

"Focus and Monotony"

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1. **Background — Prosody-Scope Synchronization in Focus Construction:**

(1) Prosody-Scope Correlation in Wh-questions: (Deguchi and Kitagawa (2002) and Ishihara (2002))

a. **Local** Focus Prosody ⇒ **Subordinate** Wh-scope:

Keesatu-wa [kanozyo-ga ano-ban DA're-to a'tteita-ka] sirabeteiru-no-Ø_{COMP}↑?
 police-TOP she-NOM that-night **who**-with seeing-COMP_{Wh} searching-NZR-COMP_{Y/N}
 [F]-----[F]
 'Are the police investigating [**who**₁ she was with t₁ that night]?'

b. **Global** Focus Prosody ⇒ **Matirx** Wh-scope:

Keesatu-wa [kanozyo-ga ano-ban DA're-to a'tteita-ka] sira'beteiru-no-Ø_{COMP}↑?
who-with -COMP_{Wh} -NZR-COMP_{Wh}
 [F]-----[F]
 '**Who**₁ is such that the police are investigating [whether she was with him₁ that night]?'

(Notation: **Underlines** indicate the domain in which **no radical rising pitch** is observed at surface.
Apostrophes (') on the right shoulder of morae indicate their lexical accents (HL).

(2) PF-LF synchronization of the Wh-domain: (Deguchi and Kitagawa (2002), Kitagawa (2005))

- (i) Both Wh-words and interrogative COMPs are assigned a focus property [F] (= Feature complex [F_{PHON}, F_{SEM}]) in the Numeration. cf. Jackendoff (1972)
- (ii) Association of Wh [F_{PHON}] and COMP [F_{PHON}] at PF ⇒ The prosodic domain of Wh-focus
 Association of Wh [F_{SEM}] and COMP [F_{SEM}] at LF ⇒ The scope domain of Wh-focus
 — as indicated by dotted lines in (1a-b).

(3) Goals of today's presentation:

To offer a general analysis of a (Wh)-focus prosodic domain that:

- (i) would permit the grammar to establish precise **PF-LF synchronization beyond scope**.
- (ii) would **uniformly capture** varied surface realization of focus prosody in **different dialects** of Japanese.

N.B.1 Wh-focus and Non-Wh-focus can be captured uniformly in most dialects of Japanese.

N.B.2 Unless otherwise specified, our discussion is **limited to Japanese**.

This is our progress report, and our coverage of the dialects and dialect types is far from being exhaustive.

2. Prosodic Identity of Focus Domain:

- (4) Prosodic phrasing analysis of Focus domain: (Pierrehumbert and Beckman (1988): P&B)
- (i) Focus starts a new **Intermediate Phrase** (a.k.a. Major Phrase), which is the domain of catathesis (\approx downstep), and
- (ii) (Optional) **Dephrasing** — Boundaries of Accentual Phrases can be eliminated within the focus domain.

Accentual P = domain of initial lowering & at most one lexical accent

⇒ Tones associated with them will be eliminated when dephrasing takes place.

- (5) Insufficiency of the prosodic phrasing analyses in (4): (See also Ishihara (2003).)
- a. Kubozono (2007): The left boundary of the (Wh-)focus domain does not block downstep.
⇒ Focus domain \neq Intermediate Phrase
- b. The end of the focus domain is indeterminable, and the possibility of both Local and Global Focus Prosody as in (1a-b) cannot be captured.
- c. The PF-LF synchronization is left unaccounted for.
- d. The exact factors inducing (optional) dephrasing at the level of Accentual Phrase remain unclear.
- e. Maekawa (1994b)'s statistical analysis of production experiments reveal that accents in fact are **not eliminated** post-focally in Tokyo Japanese even when they are not clearly detected and initial lowering is not observable.
⇒ Alleged dephrasing effects and lexical accents can coexist.
- f. Different dialects exhibit quite a **variety of surface pitch contours** in the post-focal domain — flat low (and flat high) (Tokyo), flat high (Fukuoka), continuous fall (Kobayashi), non-flat (and flexible) (Koriyama), among others.
- e.g.) Wh-focus prosody in Fukuoka Japanese: (Notation: **Overlines** indicate the domain in which **no radical falling pitch** is observed at surface.)

dare-ga na'oya-to Na'gano-de mo'mizi-o mita-to- \emptyset _{COMP}↑?
who-NOM Naoya-with Nagano-in maple-ACC saw-NZR-COMP (NZR =Nominalizer)
'Who saw maples in Nagano with Naoya?'

We know of no approach in the Autosegmental Metrical Model that can resolve all the issues listed in (5) in a comprehensive and natural manner.

As an alternative to the prosodic phrasing approach, we will pursue the idea that focus prosody does not alter any phonological representation but is induced by a **phonetic constraint**.

3. Proposals:

Note: Henceforth "Focus" includes "Wh-focus" unless otherwise indicated.

(6) Observations — General phonetic properties of focus prosody:

a. Focus salience: cf. P&B, p. 99.

A focused item is **salient** in such a way that it contains:

- (i) the **highest** pitch in the (pre-COMP) focus domain. e.g.) Tokyo Japanese
- (ii) the **lowest** pitch in the (pre-COMP) focus domain. e.g.) Koriyama Japanese

— The tone associated with the first [F] (henceforth [F1]) becomes salient.

b. Post-focal Monotony:

Post-focal prosody is **monotonous** up to some COMP. — See (7).

— The pitch contour between [F1] and the first COMP containing [F] to its right (henceforth [F2]) becomes monotonous.

c. COMP:

Once the sequence "focus salience-post focal monotony-COMP" is passed, either a non-monotonous (alternating) prosody resumes or some utterance-final intonation begins, irrespective of the pitch the COMP itself exhibits.

— COMP as [F2] terminates focus prosody.

(7) Prosodic monotony:

A surface prosodic pattern is monotonous if it does not maintain the **clear alternating prosodic contour** induced by the Principle of Rhythmic Alternation. (Selkirk (1984: 12), Kubozono (1993: 51))

(8) Finer PF-LF synchronization of the Focus prosody:

"Focus prosody" consists of three segments, each of which comes to exhibit a designated pair of phonetic and pragmatic/semantic contents.

Segments	Phonetic characteristics	Domain marking role	information structural role
a. [F1] (e.g., Wh)	Salience	Initiator of focus prosody	Focus
b. Post-focal domain (PFD)	Monotony		Tail (Vallduvi (1992))
c. [F2] (COMP)	Tones (un)specified in each dialect	Terminator of focus prosody	Focus scope indicator

(9) Semantic mapping:

a. LF: **ZYO'n-ga ke'eki-o ta'beta-Ø_{COMP}**.
 John-NOM cake-ACC ate
 [F1]-----[F2]

b. Semantic representation:

[λx. x ate cake] (John)
 Tail Focus
PFD [F1]

(10) **Post-focal restraint:**

We propose that post-focal monotony at surface is achieved in one of the following 3 ways:

- (i) ***Rise:** Avoid starting **radical rise** of the pitch in each post-focal prosodic word (ω).
- (ii) ***Fall:** Avoid starting **radical fall** of the pitch in each post-focal prosodic word (ω).
- (iii) ***Fall & Rise:** Both (i) and (ii)

(11) Our general stance:

a. Post-focal restraint in (10) is either:

- (i) A constraint of **phonetic realization**, or
- (ii) A **phonological** constraint that may induce the alteration of prosodic structure.
 - We explore the position (i) in this talk, while still leaving open the possibility of (ii).

b. With the absence of truly decisive evidence:

- (i) we will not commit ourselves to any specific **categorial identify** of the **focus** prosodic domain.
- (ii) we will not commit ourselves to the hypothesis that a **focus** prosodic domain constitutes any **hierarchical prosodic unit**.
 - We will simply identify the beginning and the end of a focus prosodic domain in terms of the presence of [F1] and [F2], respectively, in the **linear** string of lexical items.

4. Micro-parametric Approach to Post-Focal Monotonization:

We consider that the phonetic constraint "Post-focal restraint" is micro-parameterized for distinct (types) of dialects, as will be described in detail below.

(12) Postulated prosodic units (words and above):

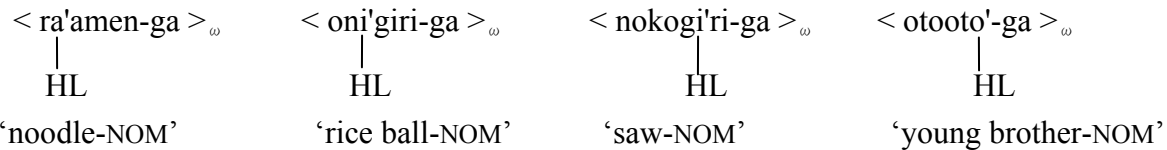
- a. Utterance: υ
- b. Prosodic phrase: ϕ
- c. Prosodic word: ω (= word + *zyosi* 'particle')

4.1 Tokyo Japanese:

(13) Tone patterns in Tokyo Japanese: (\approx Pierrehumbert and Beckman (1988))

a. Accented prosodic words:

H of a HL cluster is directly linked with the lexically specified mora.



b. Unaccented prosodic words:

No tones are associated at the level of **prosodic word**.

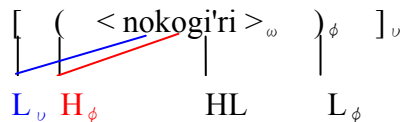


c. **Initial lowering** (or more precisely Initial rising) as in (i)-(iii) is induced by linking of boundary tones:

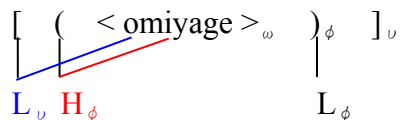
Either the utterance-initial L tone (L_{υ}) or the phrase-final L tone (L_{ϕ}) is linked to the initial mora.

The phrase-initial H tone (H_{ϕ}) is linked to the second mora:

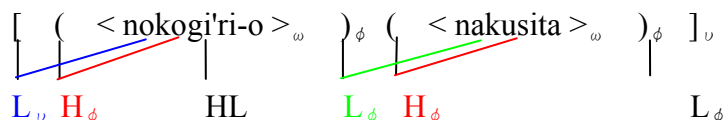
(i) accented prosodic word



(ii) unaccented prosodic word

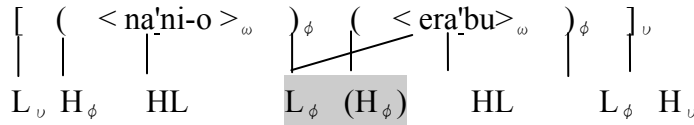


(iii) sequence of prosodic words



c.

Aa: na'ni-o era'bu-Ø_{COMP}↑
 what-ACC select-COMP



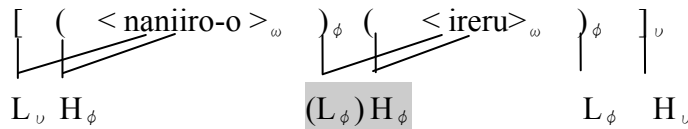
— This results in a **flat low** contour in the **post-focal** domain.

(17) Phonetic restraint of rise in Tokyo (with **unaccented** focus):

a. Uu/Ua: **L** is phonetically restrained to **avoid radical rise** to the following **H** (indicated by **shade**).

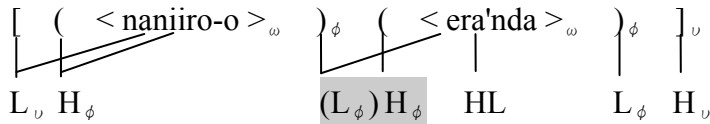
(i)

Uu: naniiro-o ireru-Ø_{COMP}↑ 'What color will *pro* put in?'



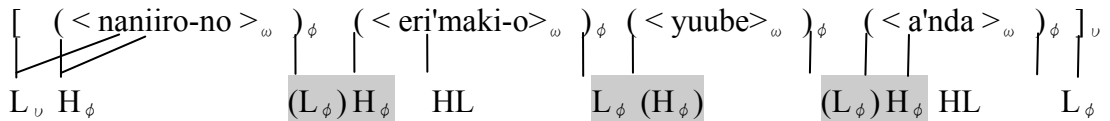
(ii)

Ua: naniiro-o era'nda-Ø_{COMP}↑ 'What color did *pro* select?'



b. Uaua: Unaccented + Accented —phonetically restrained **L** + phonetically restrained **H**:

Uaua: naniiro-no eri'maki-o yuube a'nda-Ø_{COMP}↑
 'A muffler of what color did *pro* knit last night?'



— These result in a post-focal **flat high pitch** contour maintained until the first lexical accent HL is encountered, and thereafter a **flat low pitch** contour is maintained to the end of the post-focal domain.

⇒ All of these surface pitch contours can be captured straightforwardly from ***Rise**.

4.2 Fukuoka Japanese:

(18) Tone patterns in Fukuoka Japanese: (Hayata (1985))

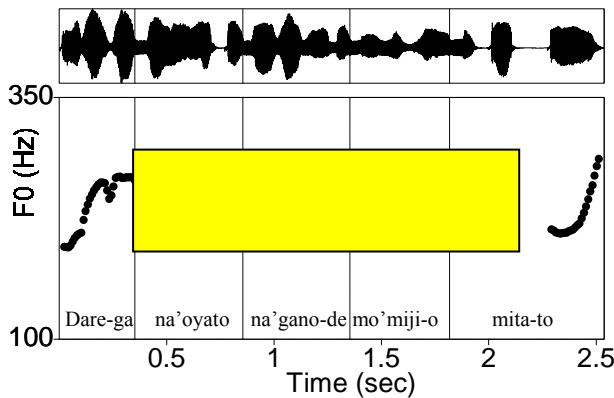
Both Initial Lowering and falling Lexical Accents (\approx Tokyo Japanese)

— We tentatively assume here that Fukuoka has a similar prosodic organization to Tokyo.

(19) Wh-focus in Fukuoka (Uaaa + Verb):

dare-ga na'oya-to na'gano-de mo'mizi-o mita-to- \emptyset COMP?
 who-NOM Naoya-with Nagano-in maple-ACC saw-NZR-COMP
 'Who saw maples in Nagano with Naoya?'

(NZR =Nominalizer)



Data from Igarashi (Forthcoming)

- (i) All Wh-words are unaccented and show initial lowering.
- (ii) All post-focal words, accented or not, are realized as a **flat high** contour (with a gradual fall presumably due to declination) (Kubo (1989)).

(20) Post-focal restraint in **Fukuoka**:

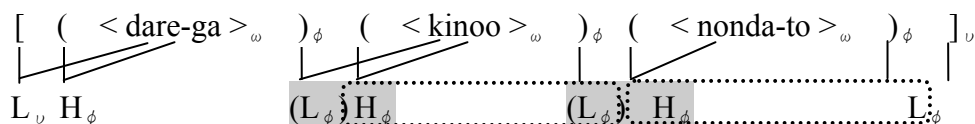
***Fall & Rise**: Avoid starting either **radical fall** or **radical rise** of the pitch in each post-focal prosodic word (ω).

(21) Phonetic restraint of fall and rise in Fukuoka:

(The H and L tones paired by a dotted box indicate the potential radical **falls**, while L and H paired by shade indicate the potential radical **rise**.)

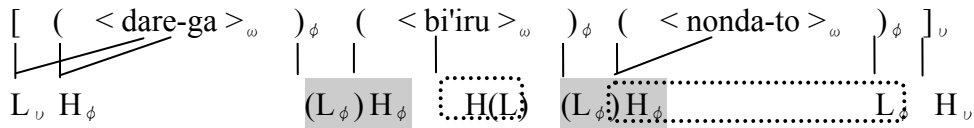
a.

Uu: dare-ga kinoo nonda-to- \emptyset COMP \uparrow
 who-NOM yesterday drank-NZR-COMP



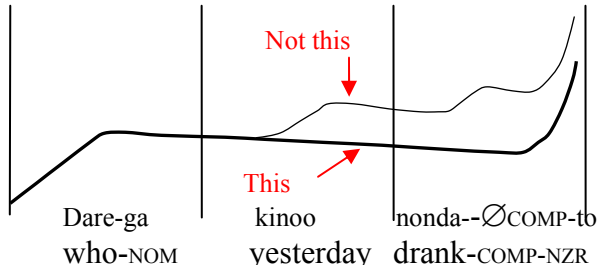
b.

Ua: dare-ga bi'iru nonda-to-Ø_{COMP} ↑
 who-NOM beer drank-NZR-COMP



(22) Why Fukuoka must have ***Fall & Rise** rather than ***Fall**:

a. The sequence of H tones in the post-focal domain does not induce upstep in Fukuoka:



b. This contrasts with some African languages in which H-tones are upstepped in some tonal contexts (e.g., Yoruba (Connel and Ladd (1990)):

⇒ The contrast here follows if Fukuoka is constrained also by ***Rise**.

N.B. We have not adopted the deaccenting analysis of Fukuoka

— because we have experimental results that may indicate that deaccenting does not take place in the focus domain of this dialect. ⇒ Section 7.1 below.

5. Further Motivation:

Post-focal monotony shows up as a flat contour in the dialects we have examined so far (Tokyo and Fukuoka). We will observe and examine below:

- 1) A dialect that exhibits a post-focal flat contour even it has the prosodic structure quite different from Tokyo or Fukuoka, and
- 2) A dialect in which post-focal monotony is not realized as a flat contour.

5.1 Kobayashi Japanese:

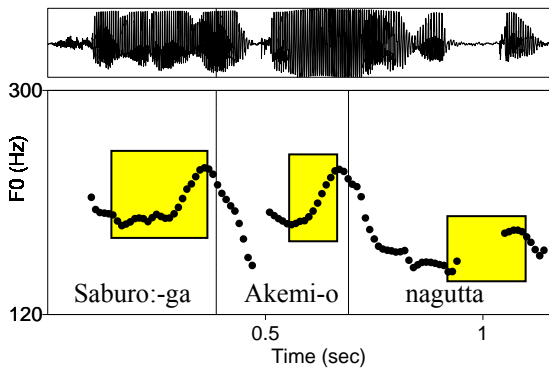
(23) "One-pattern accent" dialects:

- a. Pitch in the so-called "one-pattern accent" dialects is not lexically idiosyncratic.
- b. All prosodic words exhibit the same fixed tonal pattern (Hirayama (1951)).

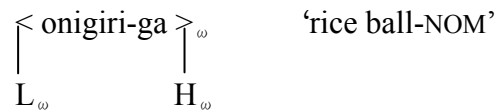
(24) Tone patterns in **Kobayashi** Japanese:

- a. Kobayashi Japanese (along with well-known Miyakonojo dialect) is considered as one of the "one-pattern accent" dialects (e.g. Sato (2005)).
- b. **All** prosodic words exhibit a **rise** from penultimate to final syllables ("high-tailed pattern").

e.g.) saburo:-ga akemi-o nagutta. (as answer to "What happened?")
 Saburo-NOM Akemi-ACC punched



b. **L** and **H** are not specified on any individual lexical item: (Igarashi (2007))

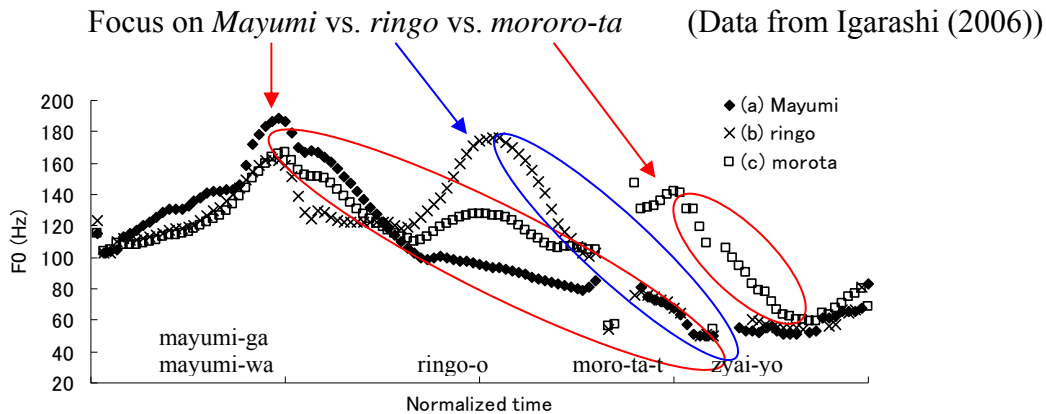


c. No need to postulate a prosodic phrase. ¹

¹ Igarashi (2007) claims that the postulation of a prosodic phrase (above the prosodic word) in a specific dialect presupposes the presence of 'dephrasing', i.e. the process in which two or more prosodic words are tonally merged into a single prosodic phrase. It has been reported for the 'one-pattern accent' dialects, such as Miyakonojo and Kobayashi, that the 'high-tailed pattern' never spans over two or more prosodic words (e.g., Uwano (1998)). This suggests the absence of dephrasing in these dialects.

(25) Sato (2005): **Focus** deletes post-focal H tones in **Kobayashi**.

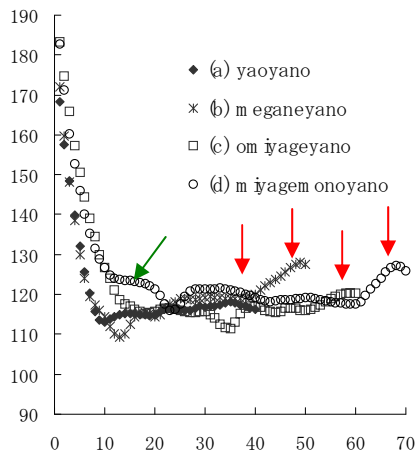
Mayumi-ga ring-o moro-ta-t zyai-yo 'Mayumi received apples as a gift.'
 Mayumi-NOM apple-ACC received COMP-PRT



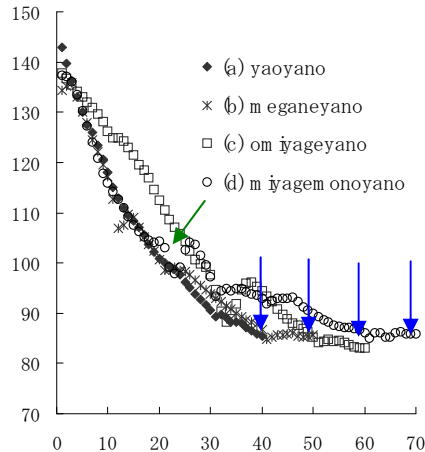
(26) Igarashi (2007: 32)'s pilot experiment with **longer post-focal words**:

eg) Yanagida-GA *yaoya-no*, etc. ura-ni ot-to-yo.
 Yanagida-NOM vegetable.store-GEN behind.at was-NLZ-PRT
[Focus]

(a) Speaker MN



(b) Speaker MH



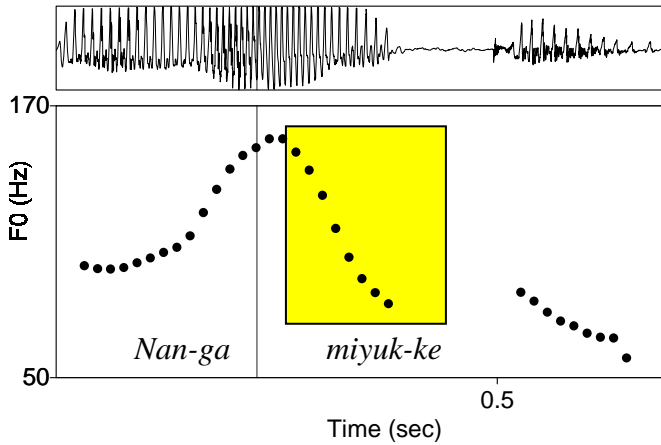
(i) A small-scale "high-tailed" pattern was clearly **realized** on the post-focal words for **one speaker** in the recordings ((a)), although no such clear pattern was observed in the other speaker's recordings ((b)).

(ii) Even with the speaker (b), a **turning point** of pitch was always observed at the boundaries of the post-focal prosodic words, which could be taken as the trace of the "high-tailed" pattern.

⇒ The post-focal H tones in Kobayashi are not deleted but only weakened (or restrained).

(27) Wh-focus in Kobayashi:

nan-ga miyuk-ke? 'What can you see?'
 what-NOM visible-COMP



— Similar **continuous fall** is observed.

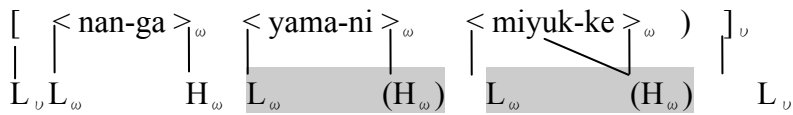
(28) Post-focal restraint in **Kobayashi**: (= same as that for Tokyo)

***Rise**: Avoid starting **radical rise** of the pitch in each post-focal prosodic word (ω).

(29) The ***Rise** analysis for Kobayashi:

The **H** of the "high-tailed" patterns (**LH**) becomes **phonetically restrained**.

Nan-ga oyama-ni miyuk-ke 'What can be seen in the mountain?'
 what-NOM mountain-in visible-COMP



— This results in the **continuous fall** of the pitch in the **post-focal** domain, as observed in (25) and (27).

5.2 Koriyama Japanese:

The proposed system of post-focal restraint makes the following typological predictions, and hence the existence of two other types of dialects:

(30)	*Rise	*Fall
a. Tokyo	√	∅
b. Hakata	√	√
c. ?	∅	√
d. *	∅	∅

- Dialects as in (30d) would fail to achieve monotony ⇒ a systematic gap
- Dialects as in (30c) (*Fall) are predicted to exist ⇒ Koriyama Japanese may be an example

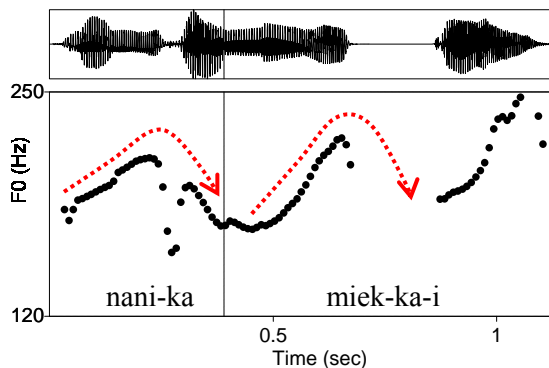
(31) "Accentless" dialects:

- a. Pitch in the so-called "Accentless" dialects is not lexically idiosyncratic, just as the "one-pattern accent" dialects.
- b. Researchers often reported that **words** do not exhibit any systematic pitch patterns in the "accentless" dialects (e.g., Hirayama (1968)).
- c. A closer examination reveals, however, that **prosodic phrases**^[Y1] in such dialects in fact exhibit some **specific and consistent tonal pattern** (e.g. rise-fall for Kumamoto) while its peak has freedom to be realized on virtually any syllable within the domain, exhibiting the so-called "**Wandering High**" phenomenon (Maekawa (1994a) for Kumamoto)

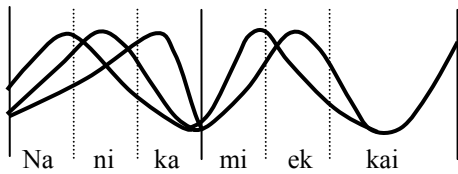
(32) Tonal patterns in **Koriyama** Japanese (Igarashi (2007)):

- a. Koriyama is regarded as one of "**accentless**" dialects, in which prosodic phrases^[Y2] exhibit the **rise-fall** pattern, where the peak may appear on virtually any^[Y3] syllable (just as in Kumamoto):

e.g.) Nanika miek-ka-i? 'Can anything be seen?'
 something visible-COMP_{Y/N}-PRT

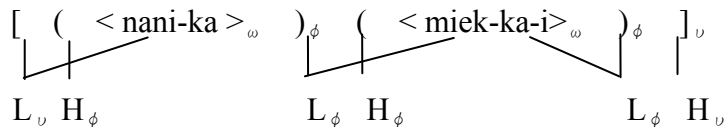


- b. **Wandering High**: The peak of the rise-fall may appear on virtually any syllable:



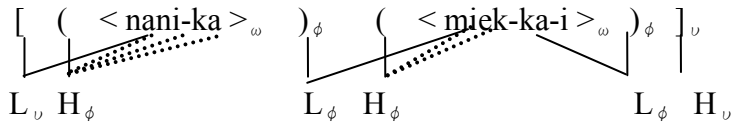
c. Igarashi (2007: 25):

- (i) **Prosodic words** in Koriyama are **not** associated with any tones.
- (ii) The rise-fall (**LHL**_[Y4]) is due to H_φ **and** L_φ of the prosodic phrase preceded by utterance-initial L_ν or L_φ of the preceding prosodic phrase.



- (iii) The phrasal tone H_φ can be freely linked to any syllable within the prosodic phrase as indicated by dotted lines. (cf. Maekawa 1994b for Kumamoto)

— This captures the "Wandering High" phenomenon.

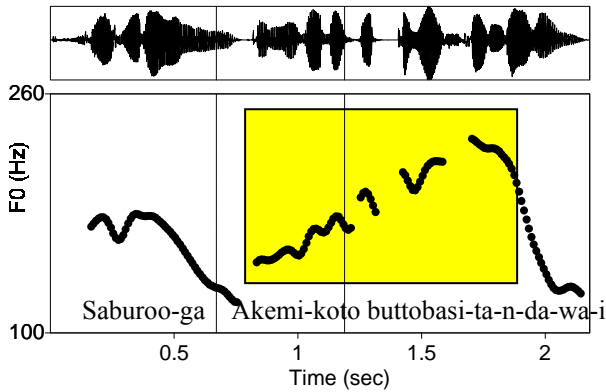


- (33) Unaccented words in Tokyo have exactly the same phrasal tonal specification (H_φ and L_φ) as in Koriyama, but H_φ is specified to be linked to (generally) the second mora in its domain, resulting in more stable initial lowering.

(34) Focus prosody in **Koriyama**: (Igarashi (2007: 24-27))

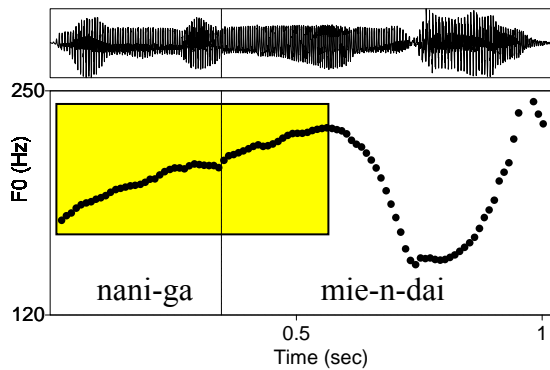
a. Non-Wh focus: (Answer to "**Who** did Saburo punch?")

Saburoo-ga akemi-koto buttobasita-n-Ø_{COMP}-da-wai. 'It is Akemi who Saburo puched.'
 Saburo-NOM Akemi-NLR punched-NLR-COMP-COP-PRT



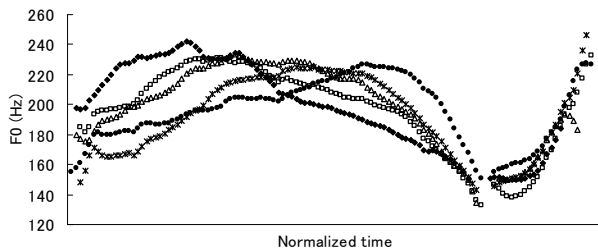
b. Wh-focus:

Nani-ga mie-n-Ø_{COMP}-da-i? 'What can be seen?'
 what-NOM visible-NLR-COMP-COP



— The rise-fall pattern is not observed in the first prosodic word, resulting in a **continuously rising contour** spanning over the two prosodic words **for some tokens**.

c. "**Wandering High**" in focus prosody:

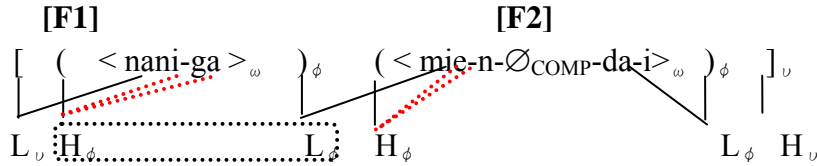


— The H tone has freedom to be realized on distinct words in the post-focal domain in (34b) among different tokens, schematically:

(35) Post-focal restraint for **Koriyama**:

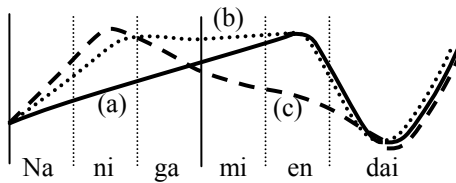
***Fall**: Avoid starting **radical fall** of the pitch in each post-focal prosodic word (ω).
 (= The "missing" type of dialect in (30c))

(36) Post-focal restraint of fall in **Koriyama** — indicated by a dotted box



(37) "**Wandering high**" in (34c) can be ascribed to the **presence of more than one H** in the Wh-domain, any one or more of which may be **freely linked** to any syllable in the phrasal domain as the locus of the tonal peak.

"Wandering" patterns:



- (i) If the **first** H_ϕ in (36) is targeted, the pattern (c) is realized.
- (ii) If the **second** H_ϕ in (36) is targeted, the pattern (a) (\approx (34b)) is realized.
- (iii) If both **first** H_ϕ and **second** H_ϕ in (36) are targeted, the pattern (b) is realized.

(38) A crucial assumption involved in the ***Fall** analysis for Koriyama:

- (i) The post-focal domain starts immediately after the salience of [F1], and
- (ii) The post-focal domain ends at [F2] (= phonetically empty COMP) as part of a prosodic word.
 — It is not clear how plausible these assumptions are.

If the ***Fall** analysis of Koriyama is plausible, we have confirmed all three types of dialects the proposed system of post-focal restraint predicts to exist:

(39)	*Rise	*Fall
Tokyo · Kobayashi	√	∅
Fukuoka	√	√
Koriyama	∅	√
* (systematic gap)	∅	∅

(40) Alternative account:

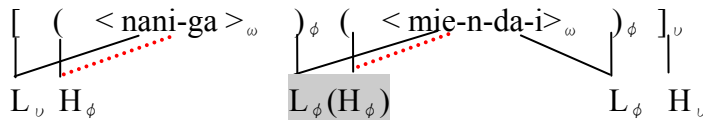
Post-focal restraint for **Koriyama**:

***Rise**: Avoid starting **radical rise** of the pitch in each post-focal prosodic word (ω)

; where *Rise can be realized either **phonetically** (tonal reduction) or **phonologically** (dephrasing).

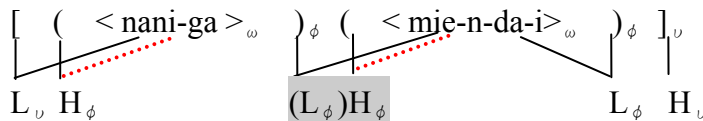
(41) **Phonetic** realization of *Rise in Koriyama .

a. The rise to H (indicated by **shade**) is restrained, leaving phrasing structure intact.



— The "wandering" pattern (c) in (37) is realized.

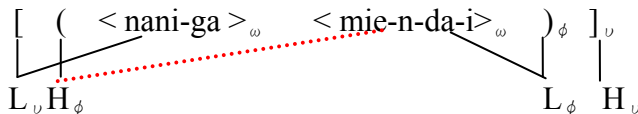
b. The fall to L is restrained to avoid radical rise (= **shaded**), leaving phrasing structure intact.



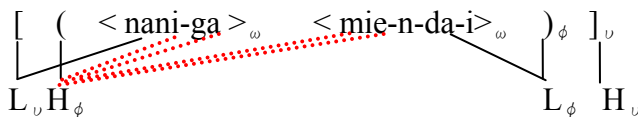
— The "wandering" pattern (b) in (37) is realized.

(42) **Phonological** realization of *Rise in Koriyama: (Igarashi (2007)).

The boundaries of prosodic phrases in the post-focal domain are deleted, with prosodic words within the entire Wh-domain being dephrased into a single prosodic phrase.



— The patterns (a) is realized.



— The pattern (b) and the high plateau observed there can be also captured by the spreading of H_phi.

(43) Merits and demerits of the alternative account

(i) Merits:

All the dialects can be uniformly regarded to have *Rise. (Fukuoka Japanese is considered as a single exceptional dialect having both *Rise and *Fall.

(ii) Demerits

The factors that cause dephrasing remain unidentified, just as in P&B's (1988) approach for Tokyo Japanese.

6. Summary & Conclusions:

- (44) a. We proposed and argued for what we called "post-focal restraint" and its micro-parametric variations among different dialects in Japanese.
- b. Post-focal restraint phonetically restrains radical rise or fall of pitch in the post-focal domain, thereby inducing non-alternating, monotonous prosodic contours. (But see (42) above.)
- c. It was also pointed out that the post-focal restraint can be completely synchronized with the mapping of the post-focal items in the syntactic representation to a semantic representation of the background to be interpreted as the tail of the focus with the mediation of the association of [F] features at PF and LF.
- d. Post-focal restraint, we believe, is part of the grammaticalization of the language users' need to have phonetic salience and phonetic monotony correctly paired with focus and its tail, respectively, in the packaging of information, obviously by way of their processing of sentences.

7. Appendices:

7.1 Post-focal accents in Fukuoka Japanese: deleted or not?

(45) Introduction:

- a. It has been reported for Fukuoka Japanese that lexical pitch accents in the post-focal domain are deleted at all (Hayata (1985), Kubo (1989)).
- b. The post-focal deaccenting suggests that Post-Focal Restraint ***Fall** should be realized **not phonetically but phonologically** in this particular dialect.
- c. **Are post-focal accents completely eliminated?**
- d. No quantitative analyses have hitherto been made to confirm the post-focal deaccenting.
- e. We conducted a production experiment to see whether post-focal accents are deleted.

(46) Methods:

a. Overview:

- The general approach was to see whether post-focal accented words trigger **downstep**.
- Test sentences had the following structure, and measured pitch of the verb.
Wh word followed by two accented words and a verb (A combination),
Wh word followed by two unaccented words (U combination)
- If the post-focal accents are deleted, then there should be no pitch differences of the verb between A and U (no downstep).
- If the accents are not deleted, then pitch of the verb in A should be lower than U (downstep).

b. Test sentences:

Dataset I: A Nan-ga nomimo'no-no na'ka-ni aru-to-ØCOMP?
What-NOM drink-GEN middle-in exist-NLZ-COMP
'What is in the drink?'

U Nan-ga otonari-no niwa-ni aru-to-ØCOMP?
What-NOM neighbor-GEN garden-in exist-NLZ-COMP
'What is in the neighbor's garden?'

Dataset II: A Nande oni'giri-no zairyoo-ga kimar-an-to-ØCOMP?
 Why rice-ball-GEN ingredient-NOM decide-NEG-NLZ-COMP
 'Why can't you decide the ingredient for rice balls?'

U Nande omiyage-no naiyoo-ga kimar-an-to-ØCOMP?
 Why souvenir-GEN content-NOM decide-NEG-NLZ-COMP
 'Why can't you decide the contents of souvenir?'

Dataset III: A Dare-ga Mi'nako-no wa'in-o nonda-to-ØCOMP?
 Who-NOM Minako-GEN wine-ACC drank-NLZ-COMP
 'Who drank Minako's wine?'

U Dare-ga Momoe-no ramune-o nonda-to-ØCOMP?
 Who-NOM Momoe-GEN lemonade-ACC drank-NLZ-COMP
 'Who drank Momoe's lemonade?'

c. Speakers:

Two 21 year-old native speakers of Fukuoka Japanese, one female and one male.
 They both have lived in Fukuoka City since their birth.

d. Measurements:

VERBF0: Mean F0 of the verb.

e. Analysis procedures:

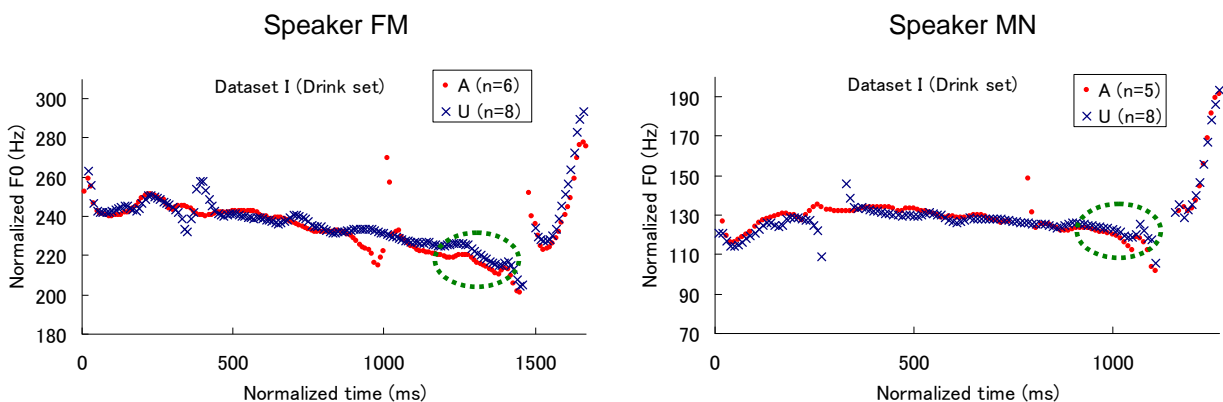
- Speakers were asked to read aloud the test sentences in randomized order eight times.
- Produced utterances were recorded and then analyzed based on the extraction of F0.
- Utterances with A combination, which were judged to be produced in 'flat low' (i.e. post-focal accents are clearly realized as a sharp fall in pitch, as in Tokyo Japanese), were excluded. The judgments were done on the basis of the visual inspection of the F0 contours as well as of the auditory impression.

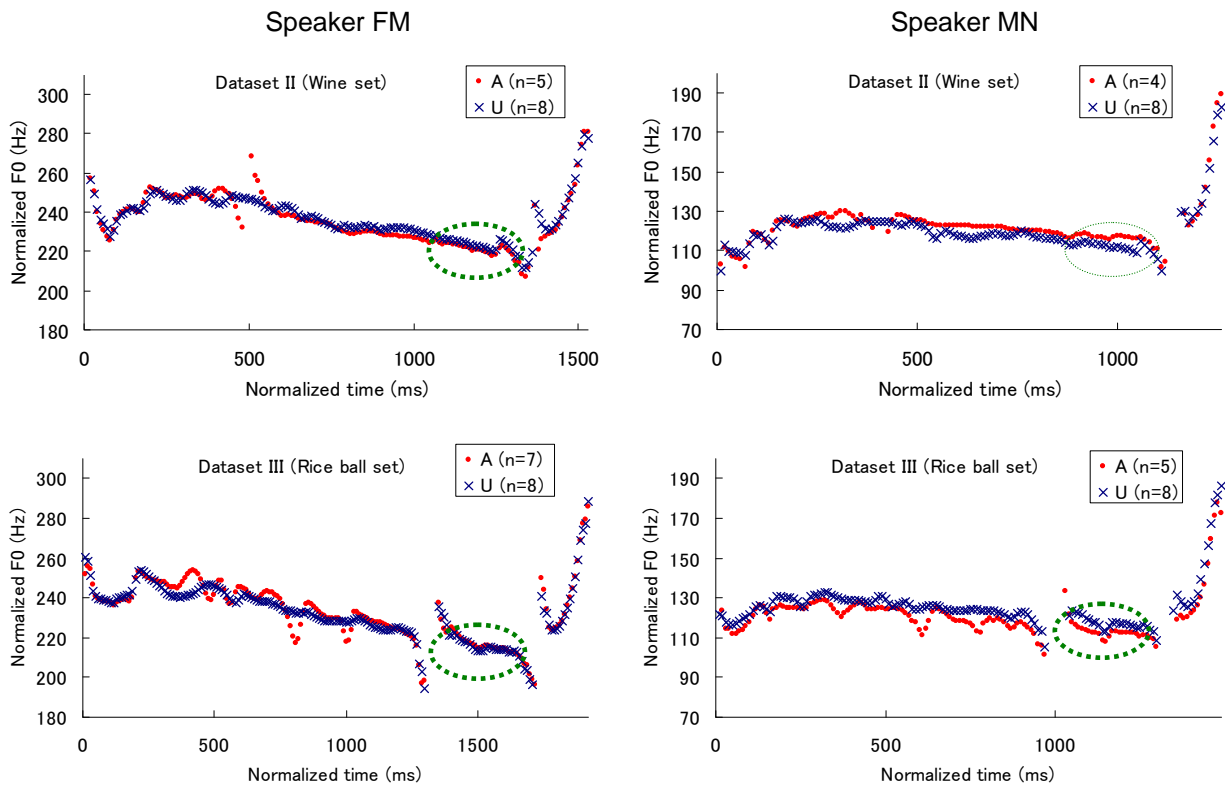
(47) Results:

a. Visual inspection of the F0 contours normalized across repetitions:

The contours for A and U are almost overlapped.

But **pitch of verb (marked by a circle) is slightly lower for A than U**, with the speaker MN's results for Dataset II as an exception.





b. Results of two-way analysis of variance (ANOVA) for each speaker separately with VERBF0 as the dependent variable, and with ACCENTEDNESS and DATASETS as the independent variables:

For FM: **A significant effect of ACCENTEDNESS with A yielding lower values** ($P < 0.05$).

A significant effect of DATASETS ($P < 0.01$).

No significant interaction.

For MN: No significant effect of ACCENTEDNESS.

A significant effect of DATASETS ($P < 0.01$).

No significant interaction.

At least speaker FM yielded the results suggesting **that post-focal accents are NOT deleted**.

(48) Discussion and conclusion:

- a. One of the two speakers showed slightly but significantly lower pitch in verb when preceded by lexically accented words than unaccented words (i.e. downstep was observed).
- b. The results suggest that **lexical accents in the post-focal domain are actually NOT deleted**.
- c. Although further research is clearly needed to put any strong claim, the results are suggestive of **incomplete neutralization** of the accentedness of the post-focal words.
- d. We conclude that the possibility of survival of post-focal accents is not excluded.
- e. We thus maintain the view that Post-Focal Restraint *Fall is phonetically (not phonologically) realized in Fukuoka Japanese.

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