# **Subsyllabic Semantics and Pragmatics in Cantonese Final Particles**

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#### 0. Overview

- Extend previous subsyllabic compositional analyses of Cantonese final particles (CFPs)
  - Refine previous semantic descriptions of several subsyllabic segments in CFPs
    - Focus on the coda -k and other segments in 5 minimal pairs: aa3/aak3, gaa3/gaak3, laa3/laak3, lo3/lok3, ze1/zek1
  - Propose a compositional rule where the combination of subsyllabic meanings could account for all pragmatic readings previously reported
- Highlight some analytical challenges that have received little discussion in the literature, especially with respect to the phonology and morphosyntax of CFPs:
  - interaction with boundary intonation
  - clustering patterns
  - syntactic structure

#### 1. Introduction

- 1.1. Language Background
  - Language: Sinitic > Yue > Standard Cantonese (Hong Kong variety)
  - Typology: SVO; isolating; 6 tones; large inventory of particles

Tone	1	2	3	4	5	6
	high level	high rising	mid level	low falling	low rising	mid-low level
Chao/IPA	55 / 7	25 / 1	33 / +	21 / J	23 / 1	22 / -

		Bilabial	Alveol	ar	Palatal	Velar		Glottal
			plain	sibilant		plain	labialized	
Nasal		m [m, m]	n [n]			ng [ŋ, ŋ]		
Plosive	plain	b [p]	d [t]	z [ts]		g [k]	gw [k <sup>w</sup> ]	
	aspirated	p [ph, pl]	t [th,	c [tsh]		k [kh, kl]	kw [k <sup>wh</sup> ]	
			t1]					
Fricative		f [f]		s [s]				h [h]
Approxi	mant		1 [1]		j [j]		w [w]	

<sup>-</sup> m and ng can be syllabic

Vowels: a [v], aa [a:], e [ $\varepsilon$ :], i [i:, I], o [ $\sigma$ :], u [u:,  $\sigma$ ], oe [ $\sigma$ :], eo [ $\sigma$ ], yu [ $\gamma$ :] Short vowels appear only in closed syllables; (C)V:(C), (C)VC, or N syllable structure

<sup>-</sup> only -p, -t, -k, -m, -n, and -ng may be in coda position

## 1.2. Final particles (FPs):

- A class of uninflected grammatical units in utterance/sentence-final position
- Functions: encode aspect, modality, discourse and speech act functions, among others
- Appear predominantly only in speech and in informal registers

Leung (1992): occurs in 0-6% of sentences in journalistic reporting

29-33% of sentences in news discussions and interviews 62-71% of sentences in drama and natural conversation)

• Most-common FPs around 30-40 (all FPs up to 90 (e.g., Leung 1992))

# Some examples:

- (1) a. ngo faan ukkei
  - I return home

'I'm going home' (matter-of-fact tone of voice)

b. ngo faan ukkei GAA3

'I'm going home' (I'm announcing to you that this is a fact)

c. ngo faan ukkei ZE1

'I'm only going home' (no big deal/that's all I'm doing)

d. ngo faan ukkei ME1

'I'm going home?' (what? who said so?)

e. ngo faan ukkei wo3

'I'm going home' (in case you didn't realize)

f. ngo faan ukkei LAA3

'I'm going home' (I'm announcing to you that this is happening now)

g. ngo faan ukkei LO3 + %L

(with boundary intonation)

'I'm going home' (you should know that this is happening now)

h. ngo faan ukkei AA1MAA3 [əma:]

(bisyllabic)

'I'm going home' (this is the obvious situation)

i. ngo faan ukkei GE3 LAA3 GWAA3 [kə lə kwa:]

(clustered)

'I'm going home, I guess' (perhaps it's time that I should be going home now)

# 2. Previous Studies and Core Problems

**General issue:** 

There are many descriptive surveys and discourse analyses<sup>1</sup> on the pragmatic uses of Cantonese final particles (CFPs), but no consensus and relatively few analyses on their semantics and morphosyntax.

• Semantic commonality between FPs that share the same sub-syllabic segments:

(2)	(no initial), aa nucleus	aa1, aa3, aa4, aak3	
	g- initial	ge2, ge3, gaa3, gaa4, gaak3	(assertion)
	<i>l</i> - initial, <i>aa</i> nucleus	laa1, laa3, laa4, laak3	(new state of
	<i>l</i> - initial, <i>o</i> nucleus	lo1, lo3, lo4, lok3	events)
	w- initial, o nucleus	wo3, wo4, wo5	(mirative, evid.)
	z- initial	ze1, zek1, zaa3, zaa4	(delimitation)

# (3) Notable studies on the semantics (and morphosyntax) of CFPs

Law (1990)	Three categories of CFPs: segmental, toneless segmental, and tonal
	Some segmental particles are combinations of the latter two
	(e.g. ze1 = zaa + e + Tone 1)

Fung (2000) g-, l-, z- initial particles (and -k coda) -- all particles with the same initial share a core semantics

		Grammaticization sources (implied)
g-	situation giveness	possessive and nominalizer ge3
1-	realization (physical & epistemic states)	verb 'to come' lei4
Z-	restriction	adverb 'only' zi5

Sybesma & Li (2007) At least 12 meaningful subsyllabic units (accounts for ~30 FPs):

g(e)	3 asserting relevance	<i>e</i> suggestive (for those w	ho have it)
l-	realization of state	o marking noteworthines	S
<i>m</i> -	yes/no question marker	aa4 [+Q]	
n-/l	- evaluative	Tone 1 'forward-looking', 'hea	arer-orientation'
z-	marking restriction	Tone 4 'speaker-orientation'	
aa	smooth-alerting	Tone 5 evidential	(p.1773)
- <i>k</i>	emotion intensifier		

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<sup>&</sup>lt;sup>1</sup> E.g., Gibbons (1980), Kwok (1984), Bourgerie (1987), Luke (1990), Chan (1998), Fang (2003)

# **Specific issue 1:** No existing grammatical analysis clearly explains or describes the exact mechanism through which their semantic model can account for the diverse pragmatic usages reported in the literature.

# (4) Sybesma & Li (2007)

Semantic composition:

ze1 = z ('restriction') + [default vowel] + 1 ('forward looking/hearer orientation')

→ But how does this equation allow for the following pragmatic meanings/uses? Pragmatic descriptions<sup>2</sup>:

delimitation; downplaying; exhorting; judgment; boasting; persuading; refuting; clarifying; etc.

**Specific issue 2:** Some subsyllabic meanings proposed by previous studies warrant refinement and/or reanalysis, notably the coda –k.

- Many previous studies (e.g. Leung 1992, Fung 2000, Sybesma & Li 2007) posit "emotion intensifier" as the core meaning/function of the coda -k.
- → However, this definition does not seem to contribution to the difference in meaning between many uses identified for FPs with and without the coda<sup>3</sup>:

(5)

aa3	"smooth-alert; signal relevance of the utterance to the discourse; make utterance sound more natural"	aak3	contradict an assumption; abrupt disagreement; accept a suggestion with the implication that the matter is settled
gaa3	"assertion; reminding; situation givenness"	gaak3	correct a presupposition; express reproach; assert the original situation of a state or event
laa3	"change of state; realization of state; current relevance;"	laak3	finality; implied consequences; sense of certainty; marking events in a narrative as complete
lo3	"less definitive irrevocability; unexpected new information; resignation, plea for sympathy; relief"	lok3	irrevocability
ze1	"delimitation; downplay; exhorting; judgment; boasting; persuading; refuting; clarifying"	zek1	indication of intimacy; rhetorical effect; exasperation; impatience; rhetorical questioning; complaint

→ Argument: "emotion intensifier" is a description of pragmatic usage only

<sup>&</sup>lt;sup>2</sup> From Matthews & Yip (1994), Chan (1998), Fung (2000), and Sybesma & Li (2007).

<sup>&</sup>lt;sup>3</sup> Descriptions (non-exhaustive) in the table are compiled from Law (1990), Matthews & Yip (1994), Fung (2000), Fang (2003), Sybesma & Li (2007), Chan (1998), Yiu (2001), Law (2002), Leung (2008), and Leung & Gibbons (2009).

## 3. Data & Methodology

**Units of analysis:** - The above 5 minimal pairs of FPs

- Subsyllabic units in these FPs (g-, l-, z-, aa, e, o, -k, 1, 3)

- (non-final particles naa4/naak4, haa4/haak4)

**Data:** Definitions and descriptions presented by previous research. Naturally-occurring speech and constructed sentences, from previous studies and newly presented.

# Methodology:

- Examine descriptions of the 10 FPs observed by previous studies, pair by pair
- Definitions for the units are described in single phrases (for greater clarity)
- Proposed definitions and theoretical model must be able to account for all descriptions of the FPs made by previous studies
- Native speaker intuition, minimal pairs, felicity tests, and co-occurrence restriction tests utilized to fine-tune analyses

# 4. Proposal

- The coda -k and other subsyllabic units in the 5 pairs are defined as follows, where X represents the utterance preceding the FP (+ any intervening subsyllabic segments):
- (6) **Initials:** g- X is a fact
  - **l-** X has become
  - **z-** there is not more to X
  - **Nuclei:** aa I say/announce (to you): X (+ initial, if present)
    - e default nucleus / I suggest X
    - o I think that someone should have known X before now
  - **Tones:** 1 I want you to consider X
    - *3 default tone*
  - **Coda:** -k I think that it cannot be not like X
- The semantic application of an FP to the utterance it attaches is represented by the following formula:
- (7) X + final particle =

(i) 
$$[X \text{ (+ initial)}] + \text{nucleus}$$
 (if the nucleus is not the default  $e$ )

and (iii) [X (+ initial)] + coda (if the coda -k is present)

*Example:* (8) 
$$X + laak3 = (i) [X + l-] + aa = I say/announce: [X has become]$$

(ii) (default Tone 3) = (no contribution)

(iii) [X + l-] + -k = I think that it cannot be not like

[X has become]

# 5. The five pairs of FPs

## **5.1.** aa3 and aak3

(9) Previous descriptions

aa3	"smooth-alert; signal relevance of the	aak3	contradict an assumption; abrupt
	utterance to the discourse; make		disagreement; accept a suggestion with
	utterance sound more natural"		the implication that the matter is settled

(10) My proposal:  $X \ aa(k)3 =$  a.  $aa = I \ say/announce$ : X b.  $Tone \ 3 = default tone$  (c.  $k = I \ think \ that it \ cannot \ be \ not \ like \ X)$ 

- (11) A: nei5 m4 zou6 je5 aa4? (cf. Matthews and Yip 1994: 348) you not do thing PRT? (PRT = particle) 'You're not working?'
  - a. B: m4 hai6 aa3, ngo5 duk6-gan2-syu1 not be AA3 I study-PROG-book. 'Yes I am [lit. it is not so], I'm studying.' "smooth-alert/relevance"
  - b. B: m4 hai6 aak3, ngo5 duk6-gan2-syu1 not be AAK3 I study-PROG-book. 'Yes I am, I'm studying.' "contradict an assumption"
- (12) A: Ting1jat6 gau2 dim2 gin3 wo3. tomorrow nine o'clock see PRT good AAK3

  'See you at nine tomorrow.'

  B: Hou2 aak3. (Matthews & Yip 1994: 349) good AAK3

  'Okay, right.'

"accept a suggestion with the implication that the matter is settled"

- The double negative in -k 'I think that it cannot be not like X' lends to both readings "contradict an assumption" and "accept a suggestion [without contest]" (i.e., "my acceptance cannot be otherwise")
- → "Emotion intensification" for the coda -k does not predict the difference in readings of aak3 in (12) from aa3 in (11a), but the epistemic stance can account for it.

# 5.2. gaa3 and gaak3

(13) Previous descriptions

gaa3	assertion; reminding; situation	gaak3	correct a presupposition; express
	givenness; affirmative: "this is the		reproach; assert the original situation
	case"		of a state or event; indignation

(14) My Proposal X gaa(k)3 = a. g = X is a fact b. aa = I say/announce: X (is a fact) c. Tone 3 = default tone(d. k = I think that it cannot be not like X (is a fact))

(15) a. go2 di1 syu1, aa3-ji6suk1 wui5 luk6zuk6 gei3-faan1-lei4 **gaa3** that CL book, second uncle FUT continue send-back-come **GAA3** 'You know, as to those books, Second Uncle will surely continue to send them to us.'

"assertion / this is the case"

- If gaa3 is substituted with aa3 in (15), the reading would be one of simply reporting, whereas gaa3 may license the reading that the speaker thinks that the addressee has doubts about this event
- b. go2 di1 syu1, aa3-ji6suk1 wui5 luk6zuk6 gei3-faan1-lei4 **gaak3** that CL book, second uncle FUT continue send-back-come **GAAK3** 'As to those books, Second Uncle will surely continue to send them to us—contrary to what you think and should not think' (Sybesma and Li 2007: 1745)

"correct a presupposition"

- The double negative in -k 'I think that it cannot be not like X' licenses the expression of arguing against a presupposition. This reading does not seem as readily licensed if the semantic description of -k is in the affirmative 'I think that it is definitely X.'
- zung6 jau5 gaak3. (Matthews & Yip 1994: 343)
   still have gaak3
   There's still some left—contrary to what you reported.'
   (Were you trying to deceive me?) "indignation"
- (16) can still be uttered without the implied accusation in parentheses and without expression of indignation. It can be used simply to express the speaker's discovery that the situation is contrary to what has been assumed or reported to be a fact. E.g., the speaker looked deeper into the cabinet than the addressee did.
- → Emotion is not entailed in the coda-ed FP; the epistemic stance is.

#### 5.3. laa3 and laak3

(17) Previous descriptions

laa3	change of state; realization of state—presents information	finality; new situation with implied consequences; marking events in a
	psychologically assumed to be new to the hearers; current relevance; inchoative; underlying perfective aspect;	narrative as complete or with sense of certainty

(18) My proposal: X laa(k)3 = a. l = X has become

b. aa = I say/announce: X (has become)

c. Tone 3 = default tone

(d. k = I think that it cannot be not like X (has become))

(19) ceot1 gaai1 laa3! go.out street LAA3

(Fang 2003: 105)

"new state of events"

(20) a. ngo5 sik6-jyun4 **laa3** ...

'We're going out!'

(cf. Sybesma and Li 2007: 1750)

I eat-COMPL LAA3

'I'm done eating now'

"new state of events"

b. ngo5 sik6-jyun4 laak3 ...

I eat-COMPL LAAK3

'I'm done eating now' (so I'm off to work) "new situation with new consequences"

- I argue that the "new consequences" reading is licensed from the epistemic stance "I think that it can be not this [-k] (that my eating is done [l-])" via the interpretation of the finality of the event.
- (21) san1fu2-zo2 gam3 loi6, zung1jyu1 se2-jyun4 bun2 syu1 **laak3** difficult-PERF so long finally write-COMPL CL book **LAAK3** 'After so much effort, I've finally finished the book.' (Matthews and Yip 1994: 350)

"finality in the change of situation"

• We can now also account for Leung & Gibbons's (2009: 197) observation that laak3 is often used in court proceedings to affirm with certainty (-k "I think that it cannot be not like this") events that have taken place in the past (l- "X has become")

#### **5.4.** lo3 and lok3

(22) Previous descriptions

lo3	"less definitive irrevocability;	lok3	irrevocability of a situation; "more
	unexpected new information;		definitive/intense/emotional than lo3"
	resignation, plea for sympathy; relief"		

(23) My proposal: X lo(k)3 = a. l = X has happened

b. o = I think someone should have known X (has happened) before now

c. Tone 3 = default tone

(d. k = I think that it cannot be not like X (has happened))

- Sybesma & Li (2007: 1753) suggest nucleus o comes from wo particles.
- Leung (2010) notes 6 functions for wo3: realization, reminder, hearsay, contrast ("in spite of appearances or what you think"), imperative, and mirative
- → I suggest these six descriptions can be linked by the notion "someone should have known something" or "why didn't someone know/notice this before?"
- (24) ngo5 m4 zi1 dim2 syun3 **lo3** [+ %L]<sup>4</sup>
  I not know how act **lo3**'I really don't know what to do.' (Matthews and Yip 1994: 352)
  Possible readings: resignation, irrevocability, plea of sympathy
  - → "someone should have known before now (o) that this would happen (l-)" provides the core semantic meaning of *lo3*, while context provides the different emotional or psychological states
- (25) dou1 waa6 keoi5 zau2-zo2 **lok3** already say he go-PERF **lok3** "I told you he left." "irrevocability" (cf. Fung 2000: 107)
  - Possible context for (25): the speaker had already imparted the information, but the addressee didn't believe him, so the speaker reasserts the information as a true fact about the past event (l- "X has become") that cannot be otherwise (-k, "I think that it cannot be not like this"), and the addressee should have known so (o, "someone should have known this before now"). "Irrevocability" is pragmatically licensed by the understanding that that it is too late to alter the outcome of something that has assuredly taken place.

9

<sup>&</sup>lt;sup>4</sup> To be precise, this utterance is not possible without a low boundary tone. While it would be prudent to address the possible semantic or pragmatic contribution of the low boundary tone to the particle and the utterance here, it would not fundamentally alter my analysis.

#### **5.5.** ze1 and zek1

(26) Previous descriptions

ze1	"delimitation; downplay; exhorting;	zek1	indication of intimacy; rhetorical
	judgment; boasting; persuading;		effect; exasperation; impatience;
	refuting; clarifying"		rhetorical questioning; complaint

(27) My proposal: X ze(k)I = a. z =there is not more to X

b. e = default vowel

c. Tone I = I want you to consider (there is not more to) X

(d. k = I think that it cannot be not like (there is not more to) X)

(28) gaan1 uk1 hou2 daai6 **ze1** CL house very big **ze1** 

(Fung 2000: 48)

'The apartment is very big.'
At least five possible pragmatic readings:
reporting, refutation, downplaying, persuasion, boasting

(29) Possible readings of (28) and scenarios licensing these readings:

(i) reporting: speaker simply wants to report a fact that is obvious

delimitation of z- $\rightarrow$  "there is not more to it"

(ii) refutation: response to a previous comment on the apartment being small

"there is not more to X"  $\rightarrow$  the assessment that the apartment is big is

the only correct one

(iii) downplaying: speaker wants to hide her envy of the size of the apartment by

appearing as though she thinks there is nothing else special about it → out of the many possible qualities of the apartment, the only one

worth commenting is its big size

(iv) persuasion: a wife wants to persuade her husband to buy the apartment by pointing

out its huge size

→ "there is not more to this (size of apartment) to consider"

(v) boasting: speaker is the seller of the apartment

→ highlight the size of the apartment as the one unique selling point

• z- provides a reading of exhaustive listing of salient information in the proposition

• Tone 1 ("I want you to consider this") then brings the proposition (X + z) forward to attention for the addressee to consider—whether to report a particular piece of information, refute a previous assessment, downplay, persuade, or boast

- (30) gwaan1 nei5 mat1je5 si4 zek1? (rhetorical) (Matthews & Yip 1994: 355) concern you what matter zek1 'It's none of your business.' (lit. 'How does this concern you?')
- The initial z- limits the possible interpretations to the question of "How does this concern you?" to "This doesn't concern you"; the coda -k ("I think that it cannot be not like this") emphasizes this singular implication; and Tone 1 ("I want you to consider this") presents it to the hearer as a rhetorical question upon which the hearer should take action (i.e., back off, or keep his nose out of the matter). Readings of "exasperation," "impatience," and "complaint" are all licensed, but do not represent the semantics of the FP.
- (31) ngo5 gam1jat6 leng3-m4-leng3 **zek1**? (wife to husband) (Matthews & Yip 1994: 355) I today pretty-not-pretty **zek1** 'Do you think I look good today?'
- In (34), the wife is looking for a positive answer and does not expect otherwise; that is, the possible answers to the question are limited by the initial z- to only one favorable answer as expected by the wife. The coda -k again highlights this particular expected answer, with Tone 1 indicating the speaker's request for the husband to respond (favorably).
- (32) ngo5dei6 cyu5- co5-zyu6 jau5 maan6 gei2 jik1 cin2 hai2dou6, we store sit-DUR have ten-thousand some billion money here 'We're storing- sitting on tens of thousands of billions of money here—

ni1 go3 hai4 zoeng3 min6 soeng6gou1 ge3 **zek1** (from radio program) this CL be account surface above ge3 **zek1** and this is just what's on the books'

• Sentence (32) expresses "I think this is definitely (-k) the case and the only (z-) case, and I want you to consider (Tone 1) what I think".

# **5.6 Summary**

• The coda -k encodes epistemicity, not "emotion intensification"

• The initial consonants g- ('X is a fact'), l- ('X has become'), and z- ('there is not more to X') always modify the proposition of the utterance first

• Next, the nucleus, the coda, and/or the tone are applied (whether parallel or in hierarchical order needs further investigation)

• Propositional domain: g- ('X is a fact')

*l*- ('X has become')

*z*- ('There is not more to X')

• Discourse domain: aa ('I say/announce: X (+ initial)')

• Speech act domain: Tone 1 ('I want you to consider X (+ initial)')

• Epistemic domain: o ('I think someone should have known X (+ initial)

before now')

-k ('I think that it cannot be not like X (+ initial)')

# **6.** Unresolved Problems and Implications

• **Sybesma & Li (2007):** uncertain whether default nucleus is *e* or *aa*, but settles on *e* The reason is because particles in unstressed position (see 6.2. on clusters) all have reduced vowels manifesting more or less as like schwas.

• If o = wo, why are there two possibilities of [l-+o+3]: (i) lo3 (ii) lo3 wo3

# **6.1. Boundary Intonation**

- Need to separate low boundary tone (and other possible boundary tones) in future analyses
- In some FPs, a low boundary tone is obligatory, and in others optional:
- (33)  $\operatorname{ngo5} \operatorname{heoi6} \operatorname{mak6sai1go1} \operatorname{tim1} *(+ \%L)$

I go Mexico ADDITIVE %L

'I'm going to Mexico, too!' (besides doing something else I consider fun/good)

(34) a. ngo faan ukkei laa3

(cf. 1f)

I return home LAA3

'I'm going home' (I'm announcing to you that this is happening now)

b. ngo faan ukkei laa3 + %L

Same meaning as (34b) except "more definitive/assertive/decisive"

#### 6.2. FP Clusters

## **Previous studies:**

- If two FPs with a consonant initial are adjacent, the first FP is often analyzed as containing a full vowel even though it is always phonetically reduced in speech.
- No explicit justification as to why the underlying vowel should be what they purport them to be

e.g. Leung (1992) suggests that in some clusters, the vowel of a preceding FP assimilates to the vowel in the following FP, and notate them with the same vowel in such cases

\*Note: clusters seem to act as a phonological unit – only the final syllable has a full vowel which also interacts with boundary intonation

# A more radical proposal:

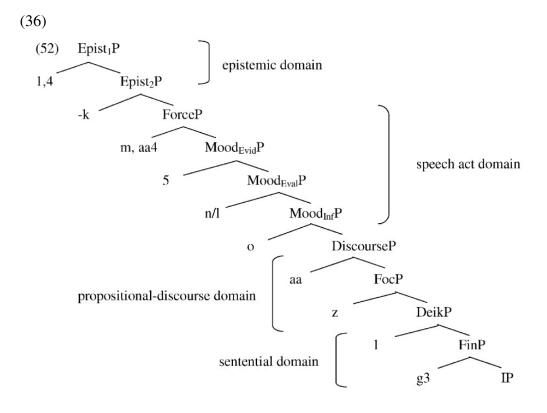
• In view of a subsyllabic account → most preceding FPs in clusters are inherently monosegmental, but due phonological restrictions on initial consonant clusters, a neutral vowel is inserted for syllabification, and a neutral tone is also inserted, which manifest as schwa and a mid-level tone (Tone 3), respectively

# Some examples of FP clusters:

```
(35)
ge3 le3 me1
ge3 ze3 me1
ge3 le3 bo3
ge3 lea3
ge3 lea1
le3 wo3
ge3 zea3
ge3 ze1
ge3 le1maa3 (g+1+e1maa3)
ze1 maa3
ge3 le3 gwaa3
```

# **6.2.** Syntactic structure

**Sybesma & Li** (2007: 1779, after Hoekstra & Zwart 1994, Rizzi 1997, and Cinque 1999)

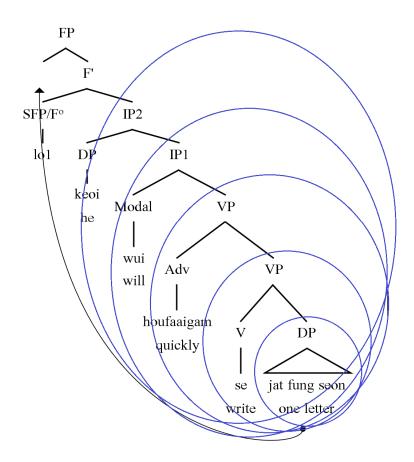


# Possible problem with left-branching:

Discloation Focus Construction (Cheung 2009)

- (37) a. [keoi wui houfaaigaam se jat fung seon] $_t$  lo1 t 3sg will quickly write one CL letter SFP 'He will quickly write a letter.'
  - b. [wui houfaaigaam se jat fung seon]<sub>t</sub> lo1 | keoi t will quickly write one CL letter SFP 3sg
  - c. [houfaaigaam se jat fung seon] $_t$  lo1 | keoi wui t quickly write one CL letter SFP 3sg will
  - d. [se jat fung seon]<sub>t</sub> lo1 | keoi wui houfaaigaam t write one CL letter SFP 3sg will quickly

e. [jat fung seon]<sub>t</sub> lo1 | keoi wui houfaaigaam se t one CL letter SFP 3sg will quickly write



# BUT

(38) nei gu-haa bingo $_t$  aa1, Siuwan hai saandeng gin-dou you guess-DEL who AA1 Siuwan be.at peak see-COMPL

# **Appendix: Cantonese Final Particles**

# (I) Minimally paired particles

		aa			e			0			u	aa1maa3¹
			-k	+ %L		-k	+ %L		-k	+ %L		
Ø	1	aa1		aa1 +L								
	2											
	3	aa3	aak3	aa3 +L								aa1maa3
	4	aa4										
	5	aa5/2										
g	1											
	2	gaa2			ge2							
	3	gaa3	gaak3	gaa3 +L	ge3 (?)		ge3 +L					gaa1maa3
	4	gaa4										
	5											
l	1	laa1		laa1 +L				lo1				
	2											laa1maa3
	3	laa3	laak3	laa3 +L				lo3	lok3	lo3 +L	lu3 *(+L)	laalillaa3
	4	laa4			le4			lo4				
	5				le5/2							
W	1											
	2											
	3							wo3		wo3 +L		
	4							wo4				
	5							wo5		wo5 +L		
Z	1				ze1	zek1	ze1 +L					
	2	zaa2/5										
	3	zaa3		zaa3 +L								zaa1maa3
	4	zaa4										
	5											

Other: baa5laa1, baa5laa3 \*(+L)

# (II) Non-minimally paired particles

 $ne1 \ (+L), tim1 \ *(+L), waa2, sin1 \ *(+L), gwaa3, bo3, maa3, me1 \ (+L), etc.$ 

<sup>&</sup>lt;sup>1</sup> The first vowel in the *aa1maa3* series is phonetically realized as [ə] rather than [a:]

#### References

- Bauer, Robert S. and Paul K. Benedict. 1997. Modern Cantonese Phonology. Berlin and New York: Mouton de Gruyter.
- Bourgerie, Dana Scott. 1987. Particles of Uncertainty: A Discourse Approach to the Cantonese Final Particles. MA thesis. The Ohio State University.
- Chan, Marjorie K.M. 1998. Sentence particles je and jek in Cantonese and their distribution across gender and sentence types. In Engendering Communication: Proceedings of the Fifth Berkeley Women and Language Conference, eds. Suzanne Wertheim, Ashlee Bailey, and Monica Corston-Oliver, 117-128. Berkeley, CA: Berkeley Women and Language Group, UC Berkeley.
  - http://people.cohums.ohio-state.edu/chan9/articles/bwlc5.htm. Accessed 25 June 2011.
- Cheung, Samuel Hung-nin, 張洪年. 2007. 香港粵語語法的研究 Xianggang Yueyu yufa de yanjiu [A Grammar of Cantonese as Spoken in Hong Kong], revised ed. Hong Kong: The Chinese University Press.
- Cheung, Lawrence Yam-Leung. 2009. Dislocation focus construction in Chinese. Journal of East Asian Linguistics 18: 197-232.
- Fang, Xiaoyan, 方小燕. 2003. 廣州方言句末語氣助詞 Guangzhou fangyan jumo yuqi zhuci [Sentence final modal particles in the Guangzhou dialect]. Guangzhou: Jinan University Press.
- Fung, Roxana Suk-Yee. 2000. Final Particles in Standard Cantonese: Semantic Extension and Pragmatic Inference. PhD dissertation. The Ohio State University.
- Gibbons, John. 1980. A Tentative Framework for Speech Act Description of the Utterance Particle in Conversational Cantonese. Linguistics 18: 763-775.
- Kwok, Helen. 1984. Sentence Particles in Cantonese. Centre of Asian Studies Occasional Papers and Monographs 56. University of Hong Kong.
- Law, Ann. 2002. Cantonese sentence-final particles and the CP domain. UCL Working Papers in Linguistics 14: 375-398.
- Law, Sam-Po. 1990. The Syntax and Phonology of Cantonese Sentence-Final Particles. PhD dissertation. Boston
- Leung, Chung-sum, 梁仲森. 1992. 當代香港粵語語助詞的研究 Dangdai Xianggang Yueyu yuzhuci de yanjiu [A study of the utterance particles in Cantonese as spoken in Hong Kong]. MPhil thesis. The Hong Kong Polytechnic University.
- Leung, Ester and John Gibbons. 2009. Interpreting Cantonese utterance-final particles in bilingual courtroom discourse. Interpreting 11(2): 190-215.
- Leung, Wai-Mun. 2008. Promising Approaches for the Analysis of Sentence-final Particles in Cantonese: the Case of [aa3]. Asian Social Science 4(5): 74-82.
- Leung, Wai-Mun. 2010. On the Identity and Uses of Cantonese Sentence-final Particles in the Late 20<sup>th</sup> Century: The Case of wo and bo. Asian Social Science 6(1): 13-23.
- Li, Boya. 2006. Chinese Final Particles and the Syntax of the Periphery. PhD dissertation. Leiden University. Luke, Kang Kwong. 1990. Utterance Particles in Cantonese Conversation. Amsterdam: John Benjamins.
- Matthews, Stephen and Virginia Yip. 1994. Cantonese: A Comprehensive Grammar. New York: Routledge.
- Sio, Joanna Ut-Seong. 2011. The Cantonese ge3. In Nominalization in Asian Languages: Diachronic and typological perspectives, eds. Foong Ha Yap, Karen Grunow-Hårsta, and Janick Wrona, 125-146. Amsterdam: John Benjamins.
- Sybesma, Rint and Boya Li. 2007. The dissection and structural mapping of Cantonese sentence-final particles. Lingua 117: 1739-1783.
- Yiu, Carine Yuk-man. 2001. Cantonese Final Particles 'LEI', 'ZYU' and 'LAA': An Aspectual Study. MPhil thesis. The Hong Kong University of Science and Technology.