Cues to stress assignment in reading aloud

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1. Overview

- Reading aloud research has focused almost exclusively on monosyllables, yet the majority of words in English, like in most languages, are multisyllabic.
- Reading aloud multisyllabic words requires the assignment of stress (record as a noun & record as a verb). However, little is known about the syllabic information that readers use to assign stress.
- Three key sources of syllabic information have been proposed to influence stress assignment in reading aloud (e.g., Baker & Broth, 1976; Kelly et al., 1996; Rastle & Coltheart, 2000).
  - Vowel: the presence of prefixes repels stress (a wine, a bar/trest)
  - Orthographic weight: syllables with more letters attract stress (ros/lette, pa/zella)
  - Vowel Length: long vowels attract stress ('c
down)

2. Models of stress assignment

- Rule-based RC00 algorithm (Rastle & Coltheart, 2000)
  - Implemented set of sublexical rules for pronunciation and stress
  - Stress assignment principly based on morphological cues
  - Explicit rule that prefixes repel stress
  - No rules about vowel length & orthographic weight

- SMA09 network (Serra, Monaghan & Arbib, 2009)
  - Dual-pathway model that provides pronunciation, stress mark & RT
  - Sublexical pathway incorporates a connectionist learning network & learns how to map spelling to sound & spelling to stress from the statistical regularities of the language
  - Orthographic input is organized along a structured graph-syllabic template

3. Single Nonword Reading

4. Sentence Reading

5. Conclusions

References: