



# LUND UNIVERSITY

## Prosodic realization of syntactic phrase and clause boundaries in Tokyo Japanese

Ishihara, Shinichiro

2023

*Document Version:*

Publisher's PDF, also known as Version of record

[Link to publication](#)

*Citation for published version (APA):*

Ishihara, S. (2023). *Prosodic realization of syntactic phrase and clause boundaries in Tokyo Japanese*. Poster session presented at 20th International Congress of the Phonetic Sciences, Prague, Czech Republic.

*Total number of authors:*

1

### General rights

Unless other specific re-use rights are stated the following general rights apply:

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: <https://creativecommons.org/licenses/>

### Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LUND UNIVERSITY

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

## 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
- 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  $f_0$ -boost (= phonetic cue for  $\varphi$ )
- Match Theory [1]
  - Syntactic phrases map to a phonological phrases ( $\varphi$ )
  - Syntactic clauses map to an intonational phrases ( $i$ )
- Phonetic cues for intonational phrase ( $i$ ) in Japanese [3]
  - larger pitch rises at the onset of  $i$
  - obligatory pauses at the end of  $i$

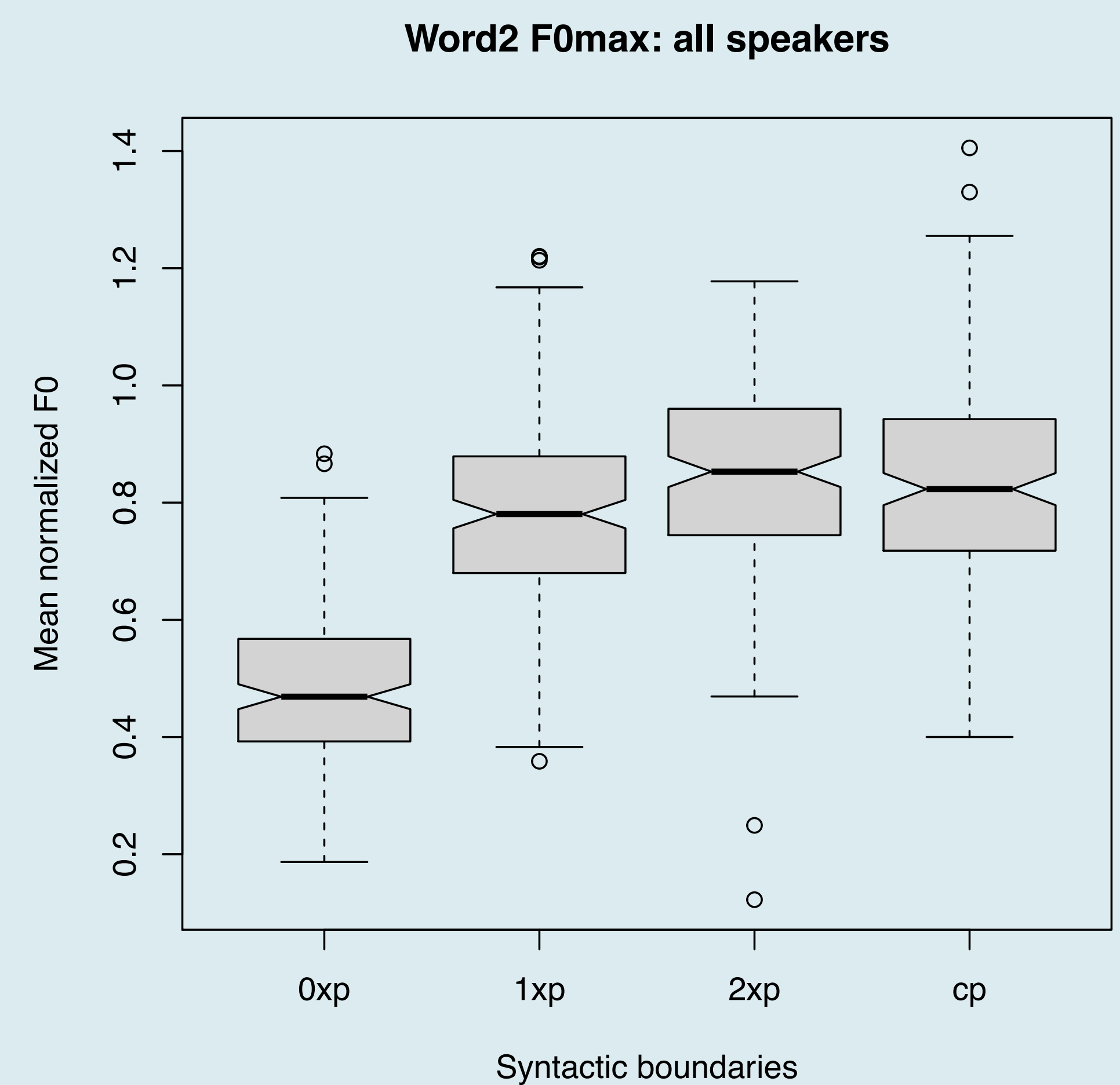
## Methodology

- 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)  
[<sub>NP</sub> Yuuta-to **Naoya**-wa] [<sub>VP</sub> imooto-o paatii-ni maneita]  
Y.-and N.-TOP sister-ACC party-to invited  
'Yuta and Naoya invited their sisters to the party.'
  - (2) One XP boundary (1xp)  
Yuuta-wa [<sub>VP</sub> **Naoya**-o [<sub>NP</sub> 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 [<sub>VP</sub> [<sub>NP</sub> **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 [<sub>CP</sub> **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.'

## Results (all speakers)



- More phrase boundaries (0<1<2) → higher  $f_0$ -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

	Word1		Word2	
0xp	5.4% (9)	-to 'and'	72.6% (122)	-wa 'TOP'
1xp	<b>36.3% (61)</b>	-wa 'TOP'	53.0% (89)	-o 'ACC'
2xp	<b>38.7% (65)</b>	-wa 'TOP'	17.3% (29)	-no 'GEN'
cp	<b>41.7% (70)</b>	-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	
0xp	0.0% (0)	-to 'and'	<b>100.0% (36)</b>	<b>-wa 'TOP'</b>
1xp	<b>75.0% (27)</b>	<b>-wa 'TOP'</b>	36.1% (13)	-o 'ACC'
2xp	<b>80.6% (39)</b>	<b>-wa 'TOP'</b>	25.0% (9)	-no 'GEN'
cp	<b>100.0% (36)</b>	<b>-wa 'TOP'</b>	11.1% (4)	-ga 'NOM'

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  $i$

## Selected References

- [1] H. Kubozono, *The Organization of Japanese Prosody*. Kuroosio 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.