Summaries

# steinhauer1999brain

Written garden path sentences are interpreted syntax-first, but auditory info (i.e., prosody) gives a reliable cue to differentiate ambiguous syntactic structures. Prosodic info influences decisions about syntactic structure at very early stages.

Initial syntactic misanalysis in both written & spoken = P600 (~500-1200 ms, “syntactic positive shift”)

Fig 2: Closure positive shift associated with the right side of intonational phrase boundaries (but not the final boundary?)

# steinhauer2003electrophysiological

Connolly & Phillips (1994): Phonological mismatch negativity for sentence terminal words that differed phonologically from the expected target word.

CPS found for commas, although smaller than auditory stimuli. Those that used commas more paid attention to commas more & performed better on sentence comprehension. Those who didn’t use commas displayed no CPS component in ERPs! People that pay more attention to commas activate “implicit prosody” when reading.

# pannekamp2005prosody

The CPS is directly linked to prosody. It occurs in conditions with decrease semantic, syntactic, and phonemic information.

# mourao2006intonation

Theme and rheme components are proposed to be marked by distinctive tunes, L+H\* LH% and H\* LL%, respectively. H\*L can also mark rheme. L+H\* marks “contrastive focus”.

However, perception experiments show theme/rheme accents were characterized by differences in relative pitch height and timing of pitch rise onset.

H\* signals new info and L+H\* signals contrast? Eye tracking: L+H\* biased listener to contrastive, but H\* didn’t produce bias.

H\* and L+H\* are linked to info structure, but not in a clear way.

CPS = 100-200 ms after IP. Occurs during semantic and syntactic processing, not integrated at later stage.

Magne et al [44] for French: question-answer. “Did he give his fiancée a ring or bracelet? Did he give a ring to his fiancée or his sister?” same answer w/ different pitch accents. Elicits P3a and P3b in response to sentence-medial words, for inappropriate accents (both), and missing accents (P3b). P3a indicates attention switch; P3b induced by inappropriate/missing accents that are task-relevant. **Sentence-final words with inappropriate/missing accents evoke N400.** Heim & Alter [45] show same for German.

This study:

11 participants. Materials: Statement & question, follow by response. Manipulations: First occurring accent (H\* or L+H\*), intonation (correct or anomalous), info structure (early or late phrase boundary).

# kharaman2019processing

Information-seeking (ISQ) vs rhetorical (RQ) questions. 1) Identification exp 2) EEG experiment. German wh-questions. Prosodic expectancy positivity (PEP) [8, 9, 10, 11, 12].

Identification exp: 32 questions, 4 conditions, cross pitch accent & voice quality. pitch accent had strongest effect.

EEG exp: same materials. Participants task = listen to question, determine if it matches a visual cue “Who looks paying taxes?” vs “What time is it?” Picture + example sentence of ISQ or RQ 🡪 fixation 🡪 question mark on screen + audio 🡪 Audio coherent with visual cue?

83%-87% correct responses.

Difference between expectancy violations between prosodic realizations. Occurred relatively early ~50 ms after onset of object noun (indicates that the prosodic cue is earlier than that?). Timing/efficiency of prosodic cues different for ISQ and RQ. Needs full-sentence data analysis for that interpretation. Maybe error-detection component N2b? Prosodic expectancy positivity of P3 group?