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Head movement with semantic effects: Aspectual verb raising in Cantonese

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Abstract. This paper argues that head movement is an operation available in Narrow Syntax (contra Chomsky (2000, i.a.)). It provides independent support to a line of research which suggests that head movement can impose interpretive effects. The novel evidence comes from Cantonese aspectual verbs and their interaction with other quantificational elements. I argue that aspectual verbs such as *hoici* 'begin' can undergo head movement, which can enrich the scope possibility of the verb.

Keywords. head movement; semantic effects; verb raising; Scope Economy

1. Introduction. This paper argues that head movement is an operation available in Narrow Syntax (contra Chomsky (2000, i.a.). It provides independent support to a line of research which suggests that head movement can impose interpretive effects (Lechner 2007; Roberts 2010; Szabolcsi 2011; Hartman 2011; Keine and Bhatt 2016; Matyiku 2017, i.a.) The novel evidence comes from Cantonese aspectual verbs and their interaction with other quantificational elements. I argue that aspectual verbs such as *hoici* 'begin' can undergo head movement, which can enrich the scope possibility of the verbs. The argument goes as follows: if head movement can enrich scope possibility, under the standardly assumed T-model, this movement cannot occur after Spell-Out. Put differently, it must occur in Narrow Syntax such that the LF can read off the interpretive effects of the movement. I first discuss the distribution of *hoici* 'begin' in Cantonese (§2) and then propose a head movement analysis (§3). I argue against four alternative analyses to a head movement approach (§4). In §5, I discuss two consequences of the analysis and §6 closes the discussion with remarks.

2. The distribution of *hoici* 'begin' in Cantonese. As a raising predicate (Li 1990), the aspectual verb *hoici* 'begin' can canonically follow the subject 'only Aaming', as in (1).

(1) dak Aaming hoici haau-dou hou singzik *(only > begin / *begin > only)*
only Aaming begin get-able good result
'Only Aaming is such that he begins to get good results.'

Significantly, *hoici* can also precede the subject, as in (2).

(2) hoici dak Aaming haau-dou hou singzik *(*only > begin / begin > only)*
Begin only Aaming get-able good result
'It begins to be that case that only Aaming is getting good results.'

Crucially, the relative position of *hoici* to the subject gives distinct interpretations. (1) and (2) unambiguously give a distinct scope reading. The two interpretations are truth-conditionally independent of each other. Consider the scenarios depicted in Figure 1. Imagine that the speaker is reporting the exam results of a class of three in May. With (1), the speaker is truthfully reporting a situation where only Aaming is such that he begins to get good results, while no others show any improvement. With (2), the speaker is truthfully reporting a situation where it begins to be the case that only Aaming is such that he is getting good results (this is not the case before May).

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(1) only > begin		(2) begin > only	
Who is getting good results…			
Before May?	After May?	Before May?	After May?
Aaming: ✗	Aaming: ✓	Aaming: ✓	Aaming: ✓
Bill: ✗	Bill: ✗	Bill: ✗	Bill: ✗
Chris: ✓	Chris: ✓	Chris: ✓	Chris: ✗

Figure 1. Scenarios for (1) and (2)[1]

However, it is important to notice that the position of *hoici* is not unconstrained. (3) and (4) minimally differ from (1) and (2), respectively, with regards to the subject. With a proper name being the subject, *hoici* can follow but not precede the subject.

(3) Aaming hoici haau-dou hou singzik
Aaming begin get-able good result
'Aaming is such that he begins to get good results.'

(4) *hoici Aaming haau-dou hou singzik
begin Aaming get-able good result
Int.: 'Aaming is such that he begins to get good results.'

The paradigm can be replicated with another aspectual verb *gaizuk* 'continue'. In (5a), *gaizuk* can follow the subject regardless of the presence of *dak* 'only'; however, it cannot precede the subject in the absence of *dak*.

(5) a. (dak) Hoenggong gaizuk paai tau sapwai
only Hong.Kong continue rank initial tenth
'(Only) Hong Kong is such that she continues to rank among the first tenth.'
b. gaizuk *(dak) Hoenggong paai tau sapwai
continue only Hong.Kong rank initial tenth
'It continues to be the case that (only) Hong Kong ranks among the first tenth.'

The upshot is that the availability of the verb-initial word order, as in (2), (4) and (5b), correlates with the quantificational nature of the subject: Only when the subject is quantificational can the verb precede the subject.

3. Proposal: A head movement analysis of *hoici* 'begin'. To explain the paradigm presented in §2, I propose a head movement analysis of *hoici*, where *hoici* is raised, crossing the subject, to a sentence-initial position, as illustrated in (6).[2,3] Importantly, this movement enriches the scope of *hoici*, giving rise to an (unambiguous) wide scope reading over 'only'.

(6) Deriving (2) from (1) under a HM approach
begin [$_{SUBJ}$ only Aaming] __ get-good-result

[1] The scenarios are modelled on Szabolcsi (2011).

[2] I remain agnostic on the exact landing site of *hoici* in this paper. It can be treated as adjunction (May 1985) or head-to-specifier movement (followed by some morphological merger), as proposed in Matushansky (2006). The proposal does not bear on the precise implementation of head movement.

[3] The constituency structure concerning the string *dak*-NP is oversimplified here. Tang (2002) argues that *dak* is a lexical verb, taking a focus element and a secondary predicate. But this does not bear on the current proposal.

To explain the unacceptability of (4), I resort to an economy principle on movement:

(7) Scope Economy (Fox 2000:3)
Scope-shifting operations cannot be semantically vacuous.

I suggest that Scope Economy applies to overt movement, in addition to covert movement.[4] By (7), (4) can be ruled out on the grounds that the head movement of *hoici* over the subject does not alter any scope relation (since proper name is not quantificational) and hence semantically vacuous. (2) is ruled *in* as it imposes semantic effects (i.e. scope enrichment). The following subsections investigate further on the interaction of *hoici* and quantificational elements.

3.1. QUANTIFIER SUBJECTS. The proposal predicts that, if the subject is quantificational, head movement of *hoici* would be licensed. This is borne out in (8), where various kinds of quantifier subject allow the head movement of *hoici*. In all cases, *hoici* enjoys a wide scope reading.

(8) HM licensed by a quantifier subject

a. *Universal quantifiers*
hoici **cyunbou-jan** **dou** t_{hoici} haau-dou hou singzik
Begin **everyone** **DOU** get-able good result
'It begins to be that case that everyone is getting good results.'

b. *Existential quantifiers*
hoici **hou-do-jan** t_{hoici} haau-dou hou singzik
Begin **very-many-person** get-able good result
'It begins to be that case that many people are getting good results.'

c. *Quantifiers with modified numerals*
hoici **zisiu** **saam-go-jan** t_{hoici} haau-dou hou singzik
Begin **at.least** **three-CL-person** get-able good result
'It begins to be that case that at least three people are getting good results.'

d. *Proportional quantifiers*
hoici **daai-boufan** **jan** t_{hoici} haau-dou hou singzik
Begin **big-part** **person** get-able good result
'It begins to be that case that most people are getting good results.'

Importantly, head movement of *hoici* is disallowed if the subject is non-quantificational. In addition to proper names, pronouns and definite NPs in subject position do not license the movement.

(9) HM *not* licensed by a non-quantificational subject

a. *Pronouns*
*hoici **keoidei** t_{hoici} haau-dou hou singzik
Begin **they** get-able good result
'It begins to be that case that they are getting good results.'

b. *Definite NPs*[5]
*hoici **di** **hoksang** t_{hoici} haau-dou hou singzik
Begin **CL.PL** **student** get-able good result
'It begins to be that case that the students are getting good results.'

[4] Independent evidence from some varieties of English (e.g. West Texas English and African American English) also support the extended version of Scope Economy. See Matyiku (2017) for discussion.

[5] Note that the string [classifier-NP] in Cantonese can give rise to a definite reading (see Cheng and Sybesma 1999).

3.2. SCOPE-BEARING ELEMENTS. In cases where the subject *per se* is not quantificational, but it is associated with some quantificational element, head movement of *hoici* is allowed. In (8) the bare noun *hoksang* 'student' is preceded by the existential verb *jau* 'have', while in (9), the definite NP *di hoksang* 'the students' is associated with the universal quantifier *dou* 'all'. Head movement of *hoici* is allowed in both cases.

(10) HM licensed by a quantificational element

a. *Existential verb* jau *'have'*

hoici	**jau**	**hoksang**	t_{hoici}	haau-dou	hou	singzik
Begin	**have**	**student**		get-able	good	result

'It begins to be that case that there is a student getting good results.'

b. *Universal A-quantifier* dou *'all'*

hoici	**di**	**hoksang**	**dou**	t_{hoici}	haau-dou	hou	singzik
Begin	**CL.PL**	**student**	**DOU**		get-able	good	result

'It begins to be that case that all the students are getting good results.'

Unsurprisingly, sentential negation *m-hai* 'not' and focus marker *hai* 'be' are also proper licensors, due to their scope-bearing nature.

(11) HM licensed by negation and focus marker

a. *Sentential negation* m-hai *'not'*

hoici	**m-hai**	**Aaming**	t_{hoici}	haau-dou	hou	singzik
Begin	**not**	**Aaming**		get-able	good	result

'It begins to be that case that it is not the case that Aaming is getting good results.'

b. *Focus marker* hai *'be'*

hoici	**hai**	**Aaming**	t_{hoici}	haau-dou	hou	singzik
Begin	**FOC**	**Aaming**		get-able	good	result

'It begins to be that case that AAMING is getting good results.'

3.3. FLEXIBLE LANDING SITE OF 'BEGIN'. The landing site of *hoici* is not fixed. In all the above cases, it lands right above the subject, but it is not necessarily so. Consider (12). (12a) is the baseline, with a pre-subject adjunct 'in all schools'. (12b) shows that head movement is allowed and *hoici* lands on a position above the pre-verbal adjunct.

(12) HM can cross a quantificational adjunct

a.

[hai	**sojau**	**hokhaau]**	Aaming	dou	hoici	haau-dou	hou	singzik
at	**all**	**school**	Aaming	DOU	begin	get-able	good	result

'At all schools, Aaming begins to get good results.'

b.

hoici	**[hai**	**sojau**	**hokhaau]**	Aaming	dou	t_{hoici}	haau-dou	hou	singzik
begin	**at**	**all**	**school**	Aaming	DOU		get-able	good	result

'It begins to be the case that, at all schools, Aaming is getting good results.'

Now contrast (12) with (13), where the pre-subject adjunct is non-quantificational. Note that the subject is quantificational in (13), but not in (12).

(13) HM *cannot* cross a non-quantificational adjunct

a.

[hai	ngodei	hokhaau]	hoici	**dak**	**Aaming**	t_{hoici}	haau-dou	hou	singzik
at	our	school	begin	**only**	**Aaming**		get-able	good	result

'In our schools, it begins to be the case that only Aaming is getting good results.'

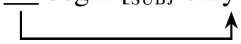
b. *<u>hoici</u> [hai ngodei hokhaau] **dak Aaming** t_{hoici} haau-dou hou singzik
begin at our school **only Aaming** get-able good result
Int.: It begins to be the case that, in our schools, only Aaming is getting good results.'

Head movement of *hoici* in (13a) is allowed, since the subject is quantificational; however, *hoici* cannot move further to cross the adjunct, as it is non-quantificational. (12) and (13) are informative in that both the movement and the landing site are constrained by Scope Economy.

3.4. SECTION SUMMARY. The proposed head movement analysis, together with Scope Economy, offers us an explanation to the paradigm presented in §2. Importantly, it suggests that head movement can impose interpretive effects, which, in our case, is realized as scope enrichment.

4. Alternative analyses. In this section, I argue against four alternative explanations to the paradigm in §2. The first two represents the idea that, while there is movement, it is not the *verb* that is moving: it could be the *subject* that is moving (§4.1) or the *VP as a whole* that is moving (§4.2). The other two suggest that there is no movement at all, the verb is base generated at different positions (4.3) or the subject can occupy different positions (§4.4).

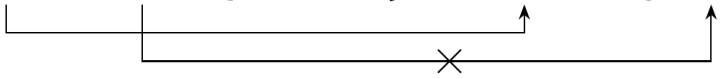
4.1. SUBJECT LOWERING. Instead of head-moving *hoici*, lowering the subject can also derive the paradigm in §2. In particular, the verb *hoici* stays in-situ and the subject is lowered to a position below *hoici*, as illustrated in (14). (4) can be ruled out by Scope Economy in a similar fashion: The lowering of a proper name is semantically vacuous, as it does not alter the relative scope with *hoici*.

(14) <u>Deriving (2) from (1) in a subject lowering approach</u>
__ begin [$_{SUBJ}$ only Aaming] get-good-result


However, the sentences in (12) pose a challenge to this approach. (12a) and (12b) can be schematically represented by (15a) and (15b), respectively.[6]

(15) a. (12a): [$_{Adjunct}$ at all schools [$_{SUBJ}$ Aaming [begin …]]]
b. (12b): [begin [$_{Adjunct}$ at all schools [$_{SUBJ}$ Aaming …]]]

To derive (12b) from (12a), we need two lowering operations, one targeting the quantificational adjuncts and one the proper name. (16) shows the attempted derivation:

(16) <u>(Attempted) derivation of (15b) under a subject lowering approach</u>
__ [$_{SUBJ}$ Aaming]$_{-Quan.}$ begin [$_{Adjunct}$ at all schools]$_{+Quan.}$ __ [...]


Although lowering of the quantificational adjunct is allowed, lowering of the non-quantificational subject is disallowed, violating Scope Economy. Otherwise, (4) would have been allowed as well. On the other hand, a head movement analysis can derive (12b)/(15b) with one movement operation on *hoici*, crossing both the subject and the adjunct.

4.2. REMNANT VP MOVEMENT. A famous alternative to head movement is remnant VP movement. The idea is that, before VP movement (i.e. fronting), all elements other than the verb are extracted from the VP so that when the VP moves, it appears that the verb is moved by itself. As den Besten and Webelhuth (1990) argues, this is the case for German topicalization. (17) is analyzed as (18). 'The book' is first scrambled out of the VP, after which the VP (containing only

[6] I abstract away from *dou* 'all', which is associated with the universal quantifier *sojau* 'all' in the adjunct.

the verb 'read') is topicalized. The superficial head movement is indeed a phrasal movement in disguise.

(17) Gelesen hat Hans das Buch nicht
read has Hans the book not
'Hans has not read the book.'

(18) [$_{VP}$ t_i gelesen] hat Hans [$_{T'}$ das Buch$_i$ [$_{T'}$ nicht t_{VP}]]

Back to our case, crucial in this account is the availability of VP-fronting, which is arguably present in Chinese (Huang 1993). (19) illustrates the idea with (2). In particular, VP1 'get-good-result' is first fronted to a position above VP2 but below the subject. Then, VP2 is fronted to the initial position. It derives the target word order without resorting to head movement.

(19) [$_{VP2}$ begin t_{VP1}] only Aaming [$_{VP1}$ get-good-result] [t_{VP2}]

There are two problems with this analysis. First, the legitimacy of fronting VP1 must be stipulated, because the complement of *hoici* cannot be VP-fronted in general, as shown in (20).[7]

(20) *[$_{VP}$ haau-dou hou singzik] Aaming <u>hoici</u> t_{VP}
get-able good result Aaming begin
Int.: 'Aaming begins to get good results.'

Second, if sentences like (2) involves VP-fronting, we expect to see reconstruction effects, along with other phrasal movements. Essentially, we expect to see that the interpretation of (2) is ambiguous (depending on the presence/ absence of reconstruction) or it unambiguously gives an inverse scope reading (if reconstruction is obligatory). Either way, the unambiguous surface scope reading is surprising. According to the structure in (19), 'begin' is buried in the VP, a surface scope reading would require some non-standard scope-taking mechanism (instead of c-commanding relation). As such, it is unlikely that phrasal movement is at play here.

4.3. BASE GENERATION. Another alternative suggests that *hoici* might have multiple base generation positions. It can base generate in initial or medial positions. The only restriction is that it must be followed by a verbal complement (i.e. it c-selects a VP). If we follow Tang's (2002) analysis on *dak* 'only', which suggests that the quantificational *dak* is a verbal element, the paradigm in §2 can be explained by suggesting that (4) is ruled out because it is not followed by a verbal complement (but a TP/CP), as illustrated in (21).

(21) <u>Simplified representations of (1)-(4)</u>
a. dak Aaming begin [<u>$_{VP}$</u> get-good result]
b. begin [<u>$_{VP}$</u> dak Aaming [get-good result]]
c. Aaming begin [<u>$_{VP}$</u> get-good result]
d. *begin [<u>$_{TP/CP}$</u> Aaming [$_{VP}$ get-good result]]

This analysis works for (1)-(4) but it wrongly predicts the unacceptability of sentences in (8) and (10b), where the element following *hoici* is not verbal. One may suggest that the quantifiers in (8b)-(8d) are preceded by a covert existential verb *jau* (as overtly recovering *jau* is also allowed). But (8a) and (10b) remains mysterious, since the universal quantifiers are not compatible with *jau*. It is unclear how they can be preceded by a verbal element.

[7] VP-fronting is possible for modal verbs, such as *jinggoi* 'must'.

(i) [$_{VP}$ haau-dou hou singzik] Aaming <u>jinggoi</u> t_{VP}
get-able good result Aaming must
'Aaming must get good results.'

4.4. SUBJECT IN-SITU. Sentences like (2) can be analyzed in a way that both verb and subject are in-situ, where the subject stays within the infinitival complement. Szabolcsi (2009) argues that languages like Hungarian allows overt infinitival subject, which may give the 'begin > only' word order. Implementing the idea, the structure for (2) would be (22).

(22) [$_{VP}$ begin [$_{infinitival\ complement}$ only Aaming […]]

However, Li (1990) argues that raising construction exists in Chinese and subjects are required to move out of the infinitival complement for Case reason, similar to English. Also, (4) is a counterexample to this analysis and must be ruled out on independent grounds. The analysis must allow subject-in-situ if the subject is quantificational and disallow it otherwise. It is unclear how the availability of overt infinitival subjects should be sensitive to the quantificational nature of the subject.

5. Discussions. In this section, I discuss two consequences of the proposal. Not only does it defend the syntactic status of head movement in grammar (§5.1), it also shed light on the distribution on modal verbs (§5.2).

5.1. HEAD MOVEMENT WITH SEMANTIC EFFECTS. If the proposed head movement analysis on *hoi-ci* in Cantonese is on the right track, then we have a novel piece of evidence for the presence of head movement with semantic effects, lending further support to Lechner (2007, 2017), Szabolcsi (2011) and Matyiku (2017)[8]. Accordingly, head movement must be available in Narrow Syntax (contra Chomsky (2001), i.a.). Indeed, conceptually speaking, its unavailability is more surprising than its availability, if we follow Chomsky (2004, 2008) in that Move is a subtype of Merge that targets elements already present in the structure (i.e. Internal Merge). As Roberts (2010) argues, only stipulation could prevent Internal Merge from targeting heads, provided that no such restriction is applied to External Merge.

Note that the proposed head movement is substantially different from other instances of head movement such as T-to-C movement in German. The latter type of head movement does not alter relative scope. Consider (23) (p.c. with Stefan Keine):

(23) a. Nur die Aktienkurse <u>begannen</u> im Mai zu steigen. [German]
only the stock.prices began in May to rise
*(only > begin / *begin > only)*
'In May, it began to be the case that only stock prices rise.'

b. Im Mai <u>begannen</u> nur die Aktienkurse zu steigen. [German]
in May began only the stock.prices to rise
*(only > begin / *begin > only)*
'In May, it began to be the case that only stock prices rise.'

As standardly assumed, V2 languages involve V/T-to-C movement. In (24a), the subject moves to Spec CP after 'began' moves to C and it gives the surface scope reading; however, in (24b), even although 'began' moves across the subject and c-commands 'only', it still gives the surface scope reading. T-to-C movement in German thus imposes no semantic effects comparable to the *hoici*-case in Cantonese. The proposed head movement in Cantonese substantially differs from other more recognized head movement in European languages.

Indeed, the two instances of head movement in Cantonese and German fall nicely into the classification proposed in Harizanov and Gribanova (2018), where they classify head movement into two types: *syntactic head movement* and *post-syntactic amalgamation*, illustrated in Figure 2.

[8] For arguments against, see Hall (2015) and McCloskey (2016).

	Syntactic head movement	Post-syntactic amalgamation
Produces head-adjunction structures	✗	✓
Driven by morphological properties of heads	✗	✓
Obeys the Head Movement Constraint	✗	✓
Obeys constraints on phrasal movement	✓	✗
Potential for interpretive effects	✓	✗

Figure 2. Different properties of the two types of head movement

The *hoici* case in Cantonese exemplifies the syntactic head movement in the sense that it shows interpretive effects, contrasting with post-syntactic amalgamation, which, as they put it, is illustrated by the German case. For space limit, I cannot examine all other relevant properties in detail. Roughly, it is not immediately clear what potential head *hoici* may adjoin to. If it were to adjoin with some functional head in the structure, the adjunction site would have to be flexible enough to allow multiple landing sites (§3.3), departing from standard understanding of head-head adjunction. Instances like (12a) appear to violate the Head Movement Constraint, at least it is 'skipping' the T head. Also, the movement of *hoici* does not seem to be driven by morphological properties: *hoici* is a raising verb (Li 1990) and it does not require morphological support from other elements. Also, there are no obvious candidate (such as inflectional morphemes in the CP domain) that may trigger the movement of *hoici* on morphological grounds.

The two crucial cases taken to be the direct evidence for syntactic head movement involves split scope reading in English (Lechner 2007) and verb fronting in Shupamem (Szabolcsi 2011). The evidence, as the authors admit, "is far less common, and the arguments are much more subtle" (Harizanov and Gribanova 2018:13). Hall (2015) and Mccloskey (2016) also challenge the validity of the argumentation in these cases. Accordingly, the *hoici* case in Cantonese lends further support to the presence of syntactic head movement and hence, H&G's proposal.[9]

5.2. A FURTHER PREDICTION. If we follow Szabolcsi (2011) in that aspectual verbs are quantifiers over times, we predict the distribution of modal verbs like *hoji* 'may' (standardly regarded as quantifiers over worlds) pattern with that of aspectual verbs. This predication is borne out:

(24) a. dak Aaming hoji zou fan *(only > may / *may > only)*
only Aaming may early sleep
'Only Aaming is such that he is allowed to sleep early.'

b. hoji dak Aaming zou fan *(*only > may / may > only)*
may only Aaming early sleep
'It is allowed that only Aaming sleeps early.'

c. Aaming hoji zou fan
Aaming may early sleep
'Aaming is allowed to sleep early.'

d. *hoji Aaming zou fan
may Aaming early sleep
Int.: 'Aaming is allowed to sleep early.'

[9] Note that I did not argue that *all* head movement in Cantonese must be syntactic. There are head movement cases that pattern with post-syntactic amalgamation in Cantonese, such as verbal cluster formation (see, e.g., Tang 2003).

(24a-d) replicates the paradigm in (1)-(4) with modal verbs, showing identical relative scope pattern. (24d) is unacceptable in the same sense as (4), i.e. head movement of *hoji* violates Scope Economy if it crosses a non-quantificational subject. Head movement with semantic effects in Cantonese, therefore, is not confined to aspectual verbs.

While the distribution of modal verbs in Chinese receives considerable attention in the literature (see, e.g., Lin (2011); Chou (2013); Tsai (2015)), the discussion concerns primarily the epistemic and root distinction. Cases concerning sentential-initial root modals like (24) are under-studied, with an exception of Hsu (2016). She proposes an alternative analysis for sentences like (24d) in Mandarin, where she treats the modal verb as a *verum focus operator* base generated in the CP domain. One of the arguments come from the Intervention Effects (Beck 2006). She explains the unacceptability of (25)[10] by suggesting that the modal *yinggai* 'should', being a focus operator, is intervening between the high Q-operator and the *wh*-expression *shenme* 'what'.

(25) *yinggai Zhangsan mai shenme ne ? [Mandarin]
should Zhangsan buy what Q
Int.: 'What should Zhangsan buy?' (adapted from Hsu 2016:263)

(25) can also be ruled out under the head movement analysis. It is exactly the configuration in (24d), where the modal verb crosses the non-quantificational subject, in violation of Scope Economy. Importantly, Hsu's proposal predicts that if the subject is a *wh*-expression, the sentence is still unacceptable (i.e. the modal verb intervenes between the Q-operator and the wh-subject); however, this is not the case:

(26) yinggai shei mai dangao ne ? [Mandarin]
should who buy cake Q
'Who should buy cakes?'

Under the proposed head movement account, the movement of *yinggai* 'should' is allowed, given that *wh*-expressions are focus elements, hence scope-bearing. As we have seen in (11b), focus elements can license the proposed head movement. Note that the interpretive effects imposed by the head movement is subtle, which appears to be related to focus scope. Roughly, the subject in (26) must be included in the focus scope of the questions. I leave this issue and the precise formuation of the interaction between modal verbs and focus scope to future research.

6. Concluding remarks. This paper defended a head movement analysis for aspectual verbs in Cantonese, which in turn lends support to the presence of head movement in Narrow Syntax. It is both conceptually and empirically implausible to eliminate head movement from Narrow Syntax. There is a remaining issue: I have been agnostic on the motivation and the exact syntactic nature of the proposed head movement. In light of its observance of Scope Economy, optionality and the flexible landing sites, it seems plausible to suggest that the proposed head movement is indeed an overt counterpart of Quantifier Raising (May 1977, 1985, et seq.). The only difference is that QR in Cantonese can target verbal quantifiers. Unconventional as it may seem, there appears to be no *a priori* reason to rule out such possibility, if QR is a general syntactic operation in the syntactic component. I leave this possibility to future research.

References

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[10] The Cantonese counterpart of (25) is also unacceptable.

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