

When focal cues are conflicting!

This study documents three competing cues that Koreans use in focus perception and shows how perception is affected when cues are conflicting. Prosodically, Korean marks focus mainly by lengthening a focal word, realized with expanded pitch range (Jun 2002, Jun and Lee 1998). Structurally, a word at sentence initial position tends to be focused, given various word order sentences (Do and Kenstowicz, in progress).

The current paper reports the results of focus perception, showing that speakers' perception relies mostly on structural cue followed by intrinsic bias toward object focus and prosodic cue. When three cues are conflicting, speakers determine a focal word, by increasing the weight of structural cue. My claim is that independently highly-weighted cue tends to be intensified, in the course of perceiving sequences showing cue confliction.

An experiment: To see which element in the 1st clause is perceived as focus, stimuli was designed to elicit contrastive focus as (1): after listing the 1st clause (marked [] in (1)), participants (4 males and 7 females) were asked to fill the blank before a negation marker in the 2nd clause. The assumption was that an element chosen in the 2nd clause makes contrastive focus, thus syntactically identical element in the 1st clause is perceived as focus (Burring 1999).

- (1) [John-i orange-lil camninda], _____ anigo.
[John-NOM orange-ACC catches], _____ not.
'[John catches orange], not _____.'

Examples of answers

- a. banana; focus perception on 'orange (obj)'
b. Marry; focus perception on 'John (sub)'

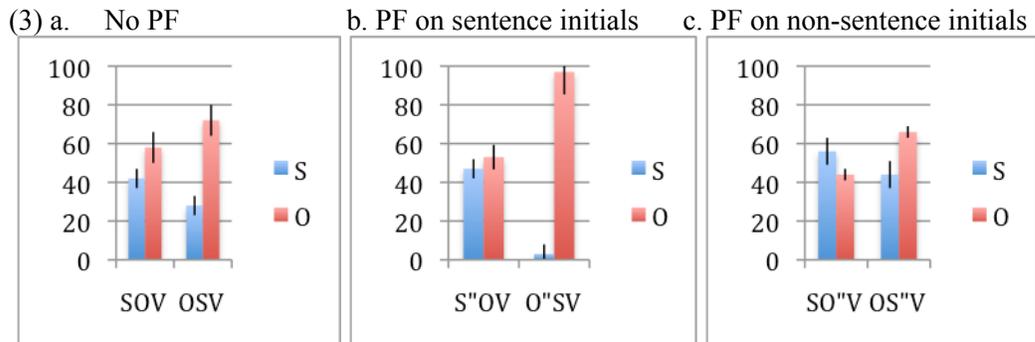
The 1st clause of stimuli was recorded by a female native speaker, controlling structural and prosodic cues: 2 word orders (SOV and OSV) paired with 3 prosodic focuses (on S, O or nowhere). Prosodic focus was elicited as an answer to *wh*- question, following Jackendoff (1972) that new information introduced in an answer gets prosodic focus regardless of word order.

42 question-answer pairs (2a) and 12 simple sentences as fillers (2b) were recorded and participants were given the 1st clauses of answers in (2a) and filler sentences (2b) in random order. After listening the 1st clause, participants filled a blank such as (1) verbally, and I wrote down their answers.

- (2) a. Q: nu-ga bus-lil t^ha-ni?
Who-NOM bus-ACC takes-Q?
'Who takes a bus?'
A: John-i bus-lil t^handa, Marry-ka anigo.
[John-NOM bus-ACC takes], Marry-NOM not.
'[John takes a bus], not Marry.'
- b. John-i bus-lil t^handa.
John- NOM bus- ACC takes.
'John takes a bus.'

Results: Participants make contrastive focus either by filling a word for subject or object. Post-test questionnaires show that what is perceived as a focus in the 1st clause becomes a target of contrastive focus.

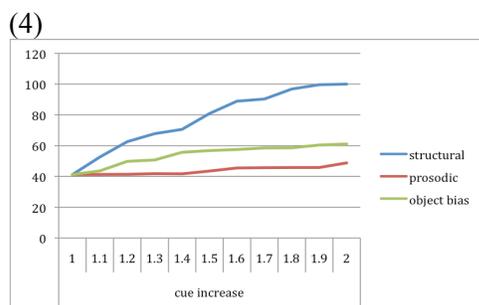
Three major patterns of focus perception are as follows: listeners prefer to perceive focus (a) on object, rather than subject (3a vs. 3b), (b) on an element at sentence initial position (3b vs. 3c) and (c) on the position where prosodic cue is found. Logistic regression tells that structural cue (i.e. position in a sentence) is the most important cue followed by object bias, and finally by prosodic cue (PF in (3)).



When cues are not conflicting, a single element is dominantly perceived as focus among all listeners. For example, object is perceived mostly as focus in the right graph (3b), since prosodic, structure cue and object bias targets the same focus position; sentence initial object with prosodic cue.

On the other hand, given prosodic focus on non-sentence initial position (3c), focus perception varies a lot among listeners due to cue confliction. Notably, in case prosodic focus is given on non-sentence initial object (e.g. the left graph in (3c)), perception is opposite to what logistic regression model predicts: listeners tend to perceive focus on subject, while the combined weight of object bias and prosodic cue is over structural cue, thus object focus is expected.

A reasonable guess can be based on cue enhancement, as a way of resolving confusion: by increasing the weight of a specific cue, listeners can determine a focal word, not confused by conflicting cues. Note the target of enhancement is the cue that serves as the most important perceptual cue independently; structural cue. My idea is that listeners increase the weight of a cue that can ensure the greatest certainty on perception. As in (4), high probability of subject focus is predicted, when the weight of structural cue increases. To the contrary, increase of prosodic cue or object bias with the same degree still predicts similar probabilities of subject and object focus, remaining confusability. By increasing highly-weighted cue, listeners cope with confusability of perceiving conflicting cues.



Selected References

Do and Kenstowicz (in progress) Focus perception in Korean, ms., MIT, MA., **Jackendoff** (1972) *Semantic Interpretation in Generative Grammar*. MIT Press, MA., **Jun** (2002) *Syntax over Focus*. *Proceedings of International Conference on Spoken Language Processing (ICSLP)*. John H.L. Hansen & Bryan Pellom (eds.), Denver, Colorado.