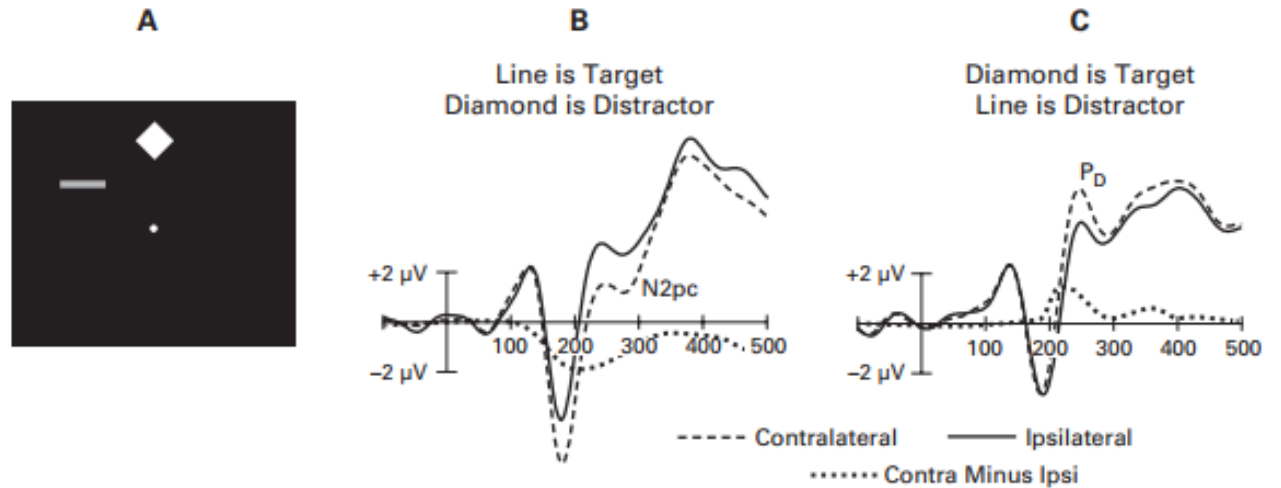# Chapter 3 continued

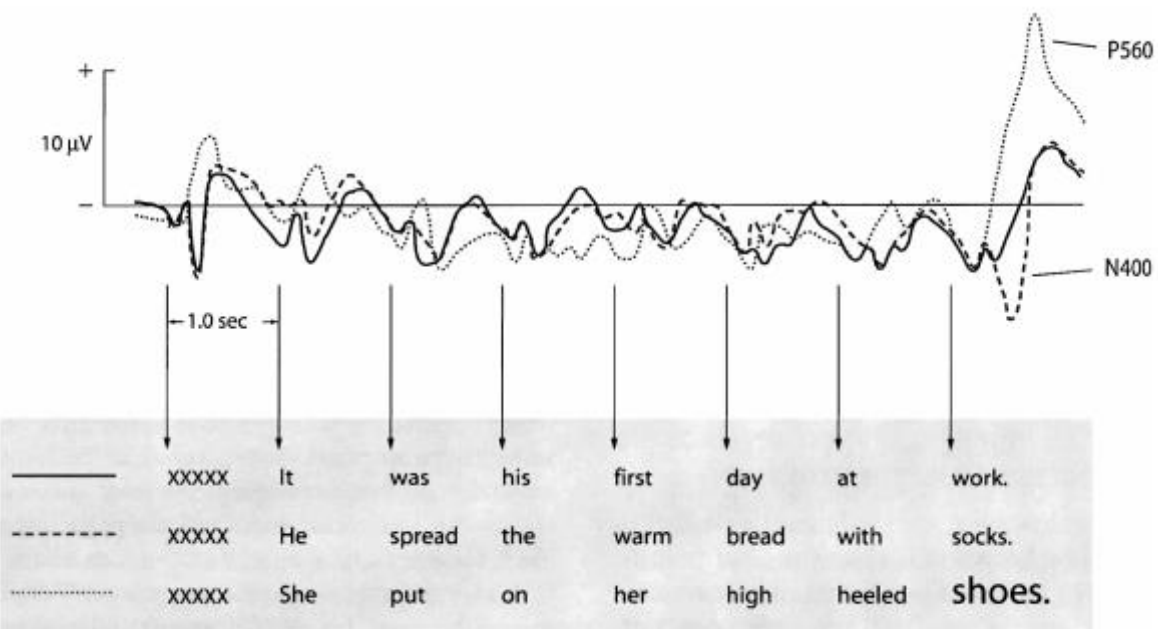# N2pc (N2-posterior-contralateral)

- subcomponent of N2c.
  - Larger at contralateral sites relative to the location of visual object.

  - Useful for determining **attention**
    - Time course of attention orienting
    - Shifts in attention
      - New objects
      - Subliminal objects

  - Influenced by distractors.

  - May reflect consequences of focusing attention onto a lateralized object.

Distractor positivity

- Inhibitory process applied to the distractor
  - Lateralized with respect to distractor
  - Polarity is opposite, scalp distribution is similar.
  - Eliminated if subjects only needed to detect presence of target.

- N400 is the best-studied language-related component. (Left temporal lobe)
  - Seen in response to violation of semantic expectancies
- Theories regarding the specific process reflected by N400
  - Neural activity associated with finding and activating the meaning of the word
  - Integration of word into rest of the sentence

Language-Related ERP Components

P600

- Elicited by syntactic violations.
  - " The broker persuaded to sell the stock "
  - " The broker hoped to sell the stock."

- Left frontal negativity from approx. 300 to 500 ms.

ERP components and Long-term memory

Separate components for encoding and retrieval phases of long-term memory tasks

Many components unrelated to encoding

Dm effect (Subsequent memory effect) = Difference due to memory

Positivity from 400 to 800ms

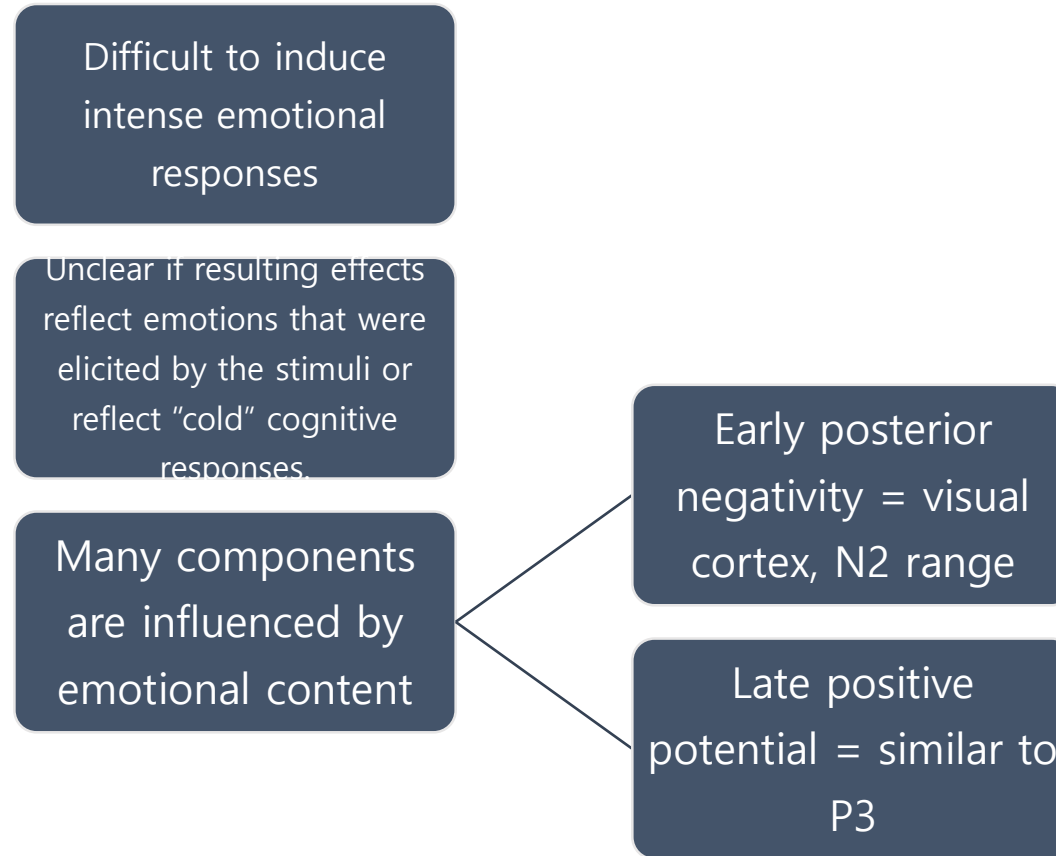Location depends on stimulus type and instructions.

ERP components and Long-term memory

Retrieval

- Old vs. new probes (stimulus)

Two distinct effects

- Negative voltage for new probes than for old probes from 300 to 500ms (familiarity) (FN400)
- Positive voltage for old probes from 400 to 800ms (Recollection)

Difficult to induce intense emotional responses

Unclear if resulting effects reflect emotions that were elicited by the stimuli or reflect "cold" cognitive responses.

Many components are influenced by emotional content

Early posterior negativity = visual cortex, N2 range

Late positive potential = similar to P3

Emotion-Related ERP Components