
Kjellberg and Sper (1999; henceforth, K&S) investigated late closure / early closure ambiguities with cooperating, conflicting and neutral prosody.

** peril: 1) Prosody Syntax

a. Cooperating LC when Roger leaves the house // it’s dark.
   - Coop 0.47
   - Cons -0.12
   - Neut 0.03

b. Cooperating EC when Roger leaves the house // it’s dark.
   - Coop 0.47
   - Cons -0.12
   - Neut 0.03

2. How does this relate to SSK? Studies:

**Cooperating prosody**

Experiment 1: same as ‘got it’ Expt. 1.

**Neutral phrase**

In the absence of overt prosodic phrasing (neutral prosody), the only account consistent with both experiments: Syntactic LC strategy and RSH are both at work. We assume that listeners mentally project prosodic boundaries when they are absent in the stimulus (Asker et al., 2011), with a bias toward typical or balanced phrase lengths.

3. Future Study with ‘Got-it’ Task

A seemingly bigger difference was observed here: 7: Incongruent probe, (4+2) different probes

4. Phonic Reanalysis

Phonestic Reanalysis: In reanalyzing the sentence, listeners used prosody to interpret it.

5. Experiment 1 - Phoneme Restoration with Probe Task (Lengthened Subject)

Materials: 24 experimental sentences in each of the six versions (LC, EC Neutral prosody x LC, EC visual probe).

24 filters testing another ambiguity (with LC EC and neutral prosody) 4 ambiguous filters 24 with neutral prosody.

Participants: 48 native speakers of Turkish

Task: Listen to the sentences carefully. Indicate, by pressing ‘yes’ or ‘no’ button, if you heard the visual probe word in the sentence.

Probe word was presented at the end of each spoken sentence. Results: ‘Yes’ responses and response times for ‘yes’ responses, analyzed using mixed effects modeling.

6. Experiment 2 – Phoneme Restoration with Probe Task (Lengthened VP)

Materials, procedure and number of participants were otherwise same as Experiment 1.

Results:

Experiments 1 and 2 are performed in total 28 experiments (except – see below for Expt. 1 incongruent probe).

There is no phrase length effect.

The PR data confirm condition when prosody is not helpful. We attribute this to a phonetic LC strategy.

Compatible probe (neutral prosody): Syntactic LC emerges when not masked by overt prosodic cues. Incongruent probe in Exp 2: Syntactic LC strategy as a ‘fallback’ when prosody is present but misleading. Incongruent probe in Exp 1: An intuitive and helpful explanation: the noise-replaced word occurred right after the boundary, too soon for listeners to benefit from it (Stoynezhka et al., 2010), found similar.

The PR data do not confirm phrase length effects, as predicted by the Rational Speaker Hypothesis. Why different from the ‘got it’ task? In ‘got it’: Disambiguating morphology in the sentence can create conflicts with the prosody.

In phonemic restoration: No disambiguating morphology in the sentence stimulus. So, prosody is taken as informative about sentence structure in all cases (not in competition with another cue).

**References**

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**4: Pre-tests & Noise Replacement**

Normative Study:

To eliminate any inherent sentence/prognostic bias 40 NP-VP sequences from a corpus (Asker et al., 2008) were matched for LUCS interpretation frequency. -94 sentences each in two versions: Lengthened subject Lengthened boundary

Plausibility judgment on 7-point Likert scale by 4 linguistically-informed native speaker (cf. Webster, Stadler, 2011).

24 sentences with minimum bias were selected for use in the main experiments.

**Phonetic Analysis**

Acoustic confirmation of the intended prosody

Duration measures and fundamental frequency (Fo) analyses on the temporally ambiguous region. Prosodic boundary: pre-boundary word lengthening; high pitch on the pre-boundary word; pause

Prosodically boundary after NPs EC prosody Boundary after NPs

Significant duration and Fo differences on LC between LC and EC syntax conditions, and therefore for NPs in both LC and EC prosodic conditions: (p = 0.2)

No significant durational and Fo differences for NPs between LC and EC prosodic conditions (p = 0.2)

**5: Experiment 1 - Phoneme Restoration with Probe Task (Lengthened Subject)**

To eliminate any inherent semantic/pragmatic bias Normal Study: in total 28 experiments (Except – see below for Expt. 1 incongruent probe)

RTs for ‘Yes’ Responses

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**Speculation, for future research:** RH effects are strongest when listeners become sensitive to the syntactic ambiguity and the role of prosodic cues in disambiguating it; either because comprehension tasks present the alternative interpretations, or because garden path reanalysis is required from one interpretation to the other. In the PR paradigm, participants report little or no awareness of ambiguity; they simply ‘hear’ one structure or the other. (See Stoynezhka, Ch. 5)

**7: Interpretation & Conclusions**

Yes responses, in both exps.: Congruent > Compatible > Incongruent

Listeners are sensitive to the prosodic contour of the sentence in restoring the missing phonemes.

But, there is no phrase length effect.

The PR data confirm condition when prosody is not helpful. We attribute this to a phonetic LC strategy.

Compatible probe (neutral prosody): Syntactic LC emerges when not masked by overt prosodic cues. Incongruent probe in Exp 2: Syntactic LC strategy as a ‘fallback’ when prosody is present but misleading. Incongruent probe in Exp 1: An intuitive and helpful explanation: the noise-replaced word occurred right after the boundary, too soon for listeners to benefit from it (Stoynezhka et al., 2010), found similar.

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