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Ishihara, Shinichiro

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LUND UNIVERSITY

PO Box 117 221 00 Lund +46 46-222 00 00



Prosodic realization of syntactic phrase and clause boundaries in Tokyo Japanese (ID 1038)

SHINICHIRO ISHIHARA (LUND UNIVERSITY)

Summary

- A production experiment comparing phonetic realizations of syntactic phrase vs. clause boundaries
- The results corroborate earlier findings on the mapping of syntactic phrases to phonological phrases
- They do not support the claim by Match Theory [1] that syntactic clauses are mapped to intonational phrases

Results (all speakers)



Word2 F0max: all speakers

• Instead, a few subjects' data show consistent mapping of topic phrases to intonational phrases.

Background

- Syntax–prosody mapping in Tokyo Japanese [2]
 - > At each syntactic phrase left boundary, there is an f_{o} -boost (= phonetic cue for φ)
- Match Theory [1]
 - > Syntactic phrases map to a phonological phrases (φ)
 - > Syntactic clauses map to an intonational phrases (I)
- Phonetic cues for intonational phrase (I) in Japanese [3]
 - Iarger pitch rises at the onset of r
 - bligatory pauses at the end of r

- More phrase boundaries (0<1<2) \rightarrow higher f_{o} -max
 - The data corroborate earlier findings [x]
- No significant difference between 1xp/2xp and cp
 No sign of I-boundary at clause boundary

Pauses after word1/2: all speakers



Methodology

- 14 native speakers of Japanese (♀9, ♂5) as subjects
- Four conditions (0xp, 1xp, 2xp, cp) with 4 lexical items each, plus 192 filler sentences
- Each subject read all the stimuli three times, in three pseudo-randomized orders
- A total of 672 samples of the target sentences (14 speakers × 4 conditions × 4 items × 3 repetitions)

Stimuli

Conditions are varied w.r.t. the number and the type of syntactic boundary before the target word (= Word2 *Naoya*)
 (1) No XP boundary (0xp)

[_{NP} Yuuta-to **Naoya**-wa] [_{VP} imooto-o paatii-ni maneita] Y.-and N.-TOP sister-ACC party-to invited

	• •		• •	
1xp	36.3% (61)	-wa 'TOP'	53.0% (89)	-o 'ACC'
2хр	38.7% (65)	-wa 'TOP'	17.3% (29)	-no 'GEN'
ср	41.7% (70)	-wa 'TOP'	33.9% (57)	-ga 'NOM'

Table: Percentages (and counts) of pauses after Word 1 and Word2 and particles attached to Word1/2 in each condition, data taken from all speakers (tokens per condition = 168)

In cp (i.e., with a clause boundary), no significant increase of pause frequency after word1
 No sign of I-boundary at clause boundary

Results (inter-speaker variation)

Pauses after word1/2: speakers 11f, 12f and 14f

	Word1		Word2	
Охр	0.0% (0)	<i>-to</i> 'and'	100.0% (36)	-wa 'TOP'
1xp	75.0% (27)	-wa 'TOP'	36.1% (13)	<i>-o</i> 'ACC'
2xp	80.6% (39)	-wa 'TOP'	25.0% (9)	<i>-no</i> 'GEN'
ср	100.0% (36)	-wa 'TOP'	11.1% (4)	<i>-ga</i> 'NOM'

'Yuta and Naoya invi ted their sisters to the party.'

(2) One XP boundary (1xp)

Yuuta-wa [VP Naoya-o [NP imooto-no paatii-ni] maneita] Y.-TOP N.-ACC sister-GEN party-to invited 'Yuta invited Naoya to his sister's party.'

(3) Two XP boundaries (2xp)

Yuuta-wa [VP [NP Naoya-no imooto-o] paatii-ni maneita] Y.-TOP N.-GEN sister-ACC party-to invited 'Yuta invited Naoya's sister to the party.'

(4) Clause boundary (cp)

Yuuta-wa [CP Naoya-ga imooto-o paatii-ni maneita to] omotteita Y.-TOP N.-NOM sister-ACC party-to invited that believed 'Yuta believed that Naoya invited his sister to the party.' Table: Percentages (and counts) of pauses after Word 1 and Word2 and particles attached to Word1/2 in each condition, data from speakers 11f, 12f, and 14f (tokens per condition = 36)

- Pauses are consistently inserted after a topic marker -wa, rather than at a clause boundary.
 - Suggests the mapping of discourse structure to r

Selected References

[1] H. Kubozono, *The Organization of Japanese Prosody*. Kurosio Publishers, 1993. [2] E. Selkirk, "The syntax-phonology interface," in *The Handbook of Phonological Theory*, 2nd ed., 2011, pp. 435–484.
[3] S. Kawahara & T. Shinya, "The intonation of gapping and coordination in Japanese: Evidence for intonational phrase and utterance," *Phonetica*, vol. 65, no. 1–2, pp. 62–105, 2008.



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