Discussion summary: Alegre & Gordon (1999)

(1) "Dual model" #1 — Distinction between "word" (lexically stored form) and "rule"

(a) Evidence for "rule"? —> as seen in Pinker (1998)

(b) Evidence for "word"/storage of form in lexicon?

- **Frequency effects** — this is A&G's main focus in this paper
- (Other kinds of effects showing influence of connections between stored forms)

(2) "Dual model" #2 — The proposal that lexical access (in speech perception) can proceed via either of two routes

(a) Through *whole-word representations*

(b) Through a process involving *morphological decomposition* (and then separate lexical access for one or more of the individual morphemes)

- Implications for the "word"/"rule" distinction above? Should we predict that both routes are available for all inflected words? Why or why not?

(3) What kinds of frequency effects might there plausibly be for an inflected word? [i.e., before these claims are experimentally tested]

(a) Frequency of the whole (inflected) word-form: A&G call this *whole-word frequency*

(b) Frequency of the base/stem and all its inflected wordforms: A&G call this the *stem-cluster frequency*

(c) Frequency of each of the constituent morphemes in a complex form, including affixes: one term used for this is *constituent frequency*

- To the extent that these different kinds of frequency effects are or are not found for a particular type of inflected word, what are the implications for...?
  - What kinds of items are stored in the lexicon
  - How the lexicon is accessed

(4) Connectionist models and their predictions

The rule-based models:
- Pinker's model for how regular and irregular forms are distinguished
- Any lexical access model that includes morphological decomposition

are competing against connectionist (=pattern-associator) models, which want to *explain all observed differences* between irregular and regular forms, or between forms of different frequency levels, in a *rule-free model* that depends only on connections between stored forms

(a) Bybee (1995): Word-forms should show different behavior depending on which is stronger:

- lexical strength — depends on the whole-word frequency
- lexical connections — depends on how many other word-forms the word-form in question is related to (the size of the paradigm)

This model predicts a (frequency) *threshold effect* for whole-word frequency effects: they should be observed only when _____

(b) Stemberger (1995): Regular inflected forms should *never* show whole-word frequency effects, because their lexical connections (via the very large number of forms with regular inflection) will always overwhelm any effects of lexical strength

(5) We discussed Experiment 1 in class:

(a) Task = lexical decision, visual (as opposed to auditory)

(b) Factors held constant or otherwise controlled for:

- Inflection = regular
- Similar stem-cluster frequencies
- Word length and syntactic category were evenly distributed among the items

(c) Crucial comparison:

- (Log) whole-word frequency spanned a continuum from high to low

—> Question being addressed here: Does whole-word frequency have an effect on the speed of lexical decision for regularly inflected forms?

(d) Results: Higher whole-word frequency showed a weak relationship to response time (higher whole-word frequency corresponded to a slightly faster RT)

The discussion next time will focus on:

- what the remaining experiments tested
- what their results show about the various models and proposals under discussion