The Syntax and Semantics of Adverb Placement in Cantonese*

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Nutshell:

- Two kinds of AdvPs in Cantonese distinguished syntactically and semantically
    - One in specifier of Cinquean adverbial XP
    - One as complement to V in Larsonian VP shell
- Highlight the need to explore the extended adjectival/adverbial projection

1 Introduction

➢There are 2 kinds of VP-level AdvPs in Cantonese, (Matthews and Yip, 1994).[1]

(1) a. ngo5 sik6 **dak1** **hou2** **hoi1sam1**
I eat ADV DEG happy
'I'm eating very happily.'

a'. ngo5 **hou2** **hoi1sam1** **gam2** sik6 je5
I DEG happy ADV eat stuff
'I'm eating (very) happily.'

b. ngo5 paau2 **dak1** **hou2** **faai3**
I run ADV DEG fast
'I run very fast.'

b'. ngo5 **hou2** **faai3** **gam2** paau2 bou6
I DEG fast ADV run path
'I run (very) fast.'

c. ngo5 za1 **dak1** **ngai4him2**
I drive ADV dangerous
'I drive dangerously.'

c'. ngo5 **hou2** **ngai4him2** **gam2** za1 ce1
I DEG dangerous ADV drive car
'I drive (cars) dangerously.'

➢In (1)a-c, the adverbial marker *dak1* precedes the adjective and the *dak*-construction follows the verb.

➢In (1)a'-c', the adverbial marker *gam2* follows the adjective and the *gam*-construction precedes the verb.

➢The two forms are *nearly* synonymous, but exhibit various syntactic and semantic differences.

➢We review these syntactic and semantic differences here and analyze them within the frameworks set out by Cinque (1999) – where AdvPs are in the specifiers of dedicated functional projections – and Larson (2004) – where AdvPs are merged in the VP shell as arguments.

➢We will conclude that Cantonese adverbs countenance both types of analyses.

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[1] Cantonese data are transcribed using Jyutping as advocated by the Linguistic Society of Hong Kong. The numerals after each syllable indicate the tone.

2 Properties of AdvPs in Cantonese

2.1 Syntactic Properties

➢The *dak*-construction obviates the need for a cognate object with unergatives, while the *gam*-construction does not.

(Note: Unlike in English, unergatives in Cantonese typically require the presence of a cognate object. In English, they are typically optional.)

(2) a. keoi5 za1 dak1 hou2 nghai4-him2
he drive ADV DEG dangerous
'He drives dangerously.'

b. keoi5 za1 ce1 za1 dak1 hou2 nghai4-him2
he drive car drive ADV DEG dangerous
'He drives (cars) dangerously.'

c. keoi5 hou2 ngai4-him2 gam2 za1 ce1.
he DEG dangerous ADV drive car
'He drives (cars) dangerously.'

d. *keoi5 hou2 ngai4-him2 gam2 za1.
he DEG dangerous ADV drive
('He drives dangerously.')

➢When the cognate object adds no lexical information, its presence in the *dak*-construction is usually perceived as odd, but there is speaker variation.

(3) a. ?*sik6 je5 sik6 dak1 hou2 hoi1sam1
eat stuff eat ADV DEG fast
('to eat happily')

b. ?paau2 bou6 paau2 dak1 hou2 faai3
run path run ADV DEG fast
('to run quickly')

➢The *gam*-construction does not support comparatives or superlatives (see data in (4) - (5)), while this is possible with the *dak*-construction.

(4) a. keoi5 sik6 dak1 hoi1sam1 gwo3 ngo5
3.SG eat ADV happy COMP 1.SG
'He's eating more happily than I.'

b. *keoi5 hoi1sam1 gwo3 ngo5 gam2 sik6 je5
3.SG happy comp 1.SG ADV eat stuff
('He's eating more happily than I.')

(5) a. keoi5 sik6 dak1 zeoi1 hoi1sam1
3.SG eat ADV SUPER happy
'He eats the most happily.'

b. *keoi5 zeoi1 hoi1sam1 gam2 sik6 je5
3.SG SUPER happy ADV eat stuff
('He eats the most happily.')

(6) a. John za1 dak1 ngai4him2 gwo2 ngo5
John drive ADV dangerous COMP 1.SG
'John drives more dangerously than me.'

b. *John ngai4him2 gwo2 ngo5 gam2 za1 ce1
John dangerous COMP 1.SG ADV drive car
('John drives more dangerously than me.')

➢Finally, *dak*-AdvPs do not require a degree expression of any kind, while *gam*-AdvPs do.

(7) a. John *(hou2) hoi1sam1 gam2 sik6 ping4gwo2
John (very) happy ADV eat apples
'John eats apples (very) happily.'

b. John sik6 ping4gwo2 sik6 dak1 (hou2) hoi1sam1
John eat apple eat ADV (very) happy
'John eats apples (very) happily.'

2.2 Semantic Properties

➢The adverbs in the *gam*-construction can have a VP-level reading, (8)a, or a subject-oriented reading (with the marker *zau6*, (8)b).

➢The adverbs in the *dak*-construction can only have the VP-level reading, (9)a. The subject-oriented reading is unavailable, (9)b.[2]

(8) a. keoi5 hou2 faai3 gam2 heoi3 do1leon4do1
he DEG fast ADV go Toronto
'He is going to Toronto quickly.'

b. keoi5 hou2 faai3 gam2 zau6 heoi3-zo2 do1leon4do1.
he DEG fast ADV PRT go-PERF Toronto
'Quickly, he went to Toronto.'

(9) a. zek3 gwai1 paa4 gwo3 heoi3 di1 sik6mat6 dou6
CL turtle crawl pass go CL food there

paa4 dak1 hou2 faai3.
crawl ADV DEG fast

'The turtle is crawling quickly towards the food.'

b. *zek3 gwai1 paa4 gwo3 heoi3 di1 sik6mat6 dou6
CL turtle crawl pass go CL food there

paa4 dak1 hou2 faai3 zau6.
crawl ADV DEG fast PRT

➢*dak*-adverbs are asserted while the remainder of the VP is presupposed.

➢*gam*-constructions assert both the adverb and the VP.[3]

(10) John hoi1hoi1sam1sam1 sik6 go3 ping4gwo2
John happily eat CL apple
'John happily ate the apple.'

➢Nothing is presupposed in (10). This is confirmed by the following yes/no question.

(11) John yau5 mou6 hhss sik6 go3 ping4gwo2
John have not.have happily eat CL apple
'Did John happily eat the apple?'

➢Simply answering 'no' to the above question is not informative. It could mean one of two things.

- John ate the apple, but didn't do so happily.
- John didn't eat the apple at all (happily or otherwise)

➢Consider also the following:

(12) % John za1 m4 za1 dak1 ngai4him2
John drive not drive ADV dangerous
'Does John drive dangerously?'

➢Not all speakers accept this sentence, but for those who do, the question presupposes that John drives.

➢Evidence that the adverbial is part of the assertion (i.e., is a predicate) is offered by the fact that it can support V-not-V question formation.

(13) John za1 ce1 za1 dak1 ngai4 m4 ngai4him2 a3
John drive car drive ADV dangerous-not-dangerous SFP
'Does John drive dangerously?'

[2] Sio and Tang (2007) report that the *gam*-construction does not support a sentential or subject oriented reading. Rather the same structure must appear without the *gam* marker. This claim does not necessarily contradict the claims here; however, we do not pursue the issue here as it is tangential to the main discussion.

[3] Some adverbs in the *gam*-construction can appear in a reduplicated form without the *gam* marker. Thus, *hoi1hoi1sam1sam1* = *hou2 hoi1sam1 gam2* = 'happily'.

(14) John se2 zi6 se2 dak1 leng3 m4 leng3 a3
John write char. write ADV nice-not-nice SFP
'Does write characters well?'

➢In both cases, the V+Obj portion is presupposed and the adverbial portion is the main assertion that is being questioned.

2.3 Conclusion

➢The interaction between adverb placement and argument structure inside the VP-shell, along with the relatively strict ordering of adverbs argues against a traditional analysis in which adverbs are adjuncts (Ernst, 2002, Rubin, 2003).

➢We pursue a mixed approach below that does not appeal to adjunction in the traditional sense.

➢In the next section, we outline some basic facts about the structure of adverbial phrases.

Summary:	
dak1 Adverbials	**gam2 Adverbials**
post-verbal	pre-verbal
obviates cognate object	does not obviate cognate object
can appear with comparatives and superlatives	cannot appear with comparatives or superlatives
does not require degree expression	requires degree expression
only VP-level readings	can have sentential readings under some circumstances
AdvP is asserted, rest of VP is presupposed - AdvP is a predicate	AdvP and PP together are asserted - AdvP not a predicate

3 The Structure of Adverbs

➢Despite the wealth of previous work on adverbs (Alexiadou, 1997, Cinque, 1999, 2004, Ernst, 2002, 2007, Parsons, 1990), very little work exists on their internal structure (Corver, 1997 discusses AdjP in Dutch).

➢Consider the AdvP *very quickly*. There are 2 logically possible structures for this phrase, (15).

(15) a. very [quick-ly] b. [very quick]-ly

➢Assuming a unification of syntax and morphology – i.e., no lexical component (Julien, 2002, Marantz, 2001), either structure in (15) is compatible with the AdvP *very quickly*.

➢***We argue here for the structure in (15)b.***

1. Semantic Argument

very quickly = in a very quick manner; manner that is very quick

≠ very much in a quick manner

➢*very* composes with *quick* first, then *very quick* composes with *–ly*, (see Kayne, 2005, 179 fn. 5).

2. Morphological Argument

➢Recall the order of morphemes in Cantonese:

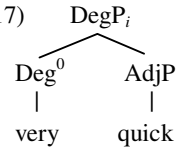
(16) a. dak1 hou2 hoi1sam1
ADV DEG happy
'happily.'

b. hou2 hoi1sam1 gam2
DEG happy ADV
'happily.'

The ADV marker can appear on either side of the Adj + Deg → ADV is higher than both Adj + Deg.

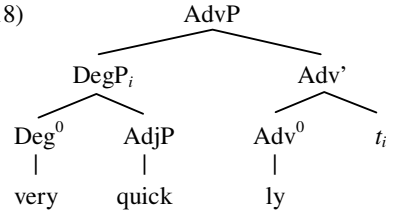
➢Abney (1987): adjectivals are headed by a DegP (see also Corver, 1997, Neeleman et al., 2004).

(17)



➢The DegP must raise above the adverbial marker *-ly*.

(18)

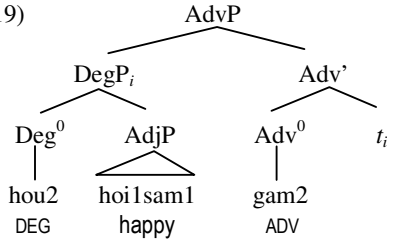


➢Also, since a DegP projection is already required on the AdjP, it is less than parsimonious to posit a second DegP above AdvP.

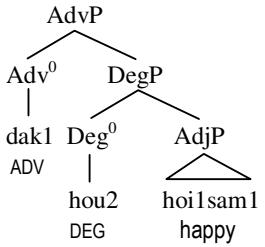
➢Consider again the Cantonese adverbial phrases in (1), shown below.

➢The difference in word order is explained by a lack of DegP raising.

(19)



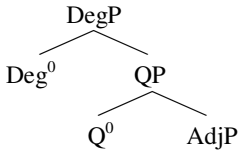
(20)



➢Extended adjectival projection (Corver, 1997)

➢Corver argues for the following structure for AdjP

(21)



Deg	Q
too	more/COMP
so	most/SUPERL
very	

➢One more difference between English and Cantonese

English – both positions can be filled

Cantonese – only one or the other can be filled

(22) John is extremely/quite/a lot taller than Bill.

(23) a. *John fei1sung3 gou1 gwo3 ngo5
John extremely tall COMP 1.SG
('John is extremely taller than I am.')

b. John gou1 gwo3 ngo5 hou2 do1
John tall comp 1.sg very much
'John is taller than I am by a lot.'

4 Analysis

➢Adverbials are not adjuncts but form part of the clausal architecture either as:

- specifiers of functional projections (Cinque, 1999),[4]
- part of the VP shell (Larson, 1988, 2004), or
- both (Alexiadou, 1997)

➢We argue here that ***both*** are also instantiated in Cantonese on the basis of the syntactic and semantic differences discussed above.

➢Cantonese has a strong transitivity requirement requiring unergatives to appear with cognate objects (object *pro*-drop notwithstanding).

(24) paau2 *(bou6) sik6 *(je5) faan3 *(gaau3)
run (path) eat (stuff) sleep (sleep)
'to run' 'to eat' 'to sleep'

➢Recall that when a *dak*-adverbial is present, no cognate object is required.[5] Furthermore, verb doubling is required when a normal DP object is present.

(25) a. paau2 dak1 faai3
run ADV fast
'to run quickly'

b. ?paau2 bou6 paau2 dak1 faai3
run path run ADV fast
('to run quickly')

c. sik6 ping4gwo2 sik6 dak1 faai3
eat apple eat ADV fast
'to eat apples quickly'

➢If the AdvP were right-adjoined to the VP, then its ability to satisfy the transitivity requirement of unergatives would be mysterious.

➢Likewise, if the AdvP were base generated in the specifier of a Cinquean functional projection then these facts would be equally mysterious.

➢We propose the following structures for adverb placement.

(26) a. [$_{vP}$ subject v^0 [$_{VP}$ object V^0 [$_{VP}$ V^0 ***dak*-adverb**]]]

b. [$_{XP}$ ***gam*-adverb** [$_{vP}$ subject v^0 [$_{VP}$ V^0 object]]]

➢In (26)a, the transitivity requirement of an unergative is satisfied directly by the *dak*-adverb in argument position (contra Rubin, 2003, who argues that Mandarin 'de' is an adjunct marker),

➢while in (26)b, the *gam*-adverb appears in a higher functional projection and cannot perform this function.

➢Additionally, we propose that *dak1* is an Adv^0 that takes either a DegP, a QP or an AdjP as a complement.

➢*dak1* turns an entity-modifying predicate (DegP/QP/AdjP) into an event-modifying predicate (AdvP), which is merged into a Larsonian VP shell.

➢We furthermore propose that the adverbial marker *gam2* takes only a DegP as a complement.

➢The *gam*-AdvP does not modify an event variable, but rather can only modify the degree of its host X^0.

[4] See Chao and Mui (2000) for a discussion of sentential adverbs in Cantonese within a Cinquean framework.
[5] A cognate object may optionally be present in some situations, but leads to degraded acceptability in others.

➢XP represents the Cinquean functional projections that host AdvPs.

(27) a. $[_{VP}\ V^0\ [_{AdvP}$ *dak1* $[_{DegP}\ Deg^0\ [_{QP}\ Q^0\ [_{AdjP}\ Adj^0]]]]]$
b. $[_{VP}\ V^0\ [_{AdvP}$ *dak1* $[_{QP}\ Q^0\ [_{AdjP}\ Adj^0]]]]]$
c. $[_{VP}\ V^0\ [_{AdvP}$ *dak1* $[_{AdjP}\ Adj^0]]]]]$

(28) $[_{XP}\ [_{AdvP}$ *gam2* $[_{DegP}\ Deg^0\ [_{QP}\ Q^0\ [_{AdjP}\ Adj^0]]]\ X^0\ [_{vP}\ v^0\ [_{VP}\ V^0\ ]]]$

➢Since *gam2* must take a Degree expression (example (7) above) and since overt Deg^0 and Q^0 are incompatible, therefore *gam2*-AdvPs cannot appear with comparatives or superlatives.

➢Furthermore, the appearance of the *dak*-adverb in the VP-shell forces a VP-level manner reading on the adverbial.

➢By contrast, following Cinque's analysis of adverbs, the *gam*-adverb can appear in the specifier of a high or low functional projection, giving rise to a VP-level manner reading (in low position) or a subject-oriented reading (high position, with PRT *zau6*).

5 A brief look at celeratives

➢We take a brief look at *quickly/fast* AdvPs and make some speculative remarks about their syntax and semantics.

➢Cinque proposes two celerative aspectual projections

Asp_{cel} I – high, clausal reading
Asp_{cel} II – low, manner reading

➢*Quickly* can have either reading, while *fast* can only have the low reading.

(29) a. John went to Toronto quickly.
b. John quickly went to Toronto.
c. John went to Toronto fast.
d. *John fast went to Toronto.

➢Furthermore, V must raise above Asp_{cel} I but below Asp_{cel} II in English.

➢Recall that in Cantonese, *faai3* can have either reading, but only the pre-verbal *gam*-version can have the clausal reading (with the particle *zau6* or without the *gam2* altogether).

➢Thus, V in Cantonese remains below both projections.

➢The post-verbal *dak*-AdvP has the syntax and semantics of a predicate.

➢Following Larson (2004) and Parsons (1990), we assume the following semantics for the predicative, post-verbal *dak*-AdvP

(30) John za1 dak1 faai3
John drive ADV fast
'John drives fast.'

$\exists e$ (drive(j,e) & fast(e))

➢For *gam*-AdvPs, we have argued that they must be full DegPs (which are inconsistent with comparatives and superlatives).

➢Larson suggests that preverbal AdvPs in English are scopal operators.

➢Let us tentatively suggest that what they take scope over is a degree variable in the relevant functional projection.

(31) John hou2 faai3 gam2 za1 ce1
John very fast ADV drive car
'John drives (cars) fast.'

VERY (Asp_{cel}(deg)) $\exists e$ (drive(j,e))

6 Conclusion

➢We have argued for two patterns of adverb placement in Cantonese.

➢Specifically, we have shown that *dak*-adverbs appear in argument position inside the VP-shell, while *gam*-adverbs appear in the specifier of a higher functional projection.

➢This analysis accounts for the following asymmetries:

- First, the *dak*-adverbs can only have a VP-level reading while the *gam*-adverbs can have either a VP-level or subject-oriented reading.

- Second, the *dak*-adverb satisfies the transitivity requirement in unergatives, obviating the need for a cognate object, while *gam*-adverbs do not have this property.

- Finally, the asymmetry with respect to superlatives and comparatives was accounted for by positing that the adverbial markers take differently sized adjectival complements as a result of their different semantic requirements. Namely, the VP selects an event-modifying AdvP, which can contain comparatives and superlatives, while the Cinquean X^0 must select a degree-modifying AdvP.

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