

Hyperraising, evidentiality, and phase deactivation*

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Abstract

This paper investigates an interaction between locality requirements and syntactic dependencies through the lens of *hyperraising* constructions in Cantonese and Vietnamese. We offer a novel piece of evidence from subject displacement in support of the claim that phasehood can be deactivated by syntactic dependencies during derivation. We show that (i) hyperraising (to subject) constructions are attested in both languages, and that (ii) only attitude verbs that encode an indirect evidential component allow hyperraising constructions. We propose a phase deactivation account for hyperraising, where the phasehood of a CP is deactivated by an Agree relation in terms of an evidential feature with the embedding verb. The findings of this paper implicate that locality requirements in natural languages are less rigid than previously thought, and that there is a non-trivial semantic dimension in hyperraising phenomena.

Keywords: hyperraising, attitude verbs, evidentiality, locality, Cantonese, Vietnamese

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1 Introduction

This paper investigates an interaction between locality requirements and syntactic dependencies through the lens of *hyperraising* constructions in Cantonese and Vietnamese.¹ While certain syntactic heads are held responsible for locality requirements (as they mark the point after which syntactic operations can no longer be applied to a domain, e.g., the projection of a C head constitutes a *phase*, Chomsky 2000, *et seq.*), recent proposals suggest that the locality requirements established by phase heads are not set once and for all (Richards 1998; Rackowski and Richards 2005; Nunes 2008; den Dikken 2018; Stepanov 2012; van Urk 2015; Halpert 2016, 2019; Branan 2018; Preminger 2019; Pesetsky 2021; Toquero-Pérez 2021). In this paper, we offer a novel piece of evidence in support of the claim that phasehood can be voided by syntactic dependencies during the derivation. It implicates that locality requirements in natural languages are less rigid than previously thought.

We motivate our claim with empirical evidence from a case of subject displacement in Cantonese and Vietnamese. The crucial observation concerns the contrast in (1) and (2). In the sentences in (1), the matrix subject can be separated/displaced from the embedded predicate (with which it is thematically related).² However, the same displacement is disallowed in the sentences in (2), where a different set of attitude verbs are involved.³

(1) Cross-clausal subject displacement in sentences containing certain attitude verbs

- | | | |
|----|--|------------|
| a. | Coeng jyw gangok/tengman waa m-wui ting
CL rain feel.like/hear C not-will stop
'It is felt/heard that the rain will not stop.' | Cantonese |
| b. | Con mưa này cảm giác/nghe nói rằng/là sẽ không dừng
CL rain this feel.like/hear C will not stop
'It is felt/heard that the rain will not stop.' | Vietnamese |

(2) Illicit subject displacement in sentences containing some other attitude verbs

- | | | |
|----|---|-----------|
| a. | *Coeng jyw gangok-dou/zidou waa m-wui ting
CL rain feel-ACCOMP/know C not-will stop
Int.: 'It can be felt/is known that the rain will not stop.' | Cantonese |
|----|---|-----------|

1. We use the term *hyperraising* (HR) to refer to a specific type of A-movement where an embedded subject moves across a CP to the matrix clause. Depending on the landing site of the embedded subject, HR can be subdivided into HR-to-Subject (HRtS) and HR-to-Object (HRtO). To give an overview on hyperraising-allowing languages reported in the literature:

- (i) a. Languages allowing HRtS:
Brazilian Portuguese (Nunes 2008; Ferreira 2009), Greek (Alexiadou and Anagnostopoulou 1999), Japanese (Uchibori 2000), Lubukusu and Lusaamia (Carstens and Diercks 2013), Nguni (Zeller 2006), Spanish (Fernández-Salgueiro 2005, 2011), Zulu (Halpert 2016, 2019), *i.a.*;
- b. Languages allowing HRtO:
Japanese (Hiraiwa 2001; Tanaka 2002), Korean (Yoon 2007), Mongolian (Fong 2019), Romanian (Alboiu and Hill 2013b, 2016), Spanish (Herbeck 2020), Zulu (Halpert and Zeller 2015; Halpert 2016), *i.a.*

2. We do not discuss the more regular, transitive usage of attitude verbs in this paper.

3. The Cantonese and Vietnamese data in this paper are collected from the Internet and from interviews with native speakers. The data are confirmed by five speakers of each language.

- b. *Con mưa này **cảm-thây/biết** rằng/là sẽ không dừng Vietnamese
 CL rain this feel-ACCOMP/know C will not stop
 Int.: ‘It can be felt/is known that the rain will not stop.’

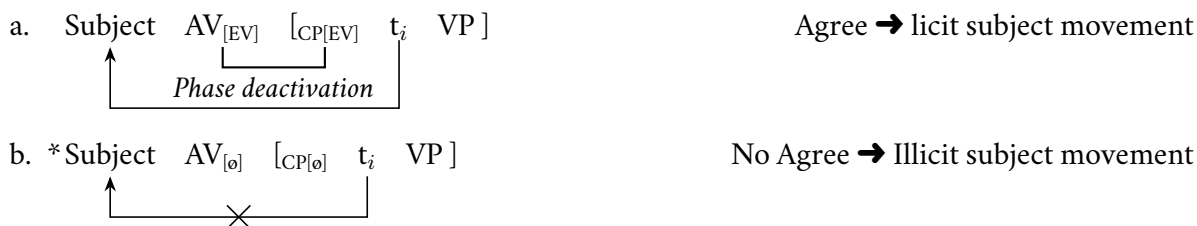
In other words, the legitimacy of such subject displacement is contingent on the choice of attitude verbs. This posits an initial puzzle on the licensing condition of subject displacement in both languages. As will be discussed in greater details in Sect. 2, the contrast between (1) and (2) falls under a generalization on subject displacement and indirect evidentiality, given in (3).

(3) The Subject-Evidentiality Correlation

A subject embedded under an attitude verb can surface in the matrix subject position only if the attitude verb encodes indirect evidence.

We seek to derive (3) from a phase-theoretic minimalist framework. There are two major claims in our proposal. First, we propose that the subject displacement in sentences like (1) instantiates cases of hyperraising to subject. Second, we argue that hyperraising in Cantonese and Vietnamese is legitimate *only* when a prior Agree relation in terms of an indirect evidential feature is established between attitude verbs and their clausal complement. Following the spirit of Rackowski and Richards (2005), Nunes (2008), Halpert (2016, 2019), and den Dikken (2018), we suggest that such an Agree relation *deactivates* the phasehood of the embedded CP. An overview of our proposal is given in (4).

(4) An overview of the proposal (AV = attitude verb; EV = evidential feature)



The findings of this paper shed light on both syntactic locality and the understanding of hyperraising constructions. First, the data in Cantonese and Vietnamese lend support to the claim that phase-induced locality requirements are not established once and for all. Instead, the locality requirements they impose can be deactivated during the syntactic derivation. Second, the data in Cantonese and Vietnamese highlight an under-studied semantic dimension of hyperraising constructions, namely, evidentiality. Particularly, the data reveal that the distribution of (hyper)raising predicates in different languages may not be entirely idiosyncratic and follows certain semantic dimensions (cf. Yoon 2007; Horn 2008; Şener 2007; Wurmbrand 2019; Wurmbrand, Kovač, and Lohninger 2021), providing a partial explanation on why predicates participated in cross-clausal A-dependencies are largely similar across languages.

The rest of this paper contains five sections. Section 2 shows that there is a subject-evidentiality correlation as given in (3) in Cantonese and Vietnamese. Section 3 turns to evidence for subject movement. We argue that the movement is an instance of hyperraising. Section 4 details our proposal and derives the empirical properties of hyperraising in Cantonese and Vietnamese. Section 5 discusses how the proposal may capture a similar split in terms of predicates allowing hyperraising in other languages. Section 6 concludes the paper.

2 The evidential split in attitude verbs

In this section, we establish a correlation between subject displacement and an evidential component encoded in attitude verbs in Cantonese and Vietnamese, as stated in (3) above. In Sect. 2.1, we first set up the empirical foundations by revealing a split between two classes of attitude verbs in both languages. We show that only some attitude verbs allow the embedded subject to surface in the matrix subject position. Then, in Sect. 2.2, we suggest that this split among attitude verbs correlates with their evidential requirement on the embedded clause/proposition.

2.1 Displaced subjects in the matrix position

The contrast between (1) and (2) reflects a split between attitude verbs that allow an embedded subject to occupy the matrix subject position and those that do not. The Cantonese data in (5) and the Vietnamese data in (6) reveal the range of verbs that allow a displaced subject.⁴ Note that in most cases the matrix subject is inanimate, which indicates that it is selected by the embedded predicate rather than the matrix attitude verb (i.e., it cannot be the attitude holder).

(5) Licit cases of subject displacement in Cantonese

- a. Hoenggong **tenggong** waa hou ngaihim (Forum)
 Hong Kong hear C very dangerous
 ‘It is heard that Hong Kong is dangerous.’
- b. Ni coeng bo **gamgok** cungmun woping jyu oi (Forum)
 this CL ball feel.like be.full.of peace and love
 ‘It is felt that this football game is full of peace and love.’
- c. Ni coeng bo **gugai** jiu jyuncoeng sin hoji zidou zeoihau gitgwo (Forum)
 this CL ball guess need end then may know final result
 ‘It is guessed that this football game needs to be waited till end for the final results.’
- d. Ni pin **waaiji** hai zung mei gaaudim ge sitwaiman (Wikipedia)
 this CL suspect COP yet not.yet finish MOD stub.article
 ‘It is suspected that this article is a incomplete stub article.’
- e. “Mongkau” ni loeng go zi **soengseon** jiging singwai Hoenggongjan ge
 online.shopping this two CL word believe already become Hong Konger MOD
 jatsoeng sangwut (Social media)
 daily life
 ‘It is believed that the two words “online shopping” has become the daily life of Hong Kongers.’
- f. Gwailou **hangding** waa waa play like robot (Forum)
 Westerners be.sure C say play like robot
 ‘It is certain that the Westerners will say “play like robot”.’

4. (6b,e,f) are elicited from native speakers of Vietnamese. The rest of the data are taken from the internet, accessed on May 10, 2021 for (5c-e,g,i), September 20, 2021 for (6a,c-d,h), and January 30, 2022 for (5a-b,f,h) and (6g).

- g. Maasihak **taipaa** hai gamnin saugwai fungwan janmat (News)
 Musk seem-fear COP this.year first.season famous figure
 ‘It seems (lit. is feared) that Elon Musk will be the Man of the First Season this year.’
- h. Zek sau **waa-zo** m-gau daai gaa laa (Blog)
 CL hand say-PERF not-enough big SFP SFP
 ‘(See?) It is (already) said that the hand is not big enough.’
- i. 5G Plan **gong-gan** geido cin? (Blog)
 5G Plan say-PROG how.much money
 ‘How much is being said for the 5G plan?
 (Lit.: It is being said that the 5G plan is how much money?)’

(6) Licit cases of subject displacement in Vietnamese

- a. Ngôi làng ở phía Nam này **nghe nói** rằng có số dân tương đối ít, chỉ
 village in south this hear C have population relative small only
 bằng một nửa ngôi làng phía Đông mà thôi (Creative writing)
 equal half village east SFP SFP
 ‘It is heard that this southern village has a relatively small population, only half that of the eastern village.’
- b. Trận tuyết này **cảm giác** ngày mai sẽ dừng
 CL snow that feel.like tomorrow will stop
 ‘It is felt that the snow will stop tomorrow.’
- c. Khẩu này **đoán** là trung liên Hotchkiss M1922 (Forum)
 CL this guess C light machine-gun Hotchkiss M1922
 ‘It is guessed that this one is a Hotchkiss M1922 light machine-gun.’
- d. Làng Yên Lãng này **ngghi** là làng Yên Lãng quê mẹ của Từ Đạo Hạnh
 village Yên Lãng this suspect C village Yên Lãng motherland poss Từ Đạo Hạnh
 ‘It is suspected that the Yen Lang village [from the text] is the Yen Lang village where Tu Dao Hanh’s mother was born.’
 (Thiền Uyển Tập Anh, 1993, p.166)
- e. Cho dù có chính sách mới, những giáo viên đó **tin** là sẽ không bỏ việc
 even.though have policy new CL teacher that believe C will not reside
 ‘Even though there is a new policy, it is believed that those teachers will not quit their job.’
- f. Người đó **chắc chắn** là sẽ không đến
 person that be.sure C will not come
 ‘It is certain that the person will not come.’
- g. 44 thì **e** rằng quá khổ ạ (Forum)
 44 then fear C too miserable SFP
 ‘It is worried (lit.: is feared) that (size) 44 is too big.’
- h. Vậy thì cả đời này **sợ** rằng chẳng còn cơ hội nữa! (News)
 then whole life this afraid C not left chance more
 Lit.: ‘Then, it is afraid that this whole life left no more chance.’

However, some other attitude verbs disallow such a displaced subject. The examples in (7) and (8) are constructed as minimal pairs with some of the naturally occurring examples above.

(7) Illicit cases of subject displacement in Cantonese

- a. *Ni coeng bo **gangkok-dou/teng-dou/gu-dou** jiu jyuncoeng sin hoji
 this CL ball feel-ACCOMP/hear-ACCOMP/guess-ACCOMP need end then may
 zidou zeoihau gitgwo
 know final result
 Int.: 'It is felt/heard/guessed that this football game needs to be waited till end for the final results.'
- b. *Hoenggong **zidou/geidak/haufui/faatjin** (waa) hou ngaihim
 Hong Kong know/remember/regret/discover C very dangerous
 Int.: 'It is known/remembered/regretted/discovered that Hong Kong is dangerous.'
- c. *"Mongkau" ni loeng go zi **gokdak/jingwai** jiging singwai Hoenggongjan
 online.shopping this two CL word think/think already become Hong Konger
 ge jatsoeng sangwut
 MOD daily life
 Int.: 'It is thought that the two words "online shopping" has become the daily life of Hong Kongers.'

(8) Illicit cases of subject displacement in Vietnamese

- a. *Khẩu này **cảm-thấy/nghe-được/đoán-được** là trung liên Hotchkiss
 CL this feel-ACCOMP/hear-ACCOMP/guess-ACCOMP C light machine-gun Hotchkiss
 M1922
 M1922
 Int.: 'It is felt/heard/guessed that this one is a Hotchkiss M1922 light machine-gun.'
- b. *Làng Yên Lãng này **biết/phát hiện** là làng Yên Lãng quê mẹ của
 village Yên Lãng this know/discover C village Yên Lãng motherland poss
 Từ Đạo Hạnh
 Từ Đạo Hạnh
 Int.: 'It is known/discovered that the Yen Lang village [from the text] is the Yen Lang village where Tu Dao Hanh's mother was born.'
- c. *Vậy thì cả đời này **nhớ/hối hận/cho/nghĩ** rằng chẳng còn cơ hội nữa!
 then whole life this remember/regret/think/think C not left chance more
 Int.: 'Then, it is remembered/regretted/thought that for this whole life there is no more chance (lit.: left no more chance).'

The availability of a displaced subject thus divides attitude verbs in Cantonese and Vietnamese into two classes, summarized in Table 1. Anticipating a raising analysis of the displaced subject, we refer to attitude verbs that allow a displaced subject as *raising attitude verbs (RAVs)*, and the relevant constructions as *RAV-constructions*. Attitude verbs that do not allow a displaced subject are referred to as *non-raising attitude verbs (NRAVs)*.

Raising Attitude Verbs (RAVs)			Non-raising Attitude Verbs (NRAVs)		
Gloss	Cantonese	Vietnamese	Gloss	Cantonese	Vietnamese
‘feel like’	gamgok	cảm giác	‘feel-ACCOMP’	gamgok-dou	cảm-thấy(-được)
‘hear’	tengman/tenggong	nghe nói	‘hear-ACCOMP’	teng-dou	nghe-được
‘guess’	gugai	đoán (là)	‘guess-ACCOMP’	gu(gai)-dou	đoán-được
‘suspect’	waaiji	nghi (là)	‘know’	zidou	biết
‘believe’	soengseon	tin (là)	‘remember’	geidak	nhớ
‘be.sure’	hangding	chắc chắn	‘regret’	haufui	hối hận
‘seem (lit. fear)’	paace/paahai/taipaa	e/sợ	‘discover’	faatjin	phát hiện
‘say-PERF’	waa-zo	/	‘think’	gokdak	cho
‘say-PROG’	gong-gan	/	‘think’	jingwai	nghĩ

Table 1: A (non-exhaustive) list of attitude verbs in Cantonese and Vietnamese

2.2 The correlation with evidentiality encoded in attitude verbs

We now turn to the correlation between the split in attitude verbs and evidentiality. We reveal that all RAVs share a common semantic property: they all encode an indirect evidential component in their lexical semantics. That is, they require their clausal complements be associated with indirect evidence. In contrast, NRAVs lack this requirement. Additionally, we show that the indirect evidential component can interact with elements such as verbal suffixes and prefixal/lexical negation, which in turn affects the (un)availability of subject displacement.

2.2.1 Indirect evidentiality vs. non-indirect evidentiality

We observe that RAVs form a homogeneous class in that their clausal complement must be based on **indirect evidence** in both transitive usage and raising usage. The contexts in (9a) and (10a) specify two types of indirect evidence respectively, namely, reportative evidence and inferential evidence (cf. Willett 1988). The sentences in (9) reveal that RAVs such as *tengman* ‘hear’ are compatible with an (indirect) reportative evidence context (with or without subject displacement), as opposed to NRAVs such as *teng-dou* ‘hear-ACCOMP’. A similar contrast is observed with Vietnamese in (10) as well, where the context specifies (indirect) inferential evidence.

- (9) RAVs are compatible with reportative evidence Cantonese
Context with reportative evidence: Your friend told you that that Ming is playing piano at his home.
- a. Ngo { ^{OK}**tengman**/ #**teng-dou** } Aaming taan-gan kam
 1SG hear hear-ACCOMP Ming play-PROG piano
 ‘I heard (from someone) that Ming is playing piano.’
- b. Aaming **tengman** taan-gan kam (subject displacement)
 Ming hear play-PROG piano
 ‘It is heard (from someone) that Ming is playing piano.’

- (10) RAVs are compatible with *inferential* evidence Vietnamese
Context with inferential evidence: On a winter day, John saw through a window that people are shivering outside. He said:
- a. Tôi { ^{OK}**cảm giác**/ #**cảm-thây** } bên ngoài rất lạnh
 1SG feel.like feel-ACCOMP outside very cold
 ‘I feel like it is cold outside.’
- b. Bên ngoài **cảm giác** rất lạnh (subject displacement)
 outside feel.like very cold
 ‘It is felt that it is cold outside.’

Notably, the contrast is flipped in a direct evidence context. In (11) and (12), the RAVs become infelicitous, whereas the NRAVs are acceptable.

- (11) RAVs are incompatible with *direct* (i.e. attested) evidence in Cantonese
Context with direct auditory evidence: You live next to Ming and heard him playing piano at his home.
- a. Ngo { #**tengman**/ ^{OK}**teng-dou** } Aaming taan-gan kam
 1SG hear hear-ACCOMP Ming play-PROG piano
 Lit.: ‘I heard that Ming is playing piano.’ = ‘I heard Ming playing piano.’
- b. #Aaming **tengman** taan-gan kam (subject displacement)
 Ming hear play-PROG piano
 ‘It is heard (from someone) that Ming is playing piano.’
- (12) RAVs are incompatible with *direct* evidence in Vietnamese
Context with direct tactile evidence: On a winter day, John went out without wearing a coat. Shivering, he said:
- a. Tôi { #**cảm giác**/ ^{OK}**cảm-thây** } bên ngoài rất lạnh
 1SG feel.like feel-ACCOMP outside very cold
 Lit.: ‘I felt that it is cold outside.’ = ‘I felt cold outside.’
- b. #Bên ngoài **cảm giác** rất lạnh (subject displacement)
 outside feel.like very cold
 ‘It is felt that it is cold outside.’

Applying the same diagnostic to other RAVs, we observe that they either require inferential evidence or reportative evidence, or both. RAVs listed as “reportative” are only compatible with contexts like (9), and those listed as “inferential” with contexts like (10). None of them is felicitous in contexts like (11) and (12), however. We suggest that the evidential requirement on RAVs is encoded in their lexical semantics.

Raising attitude verbs (RAVs)			
<i>Gloss</i>	Cantonese	Vietnamese	Evidential component
'feel like'	gamgok	cảm giác	inferential
'hear'	tengman/tenggong	nghe nói	reportative
'guess'	gugai	đoán (là)	inferential
'suspect'	waaiji	ngghi (là)	inferential
'believe'	soengseon	tin (là)	inferential
'be.sure'	hangding	chắc chắn	inferential/reportative
'seem (lit. fear)'	paace/taipaa/paahai	e/sợ	inferential
'say-PERF'	waa-zo	/	reportative
'say-PROG'	gong-gan	/	reportative

Table 2: The evidential component of raising attitude verbs

It should be noted that the evidential component in RAVs is not unique to Cantonese and Vietnamese. A similar component is said to be present in epistemic modals. For example, von Fintel and Gillies (2010) suggest that epistemic modals in English (and other languages) like *must* are markers of indirect inference, drawing on evidence from the contrast between (13) and (14). (13) specifies a direct evidence context and (14) an indirect one (von Fintel and Gillies 2010, p.353), and epistemic modals are only compatible with the latter.⁵ We suggest that a similar evidential component resides in RAVs.

(13) *Context: Seeing the pouring rain*

- a. It's raining.
- b. ??It must be raining.

(14) *Context: Seeing wet rain gears and knowing rain is the only possible cause*

- a. It's raining.
- b. It must be raining.

We stress that the split between RAVs and NRAVs is correlated with the distinction between indirect vs. non-indirect evidentiality, but *not* indirect vs. direct, or non-direct vs. direct. While the above examples appear to show that some NRAVs require direct evidence (due to the presence of an accomplishment suffix), it is not the general property of NRAVs. For example, NRAVs like Cantonese *gokdak* 'think' and Vietnamese *cho* 'think' do not specify the source of evidence, and thus are compatible with both indirect and direct evidence contexts:

5. One difference between RAVs and epistemic modals is that epistemic modals impose a stricter requirement on the choice of indirect evidence: they require inferential evidence, but not reportative evidence (von Fintel and Gillies 2010). We do not attempt an explanation.

(15) NRAVs with underspecified evidence

- a. *Context with inferential evidence: On a winter day, John saw through a window that people are shivering outside. He said:*

Tôi **cho** rằng bên ngoài rất lạnh Vietnamese
 1SG think C outside very cold
 ‘I think that it is cold outside.’

- b. *Context with direct tactile evidence: On a winter day, John went out without wearing a coat. Shivering, he said:*

Ngo **gokdak** ceotmin hou dung Cantonese
 1SG think outside very cold
 ‘I think that it is cold outside.’

As such, a more accurate characterization of NRAVs is that they all lack the requirement of indirect evidence (i.e., non-indirect). They may require direct evidence (e.g. verbs with an accomplishment suffix), factivity (e.g. verbs like ‘know’, ‘remember’, ‘discover’ and ‘regret’) or underspecified evidence. The evidence component of NRAVs can be summarized as follows.

Non-raising attitude verbs (NRAVs)			
<i>Gloss</i>	Cantonese	Vietnamese	Evidential component
‘feel-ACCOMP’	gangok-dou	cảm-thấy(-được)	direct sensory
‘hear-ACCOMP’	teng-dou	nghe-được	direct sensory
‘guess-ACCOMP’	gu-dou	đoán-được	direct sensory
‘know’	zidou	biết	factive
‘remember’	geidak	nhớ	factive
‘regret’	haufui	hối hận	factive
‘discover’	faatjin	phát hiện	factive
‘think’	gokdak	cho	underspecified
‘think’	jingwai	nghĩ	underspecified

Table 3: The evidential component of non-raising attitude verbs

Based on these observations, we make the generalization in (16).

(16) The Subject-Evidentiality Correlation

A subject embedded under an attitude verb can surface in the matrix subject position only if the attitude verb encodes indirect evidence.

As a remark on the generalization, it is the *requirement* of indirect evidence on attitude verbs that correlates with the possibility of subject displacement, but not their *compatibility* with indirect evidence. Although NRAVs like *jingwai* ‘think’ are compatible with indirect evidence, subject displacement is disallowed in an *indirect* context.

- (17) *Context with inferential evidence: You see that Ming’s car is in the garage.* Cantonese
- a. Ngo **jingwai** Aaming mou ceothoei
 1SG think Ming not.PERF go.out
 ‘I think that Ming didn’t go out.’
- b. *Aaming **jingwai** mou ceothoei
 Ming think not.PERF go.out
 Int.: ‘It is thought that Ming didn’t go out.’

2.2.2 Interaction with verbal suffixes

To substantiate the generalization in (16), we show that the indirect evidential component associated with RAVs may interact with certain verbal suffixes, such as *-dou* in Cantonese and *-thấy/-được* in Vietnamese. The former indicates “accomplishment or successful completion of an action” and is used to form verbs of perception (Matthews and Yip 2011, p.251-252). Likewise, the latter marks experiential or perfective interpretation (cf. Duffield 2017). Relevant to us is that if an RAV combines with these suffixes, it no longer requires indirect evidence, but instead direct (sensory) evidence, as already shown in (9)/(10) and (11)/(12). The verbal suffixes appear to “overwrite” the evidential component lexically encoded in RAVs. Importantly, the suffixed RAV also loses its ability to take a displaced subject (i.e. it becomes a NRAV, see (7a) and (8a)). This conforms to the generalization in (16): when the verbs no longer encode indirect evidentiality, subject displacement is disallowed. The relevant examples that display this interaction are listed in Table 4.^{6,7}

Raising attitude verbs (RAVs)			Non-raising attitude verbs (NRAVs)		
Gloss	Cantonese	Vietnamese	Gloss	Cantonese	Vietnamese
‘feel like’	gamgok	cảm giác	‘feel-ACCOMP’	gamgok-dou	cảm-thấy(-được)
‘hear’	tengman/tenggong	nghe nói	‘hear-ACCOMP’	teng-dou	nghe-được
‘guess’	gugai	đoán (là)	‘guess-ACCOMP’	gu(gai)-dou	đoán-được

Table 4: Attitude verbs that interact with verbal suffixes

2.2.3 Interaction with negation

Negation may also affect the ability of attitude verbs to license subject displacement. For example, a RAV ceases to allow subject displacement if it is negated. In sentences in (18), *soengseon* ‘believe’ and *waaiji* ‘doubt’ in Cantonese do not allow subject displacement if they are negated by the prefix *m-* ‘not’ (cf. Yip 1988), as shown in (18). The same pattern is observed in Vietnamese, illustrated in (19).

6. Although the NRAVs *teng-dou* and *nghe-được* are not formed by directly suffixing RAVs *tengman* and *nghe nói*, they still share the morpheme ‘hear’ (*teng* in Cantonese and *nghe* in Vietnamese). The same goes for *cảm-thấy* ‘feel-ACCOMP’ and *cảm giác* ‘feel like’.

7. For independent reasons, not all RAVs may take these verbal suffixes, so we do not have (near-)minimal pairs for each RAV.

(18) RAVs vs. negated RAVs in Cantonese

- a. Go faan { ^{OK}**soengseon**/ ***m-soengseon** } camjat jiging zou-zo
 CL criminal believe not-believe yesterday already leave-PERF
 ‘It is believed/*not believed that the criminal has escaped yesterday.’
- b. Po faa { ^{OK}**waaiji**/ ***m-waaiji** } tingjat sin wui hoi
 CL flower suspect not-suspect tomorrow until will blossom
 ‘It is suspected/*not suspected that the flower will blossom as soon as tomorrow.’

(19) RAVs vs. negated RAVs in Vietnamese

- a. Cơn mưa này { ^{OK}**nghe nói**/ ***không nghe nói** } rằng sẽ dừng
 CL rain this hear not hear C will stop
 ‘It is heard/*not heard that the rain will stop.’
- b. Khẩu này { ^{OK}**đoán**/ ***không đoán** } là trung liên Hotchkiss M1922
 CL this guess not guess C light machine-gun Hotchkiss M1922
 ‘It is guessed/*not guessed that this one is the Hotchkiss M1922 light machine-gun.’

On the other hand, negation has an opposite effect on NRAVs: an NRAV may allow subject displacement when negated by the prefixed negation *m-* in Cantonese. Examples include *zidou* ‘know’ and *geidak* ‘remember’, as illustrated in (20).

(20) NRAVs vs. negated NRAVs in Cantonese

- a. Bun syu { ***zidou**/ ^{OK}**m-zidou** } geido cin
 CL book know/ not-know how.much money
 ‘How much the book was is *known/not known.’
- b. Bun syu { ***geidak**/ ^{OK}**m-geidak** } geido cin
 CL book remember/ not-remember how.much money
 ‘How much the book was is *remembered/not remembered.’

Vietnamese (*không*) *biết* ‘(not) know’ patterns with Cantonese (*m-*)*zidou* ‘(not-)know’, as shown in (21a). Unlike Cantonese, the negated form of *nhớ* ‘remember’ in Vietnamese is not formed by adding a negation, but instead it is a different lexical item *quên mất* ‘forget’ (i.e., the antonym of ‘remember’). Nevertheless, *quên mất* also allows subject displacement, as in (21b). This shows that the availability of subject displacement is not only affected by negation on verbs, but also by lexical semantics of verbs.

(21) NRAVs vs. negated NRAVs in Vietnamese

- a. Anh ta { ***biết**/ ^{OK}**không biết** } đi đâu rồi
 he know/ not know go where SFP
 ‘Where he went is *known/not known.’
- b. Đáp án { ***nhớ**/ ^{OK}**quên mất** } là gì rồi
 answer remember/ forget COP what SFP
 ‘What the answer was is *remembered/forgotten.’

Moreover, there is a further interaction between negation and verbal suffixes. Recall that some RAVs cease to allow a displaced subject after taking an accomplishment suffix. In Cantonese, for ex-

ample, the suffix may be negated by infixing *-m-* ‘not’ between the verbal stem and the suffix. Crucially, the attitude verbs so formed allow subject displacement again, as exemplified in (22). This shows that while an accomplishment suffix may “overwrite” the indirect evidential component of an RAV with a direct one and turn it into an NRAV, this effect can be “canceled” by negating the suffix.

(22) RAV-*dou* vs. RAV-*m-dou* Cantonese

- a. Coeng jyu { ***gamgok**-*dou*/ ^{OK}**gamgok**-*m-dou* } wui ting
 CL rain feel-ACCOMP/ feel-not-ACCOMP will stop
 ‘It *can/cannot be felt that the rain will stop.’
- b. Coeng jyu { ***gu**-*dou*/ ^{OK}**gu**-*m-dou* } gam faai ting
 CL rain guess-ACCOMP/ guess-not-ACCOMP so fast stop
 ‘It *can/cannot be guessed that the rain has stopped so quickly.’

Vietnamese exhibits similar patterns, except that the negation in Vietnamese precedes both the verb and the suffix, instead of being sandwiched between the verbal stem and the suffix. This is shown in (23).

(23) RAV-*được* vs. *không* RAV-*được* Vietnamese

- Con mưa đó/ấy { ??**đoán**-*được*/ ^{OK}không **đoán**-*được* } là sẽ không dừng
 CL rain that guess-ACCOMP/ not guess-ACCOMP C will not stop
 ‘It *can/cannot be guessed that that rain will not stop.’

Summarizing the observations, (some) RAVs become incompatible with a displaced subject when negated, whereas (some) NRAVs become compatible with it when negated. We suggest that negation may affect the evidential components encoded in attitude verbs, which subsequently affects the availability of subject displacement.

As a final remark, attitude verbs that come with an underspecified evidential component (such as *jingwai/nghi* ‘think’) have a different profile regarding negation. Their incompatibility with a displaced subject is retained when negated, as illustrated in (24).

- (24) Po faa { ***jingwai**/ ***m-jingwai** } wui hoi Cantonese
 CL flower think not-think will blossom.
 ‘It is *believed/not believed that the flower will blossom.’

We suggest that the underspecification of evidentiality of these verbs indicates a lack of a lexically encoded evidential component. By virtue of this, negation cannot interact with an evidential component and has no effects on subject displacement.

2.2.4 Interim summary

The patterns of attitude verbs regarding subject displacement are summarized below:

- (25) a. Attitude verbs with and without an indirect evidential component
Attitude verbs come in two types, namely, one that encodes an indirect evidential component (i.e., RAVs), and one that does not (i.e., NRAVs). Only the former allows subject displacement.
- b. RAVs interact with verbal suffixes
When RAVs combine with a suffix that marks successful perception, they become incompatible with subject displacement.
- c. RAVs and NRAVs interact with negation
(i) When RAVs combine with negation, they become incompatible with subject displacement, and;
(ii) When (some) NRAVs combine with negation, they become compatible with subject displacement.

Assuming that the indirect evidential component inherent to attitude verbs can interact with verbal suffixes and negation (presumably in some pre-syntactic (e.g. lexical) component), all these observations can be subsumed under the generalization in (3)/(16), repeated below.

- (26) The Subject-Evidentiality Correlation
A subject embedded under an attitude verb can surface in the matrix subject position only if the attitude verb encodes indirect evidence.

3 Hyperraising: evidence for cross-clausal subject movement

Concerning the syntactic properties of the subject displacement in RAV-constructions, we argue that (i) the subject in RAV-constructions is derived by movement and is not base generated in the matrix clause (Sect. 3.1); that (ii) the movement displays standard properties of A-movement (Sect. 3.2); and that (iii) the movement crosses a (finite) CP boundary (Sect. 3.3). These observations amount to the suggestion that RAV-constructions instantiate genuine cases of hyperraising.

3.1 Movement, not base generation

We argue that the displaced subject in RAV-constructions like (1) is not base-generated in the matrix clause, but is moved from within the embedded clause. We present five pieces of evidence in support of a movement analysis.

The first argument comes from island sensitivity. The displaced subject cannot be thematically associated with an embedded predicate in an island, such as the complex NP island in (27) (which is also a subject island) and the adjunct island in (28).

- (27) Complex NP islands Cantonese
*Aaming_i **tenggong** [waa [_{DP} t_i jiging zau-zo ge siusik] hai gaa ge]
Ming hear C already left MOD rumor be false SFP
Int.: 'It is heard that the rumor that Ming already left is false.'

- (28) Adjunct islands Vietnamese
 *Minh_i **ngghi** [là [_{Adjunct} vì t_i không đến], thầy giáo rất vui]
 Ming suspect C because not come teacher very happy
 Int.: 'It is suspected that because Ming did not come, the teacher is very happy.'

Second, sentential idioms retain their idiomatic reading in cases where their subject appears at a distance from the remnant in the embedded clause, as shown in (29). As widely assumed, an idiomatic chunk must form a constituent, either in the lexicon (Jackendoff 1997) or in a local domain in the course of derivation (Marantz 1997). The preservation of idiomatic meaning suggests that the subject originates as part of the idiom in the embedded clause.⁸

- (29) Sentential idioms
- a. [ni-zek laaihaamou]_i **gamgok** [waa t_i soeng sik tinngojuk] Cantonese
 this-CL toad feel.like C want eat swan.meat
 'It is felt that (s/he) is aiming at the moon.'
 (Lit.: 'It is felt that this toad wants to eat swan meat.')
- b. [Đôi đũa mốc ấy]_i **nghe nói** [là t_i đòi chòi mâm son] Vietnamese
 CL chopstick musty that hear C want reach golden.tray
 'It is heard that (s/he) is aiming at the moon.'
 (Lit.: 'It is heard that that pair of mouldy chopsticks wants to reach a golden tray.')

The third piece of evidence concerns resumptive/co-referent pronouns. In topic constructions, base-generated topics (marked by the topic marker *ne* in Cantonese) can be co-referential with a base-generated pronoun, i.e. a resumptive pronoun.

- (30) Resumptive pronouns compatible with base generated topics Cantonese
 Aaming_i ne, ngo **gamgok** [waa keoi_i m-wui lai]
 Ming TOP 1SG feel.like C 3SG not-will come
 'As for Ming_i, I feel like he_i will not come.'

This is however not the case for RAV-constructions. The displaced subject cannot be co-referential with a pronoun in the embedded subject position, as shown in (31). We suggest that this is because the displaced subject is base-generated in the embedded clause, but not in the matrix clause (*cf.* (30)), and thus the resumptive pronoun cannot occupy the same position.⁹

8. The idiomatic reading should not be conflated with a metaphoric reading. This is because replacing the subject with a synonym does not give rise to the idiomatic reading, like *gaapgwaai* 'toad' in Cantonese below:

- (i) [Ni-zek gaapgwaai]_i **gamgok** [waa t_i soeng sik tinngojuk] Cantonese
 this-CL toad feel.like C want eat swan.meat
 Only literal reading: 'It is felt that this toad wants to eat swan meat.'
 NO idiomatic reading: 'It is felt that (s/he) is aiming at the moon.'

9. The incompatibility with resumptive pronouns also distinguishes RAV-constructions from copy-raising constructions, where an embedded resumptive pronoun establishes an A-chain with a matrix subject, e.g. *Richard_i seems like he_i is in trouble* in English (Potsdam and Runner 2001).

(31) Resumptive pronouns disallowed in RAV-constructions

- a. Aaming_i **gamgok** [waa (*keoi_i) m-wui lai] Cantonese
 Ming feel.like C 3SG not-will come
 ‘It is felt that Ming will not come.’
- b. Minh_i **nghe nói** [là (*anh ta_i) sẽ không đến] Vietnamese
 Ming hear C he will not come
 ‘It is heard that Ming will not come.’

The fourth piece of evidence comes from reconstruction effects. Standard assumptions on binding suggest that reflexives must be bound by an antecedent in a local domain (i.e. Binding Principle A). Cantonese is no exception, as shown by the (compound) reflexive *keoizigei* ‘3SG.self’ below (same as Vietnamese reflexive *tự...nó* ‘self...3SG’ or *bản thân nó* ‘self.3SG’):¹⁰

(32) (Compound) reflexives must be bound locally in Cantonese Cantonese

- Aaming_i **tenggong** [waa Aafan_j hou zungji keoizigei_{*i/j}]
 Ming hear C Fan very like 3SG.self
 ‘Ming_i heard that Fan_j likes *himself_i/herself_j.’

The displaced subject in RAV-constructions is able to bind a reflexive, as in (33). This indicates that they can be reconstructed back in the embedded position and bind the reflexive in its local domain.

(33) Reconstruction for reflexive binding

- a. Aaming_i **tenggong** [waa t_i hou zungji keoizigei_i] Cantonese
 Ming hear C very like 3SG.self
 ‘It is heard that Ming_i likes himself_i.’
- b. [Con chó đó]_i **nghe** [là t_i tự_i cắn bị thương nó_i] Vietnamese
 dog that suspect C self bite injure 3SG
 ‘It is suspected that the dog_i injured itself_i.’

The final piece of evidence concerns *dou* quantifier floating in Cantonese. Here, we assume with Chiu (1993) and Hsieh (2005) that a universal quantifier in Chinese forms a constituent with the distributive operator *dou* (as *DouP*). In (34), *dou* may be “floated” in either the matrix or the embedded clause in RAV-constructions. The *dou* in the embedded clause indicates a residue of movement of the displaced subject from the embedded position.

(34) *Dou* quantifier floating in Cantonese Cantonese

- [Mui go hoksaang]_i (dou) **tenggong** [waa t_i (dou) jiging haaujyun si]
 every CL student DOU hear C DOU already test.finish exam
 ‘(I) heard that every student has finished the exam.’

Summing up, the above observations support the claim that displaced subjects in RAV-constructions undergo movement out of the embedded clause.¹¹ In the next subsection, we further argue that RAV-

10. Cross-linguistically, bare reflexives may participate in long-distance binding, whereas compound reflexives may not and must be locally bound, as widely attested in Icelandic, Italian, Japanese, Korean, Mandarin Chinese, etc. (Cole and Sung 1994). The same applies to Cantonese and Vietnamese.

11. The evidence presented here also rules out a *finite control* alternative, where a base-generated matrix subject is (obligatorily) coreferent with an embedded null *pro* (= [S_i RAV [_{CP} *pro*_i V O]). Additionally, RAVs pattern with ordinary raising

constructions involve A-movement.

3.2 A-movement, instead of A'-movement

It is important to determine whether the displaced subject has undergone A-movement (landing at Spec TP) or A'-movement (e.g., topic movement, landing at Spec TopicP/Spec CP). Provided that both Cantonese and Vietnamese are *pro*-drop languages, the latter option would suggest that the subject position is occupied by a null *pro* thematically selected by the matrix verb. This amounts to the suggestion that RAV-constructions are long-distance topic constructions. In the following, we provide three pieces of evidence *against* this “topic + *pro*” analysis, and show that the displaced subject has undergone A-movement (raising) but not A'-movement.

The first argument concerns the *landing* site of the movement. In Cantonese and Vietnamese, some quantifier phrases such as [*many* NP] and [*how many* NP] cannot serve as a topic, but can serve as a subject, as indicated by their incompatibility with topic markers in (35).

- (35) Quantifier phrases that cannot be a topic Cantonese
- a. Houdo jan wui lai (Subject)
 many person will come
 ‘Many people will come.’
- b. *Houdo jan ne, (keoi gokdak) wui lai (Topic)
 many person TOP 3SG think will come
 Int.: ‘As for many people, (s/he thinks they) will come.’

Crucially, these quantifier phrases can appear as the displaced subjects in RAV-constructions in (36). This suggests that the position before RAVs is a subject/A-position, instead of a topic/A'-position.¹²

- (36) Many NP as displaced subjects in RAV-constructions
- a. [Houdo jan]_i (*ne,) **gamgok** [waa t_i wui lai] Cantonese
 many person TOP feel.like C will come
 ‘It is felt that many people will come.’
- b. [Rất nhiều người]_i **nghe nói** [là t_i sẽ không đến] Vietnamese
 many person hear C will not come
 ‘It is heard that many people will not come.’

predicates in preserving truth conditions under passivization as in (i), unlike control predicates.

- (i) Synonymy under passivization Cantonese
- a. Wong jisang **gamgok** [waa gimcaa-gwo Aaming]
 Wong doctor feel.like C examine-EXP Ming
 ‘It is felt that Dr. Wong has examined Ming.’
- b. Aaming **gamgok** [waa bei Wong jisang gimcaa-gwo]
 Ming feel.like C psv Wong doctor examine-EXP
 ‘It is felt that Ming has been examined by Dr. Wong.’

12. This test is adopted from Ferreira (2009) in his discussion on hyperraising in Brazilian Portuguese.

Another argument concerns the *launching* site of the movement. We observe that there is a subject-object asymmetry in RAV-constructions. The movement under discussion privileges subjects over objects, as illustrated in Vietnamese in (37), where the subject, but not the object, can move to the matrix clause. This is also observed in Cantonese ditransitive constructions in (38), where the movement privileges the subject over the direct object and the indirect object.

(37) Movement that privileges subjects in Vietnamese

- a. [Cơn bão này]_i e [là t_i sẽ làm đổ cái cây này] (Subject)
 CL hurricane this fear C will make.down CL tree this
 'It is feared that this hurricane will perhaps blow down this tree.'
- b. ??[Cái cây này]_i e [là cơn bão này sẽ làm đổ t_i] (Object)
 CL tree this fear C CL hurricane this will make.down

(38) Movement that privileges subjects in Cantonese

- a. Aaming_i **gamgok** [waa t_i bei-zo houndo syu Aafan] (Subject)
 Ming feel.like C give-PERF many book Fan
 'It is felt that Ming gave many books to Fan.'
- b. *[Houndo syu]_i **gamgok** [waa Aaming bei-zo t_i Aafan] (Direct object)
 many book feel.like C Ming give-PERF Fan
- c. *Aafan_i **gamgok** [waa Aaming bei-zo houndo syu t_i] (Indirect object)
 Fan feel.like C Ming give-PERF many book

The subject-object asymmetry follows from the locality condition of A-movement (i.e., minimality), as the subject is a closer target than the object. Movement of the object over the subject is disallowed. Importantly, the subject-object asymmetry distinguishes RAV-constructions from topic constructions, where no similar asymmetry is observed.

The third argument concerns the interpretive effects of the subject movement: it creates new binding possibilities. As exemplified in (39), the universal quantified subject after movement can bind a pronoun that it cannot previously bind at the base position, showing a typical property of A-movement (Postal 1971; Wasow 1972). Notably, the quantifier has moved across a co-indexing pronominal variable but no weak crossover (WCO) effects are induced, in contrast with A'-movement (Postal 1971; see also Fong 2019 for a similar argument in Mongolian hyperraising).

(39) Pronominal binding fed by movement

Vietnamese

a. *Impossible binding on pronouns*

*[Tuỳtheo xuất xứ của **nó_i**] nghe nói [là **mỗi viên kim cương_i**; sẽ có độ sáng
 according.to origin of it hear C every CL diamond will have luster
 khác nhau]
 different

Int.: 'According to its origin, it is heard that every piece of diamond will have different lusters.'

b. *Possible binding on pronouns*

Mỗi viên kim cương_i; [tuỳtheo xuất xứ của **nó_i**] nghe nói [là **t_i** sẽ có
 every CL diamond according.to origin of it hear C will have
 độ sáng khác nhau]
 luster different

'According to its origin, it is heard that every piece of diamond will have different lusters.'
 (Lit.: 'Every piece of diamond, according to its origin, (I) heard, will have different lusters.')

The same point can be illustrated with reflexive binding in (40), where the displaced subject can only bind a reflexive in the matrix clause after movement from the embedded clause.

(40) Reflexive binding fed by movement

Cantonese

a. *Impossible binding on reflexives*

*[Gangeoi **keoizigei_i** baan pangjau ge gongfaat] gamgok [waa **Aaming_i** hai
 according.to 3SG.self CL.PL friend MOD saying feel.like C Ming COP
 jat go seoijan]
 one CL bad.guy

Int.: 'According to what his (lit. himself's) friends said, it is felt that Ming is a bad guy.'

b. *Possible binding on reflexives*

Aaming_i; [gangeoi **keoizigei_i** baan pangjau ge gongfaat] gamgok [waa **t_i**
 Ming according.to 3SG.self CL.PL friend MOD saying feel.like C
 hai jat go seoijan]
 COP one CL bad.guy

'According to what his friends said, it is felt that Ming is a bad guy.'

(Lit.: 'Ming, according to what himself's friends said, (I) feel like, is a bad guy.')

That subject movement creates new binding possibilities on pronouns in (39) and on anaphors in (40) indicates that the displaced subject in RAV-constructions has undergone A-movement into the matrix clause, but not A'-movement (e.g., topicalization).

3.3 Movement out of a (finite) CP

Last but not least, we argue that the size of complement clauses in RAV-constructions is at least (finite) CP. The proposed (A-)movement thus crosses a CP boundary, instantiating a genuine case of hyperraising.

First, the embedded clauses in RAV-constructions may have distinct temporal specification from

the matrix clauses, as in (41). This indicates that embedded clauses are tensed and finite.

(41) Distinct temporal specifications in RAV-constructions

- a. [Baan gei]_i camjat **gugai** [waa t_i gamjat wui ziu fei] Cantonese
 CL flight yesterday guess C today will as.scheduled depart
 ‘Yesterday, the flight is guessed (i.e. estimated) to depart as scheduled today.’
- b. [Gã phạm nhân đó]_i hôm nay **nghe nói** [là t_i hôm qua đã bỏ trốn] Vietnamese
 CL prisoner that today hear C yesterday already escape
 ‘Today, it is heard that the fugitive has escaped the jail yesterday.’

While finiteness may not have strict one-to-one correspondence to clause size, a more compelling piece of evidence comes from the presence of complementizers. As already shown in many of the above examples, the embedded clauses may have an optional, overt complementizer *waa* in Cantonese and *rằng/là* in Vietnamese. They are arguably C heads (for Cantonese, see Yeung 2006; Huang 2021; for Vietnamese, see Chappell 2008). It is therefore natural to consider the size of embedded clauses a full finite CP.

Moreover, the embedded clause in RAV-constructions can host a topic or a focus, such as a base-generated topic in (42a) or an ex-situ focus in (42b). Under the assumption that elements in the left periphery indicate the presence of a CP (or a phase edge in phase-theoretic terms), (42) provides further support to the presence of a CP boundary.

(42) Embedded topic/focus in RAV-constructions

- a. Aaming_i **gangok** [_{CP} gam-do-ceot hei t_i zinghai tai-zo ni-ceot hei] Cantonese
 Ming feel.like so-many-CL film only watched this-CL film
 ‘It is felt that, among so many films, Ming only watched this one.’
- b. Nó_i **nghe nói** [_{CP} ngay cả sách_j t_i cũng không đọc t_j] Vietnamese
 3SG hear even at.all book also not read
 ‘It is heard that s/he does not even read books.’

An additional piece of evidence comes from selection on clause types. Some attitude verbs like ‘(not-)know’ and ‘(not-)remember’ may take declarative clauses and interrogative clauses, as illustrated by the different complementizers *rằng/là* ([-Q]) and *liệu* ([+Q]) in (43a). However, RAV-constructions can only be formed with an embedded interrogative clause (but not a declarative clause), as shown in (43b). This contrast demonstrates that RAV-constructions are sensitive to clause types. Assuming that the distinction of clause types indicates the presence of a CP projection, the complement clauses of RAVs are CPs.

(43) Certain RAVs are sensitive to clause types

Vietnamese

- a. Minh không biết [^{OK}rằng/là Lan đã đi Paris/ ^{OK}**liệu** Lan đã đi Paris chưa]
 Minh not know C_[-Q] Lan ANT go Paris C_[+Q] Lan ANT go Paris not
 ‘Minh doesn’t know [that Lan has gone to Paris/whether Lan has gone to Paris or not].’
- b. Lan_i không biết [^{*}rằng/là t_i đã đi Paris/ ^{OK}**liệu** t_i đã đi Paris chưa]
 Lan not know C_[-Q] ANT go Paris C_[+Q] ANT go Paris not
 ‘It is not known [^{*}that Lan has gone to Paris/whether Lan has gone to Paris or not].’

To sum up this section, we have shown that displaced subjects in RAV-constructions are derived by A-movement across a finite CP boundary, instantiating a case of *hyperraising*.

4 The proposal

Taking stock, we have obtained two important observations in Cantonese and Vietnamese. The first one is the Subject-Evidentiality Correlation, discussed in Sect. 2.2, repeated in (44) from (16):

(44) The Subject-Evidentiality Correlation

A subject embedded under an attitude verb can surface in the matrix subject position only if the attitude verb encodes indirect evidence.

The second observation discussed in Sect. 3 is that RAV-constructions instantiate cases of hyperraising, where the embedded subject A-moves to the matrix subject position from within the embedded clause, crossing a CP boundary. Combining two observations, hyperraising is restricted to a certain type of attitude verbs that require indirect evidentiality. In Sect. 4.1, we detail our proposal to capture how hyperraising is selectively allowed for attitude verbs that encode an indirect evidential component. An illustration of the proposal is given in Sect. 4.2. In Sect. 4.3, we argue against two alternative analyses to a phase deactivation account.

4.1 A phase deactivation account

Our proposal is couched under the phase-theoretic minimalist framework, where a CP constitutes a *phase* (Chomsky 2000, *et seq.*). There are two ingredients in our proposal. First, we propose a pair of syntactic features that are responsible for marking *indirect* evidence, namely, the interpretable $[iEV_{\text{indirect}}]$ feature, and its uninterpretable counterpart $[uEV_{\text{indirect}}]$.¹³ The latter must be checked before Transfer to interfaces for LF convergence. In Cantonese and Vietnamese, the RAVs bear $[uEV_{\text{indirect}}]$, whereas their CP complements bear $[iEV_{\text{indirect}}]$, indicating that the denoted proposition is based on indirect evidence. We stress that only RAVs, but not NRAVs, carry the uninterpretable feature.

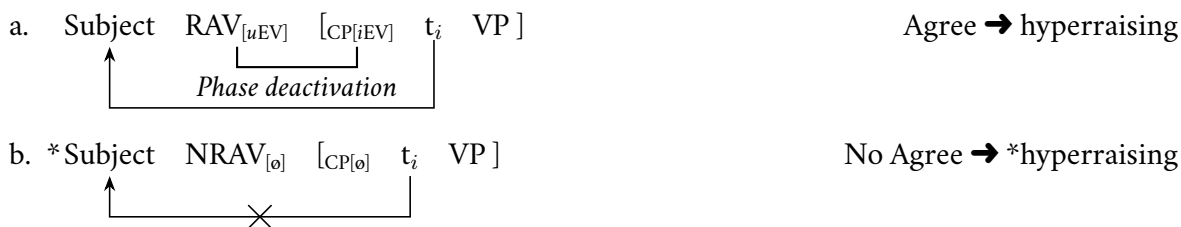
Types of AV	Feature on AV	Required feature on the clausal complement
RAVs	$[uEV_{\text{indirect}}]$	$[iEV_{\text{indirect}}]$
NRAVs	\emptyset	\emptyset

Table 5: The proposed feature specification on attitude verbs in Cantonese and Vietnamese

Secondly, and crucially, we suggest that the phasehood of a CP can be *deactivated* by a prior Agree relation between the attitude verb and the CP. In effect, when a RAV selects and Agrees with its CP complement, it at the same time deactivates the phasehood of the CP. Consequently, the RAV can further probe into the embedded CP, and Agree (for a second time) with the embedded subject. The embedded subject is then able to move to the matrix clause in one fell swoop. Schematically, the proposal is represented in (45a). Note that the CP would be otherwise opaque in the absence of such Agree relation with the attitude verbs (i.e., if it is selected by NRAVs), as shown in (45b).

13. A similar discourse feature for evidentiality is proposed in Alboiu and Hill (2016); see also Sect. 5.1.2 for discussions.

(45) Schematic representation of the proposal¹⁴



The suggestion to connect Agree to the suspension of locality requirements has its precedents in Richards (1998) and Rackowski and Richards (2005), among others. Nunes (2008) and Halpert (2016, 2019) specifically apply the idea to hyperraising constructions. All these proposals share the idea that a CP is “opened up” by a prior Agree relation. Our proposal slightly differs from them in terms of what triggers the first Agree relation. In our case of Cantonese and Vietnamese, it is an evidential feature, instead of a categorial feature or a *phi*-feature.¹⁵

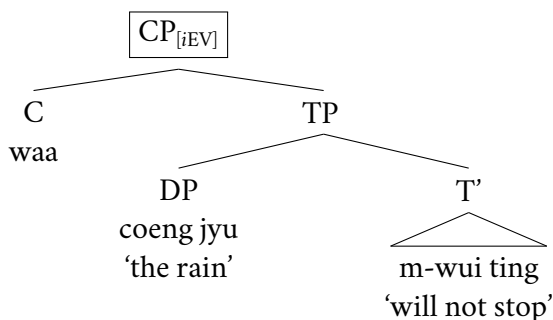
4.2 An illustration

We illustrate the proposal step by step with the Cantonese example in (1a), partially repeated in (46).

- (46) Coeng jyu **gamgok** waa m-wui ting. Cantonese
 CL rain feel.like C not-will stop
 ‘It is felt that the rain will not stop.’

First, the complement CP ‘the rain will not stop’ is built. It comes with the [iEV] feature. Under Phase Theory (Chomsky 2000), it constitutes a *phase*, and is opaque to subsequent syntactic operations (indicated by the solid line frame).

(47) Step 1: Building the complement CP with the [EV] feature



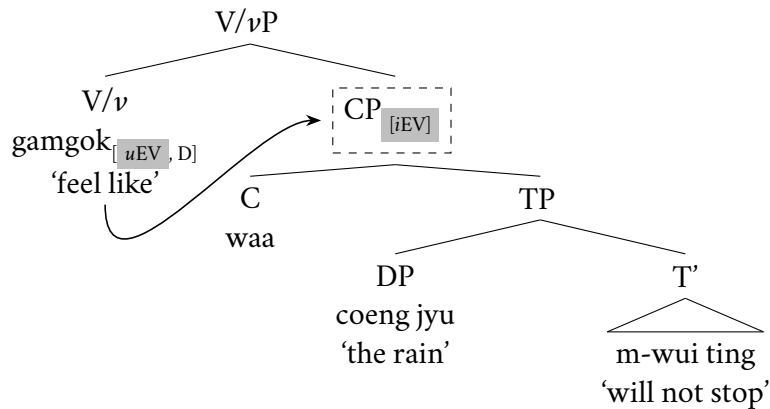
Then, the matrix verb *gamgok* ‘feel like’ selects this CP as its complement. As proposed, *gamgok* encodes [uEV] and agrees with the CP to check the [uEV] feature. Crucially, this Agree relation “opens

14. We refer to the [EV_{indirect}] feature as [EV] feature for short.

15. There is a non-trivial conceptual question as to why an Agree relation may affect locality requirement. As with many other proposals, we suggest that this follows from the Principle of Minimal Compliance (PMC), as proposed in Richards (1998). The idea is that locality requirement on the attitude verbs is satisfied once by the first Agree dependency with the clausal complement. The attitude verbs are then immune to the same locality requirement in their second Agree relation. With regard to the conceptual motivation behind this idea, we agree with Richards (1998) in that PMC represents “a general property of human language that constraints need not be satisfied perfectly in all parts of a given structure for that structure to be well formed” (p.597).

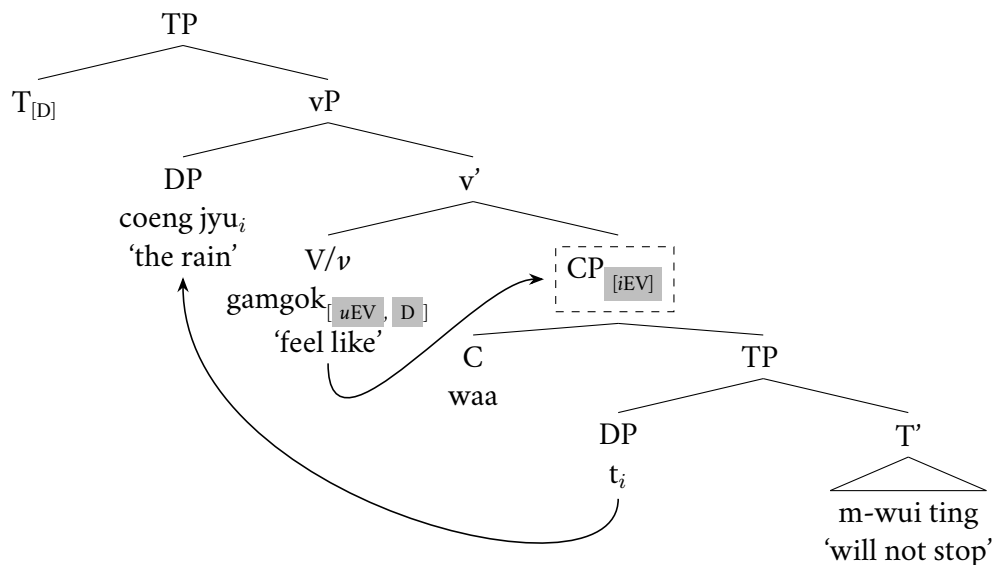
up”/“unlocks” the CP, i.e., the CP phasehood is deactivated (indicated by the dash frame).¹⁶

(48) Step 2: The matrix verb agrees with its complement CP on the [EV] feature



Consequently, *gamgok* can further probe down into the CP and attract the embedded DP subject to satisfy its [D] feature.¹⁷ The subject is then allowed to move across the CP boundary (to Spec *v*P). The derivation continues with a further movement of the subject to Spec TP for another [D] feature on T (movement not shown in the diagram).

(49) Step 3: The matrix verb attracts movement of the embedded subject out of the unphased CP



Notably, if the embedding verb is a NRAV, the subject movement in (49) is disallowed due to the absence of a prior Agree relation. In such case, if the subject moves in one fell swoop, it violates the locality requirement imposed by the CP phase (i.e. Phase Impenetrability Condition, Chomsky 2000, 2001). Alternatively, if it takes Spec CP, an A'-position, as an intermediate landing site, it cannot subsequently land at a matrix A-position. Otherwise, this would constitute a case of Improper Movement (Chomsky 1973; May 1979), resulting in unacceptability.

16. The current proposal does not predict that the CP is transparent for all syntactic operations. It is just “unlocked” for the Probe of the first Agree relation, i.e., RAVs.

17. The [D] feature may be an EPP or a case feature that is responsible for subject movement. We do not distinguish these features here.

4.3 Alternative analyses

In this subsection, we compare and contrast the proposed phase deactivation account with other existing analyses on hyperraising constructions. We show that existing analyses do not adequately capture the empirical properties of the hyperraising constructions in Cantonese and Vietnamese.

Before we start, it is instructive to give a brief overview on existing analyses on hyperraising. The major task in the discussion of hyperraising concerns how to capture the contrast between hyperraising-disallowing languages like English (Chomsky 1973; May 1979) and hyperraising-allowing languages like Cantonese and Vietnamese (and many other languages).¹⁸ A standard approach to rule out hyperraising structures in English, for example, involves the conspiracy of two components in (50).

- (50) a. A locality requirement
 Elements exiting a CP must proceed via the Spec CP (an A'-position) (i.e., a consequence of the Phase Impenetrability Condition given that CPs are phases, Chomsky 2000, 2001).
- b. A constraint on chain formation
 An A-A'-A chain is disallowed (i.e., the Ban on Improper Movement, Chomsky 1973; May 1979).

Existing proposals on hyperraising can be divided into two main families:

- (51) a. Attempts to reformulate the locality requirement of CPs
 The locality requirement selectively applies to CPs – not all CPs are constrained in the same way, as in Alexiadou and Anagnostopoulou (1999), Uchibori (2000), Zeller (2006), Nunes (2008), Ferreira (2009), and Halpert (2016, 2019);
- b. Re-examination of the chain formed in hyperraising
 The movement chain involved is indeed a legitimate A-A-A chain, as in Bruening and Rackowski (2001), Tanaka (2002), Takeuchi (2010), Obata and Epstein (2011), Fong (2019), and Wurmbrand (2019).

While our proposed phase deactivation account belongs to the first family, it is best characterized as a *dynamic* approach, where CPs might lose their phasehood during syntactic derivations (Nunes 2008; Halpert 2016, 2019). Such an account contrasts with other *static* approaches, where some CPs are inherently non-phasal (i.e. defective) (Alexiadou and Anagnostopoulou 1999; Uchibori 2000; Zeller 2006; Ferreira 2009). Sect. 4.3.1 further discusses the differences between these two approaches. Furthermore, our account also differs from the second family in terms of movement steps: we suggest that hyperraising in Cantonese and Vietnamese involves one movement step instead of multiple steps. We discuss this issue in Sect. 4.3.2.¹⁹

4.3.1 “Defective” CPs that do not impose locality requirements

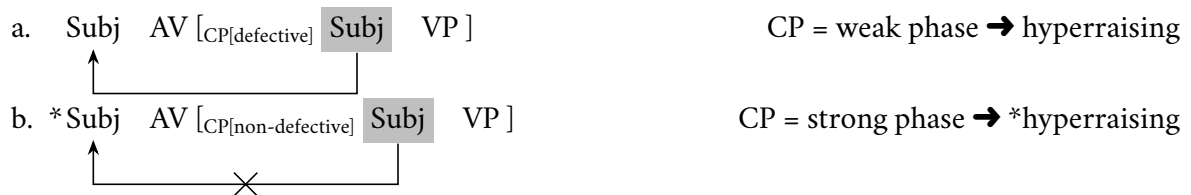
The gist of a defective CP approach to hyperraising constructions is that it differentiates defective CPs from non-defective CPs by making reference to the featural definition of the embedded T heads. A

18. See the languages cited in footnote 1.

19. While we stress the limitations of existing alternative analyses when applied to Cantonese and Vietnamese, we do not argue that *all* cases of hyperraising should fall under the current phase deactivation account; instead, there may be more than one way to derive hyperraising constructions. Given the diversity of empirical properties displayed by hyperraising constructions in different languages, it is no surprise that hyperraising is a non-uniform phenomenon.

T head is said to be “defective” if it lacks certain *phi*-features (Chomsky 2000, 2001, 2005). This idea has been adopted by Ferreira (2009) to account for hyperraising constructions in Brazilian Portuguese. He proposes that finite Ts may bear an incomplete set of *phi*-features and thus exceptionally allow subject movement out of a finite CP. Other proposals along this line extend the notion of defectiveness to include tense features as well (Alexiadou and Anagnostopoulou 1999; Uchibori 2000; Zeller 2006). These proposals suggest that a CP can be defective if it lacks a tense feature, which differentiates subjunctive complements and non-finite CPs from indicative complements and (ordinary) finite CPs. Crucially, as suggested in Uchibori (2000), if a T head is defective, the C head that embeds it constitutes a *weak* phase, instead of a *strong* one. In effect, the locality requirement of defective CPs would then be different from that of non-defective CPs, schematically represented in (52).

(52) Schematic representation of a defective CP approach to HR



Since the embedded clauses in Cantonese and Vietnamese hyperraising constructions are finite and tensed (see Sect. 3.3), applying this approach to both languages requires expanding the notion of “defectiveness” to evidential features, in addition to *phi*-features and tense features.²⁰ A conceivable formulation is to suggest that a CP with an indirect evidential feature constitutes a weak phase, whereas a CP without such a feature is a strong phase.

There are however two challenges to this approach. The first one is conceptual. It is unclear why evidential features form a natural class with *phi*-features and tense features. While the latter two have a clearer association with T heads, the former does not. More importantly, a defective CP approach faces an empirical challenge. Under this approach, the phasehood of a CP is determined by the properties of the CP. It does not make reference to the embedding verbs. We predict that as long as the CP comes with an indirect evidential feature, hyperraising should be allowed regardless of the embedding attitude verbs. However, this prediction is not borne out. Recall that attitude verbs like *jingwai/nghi* ‘think’ are underspecified for direct or indirect evidence, and thus they are compatible with an indirect-evidence-based complement. Accordingly, it is expected that these verbs may allow hyperraising in indirect contexts. Yet, this is not the case, as illustrated in (53) (see also (17b)).

- (53) *Contexts with reportative evidence: Your friend told you that that Ming is playing piano in his home.*
 *Aaming **jingwai** t_i taan-gan kam Cantonese
 Ming think play-PROG piano
 ‘It is thought that Ming is playing piano.’

The unacceptability of (53) indicates that an indirect-evidence-based complement is only necessary but not sufficient in licensing hyperraising. In addition to the properties of CP, the choice of attitude verbs must also be taken into consideration. Note that a variant of a defective CP approach might suggest that the difference in locality requirements between clauses is reflected on their syntactic size. For example, a clause with an indirect evidential feature might be syntactically smaller than one without the indirect evidential feature. As such, it might be that the former does not constitute a phase

20. Note also that Cantonese and Vietnamese do not have morphological inflection of *phi*-features.

This approach, however, faces a number of challenges. First, conceptually, the link between evidential features and A-features appears to be stipulative. It is unclear why A-features are dependent on a specific type of A'-features syntactically, or how evidentiality is related to A-positions or the grammatical functions of arguments. The sensitivity of hyperraising to evidentiality in both Cantonese and Vietnamese (and other languages to be discussed in Sect. 5) suggests that the link cannot be reduced to some language-specific property either.

Second, empirically, there is no evidence that hyperraising of subjects in Cantonese and Vietnamese proceeds via Spec CP. For example, the displaced subject cannot be pronounced in the intermediate Spec CP, as shown in (55). Note that this is possible in Mongolian hyperraising constructions discussed in Fong (2019), and is taken as evidence for a successive A-movement approach.

(55) The displaced subject cannot be pronounced at the embedded Spec CP

- a. *Gamgok/Tengman [CP **coeng jyu** [waa m-wui ting]] Cantonese
 feel.like/hear CL rain C not-will stop
 Int.: 'It is felt/heard that the rain will not stop.'
- b. *Cảm giác/Nghe nói [CP **cơn mưa này** [rằng sẽ không dừng]] Vietnamese
 feel.like/hear CL rain this C will not stop
 Int.: 'It is felt/heard that the rain will not stop.'

The same point can be illustrated with quantifier floating in Cantonese (see also discussions in Sect. 3.1). In (56), the quantifier *dou* can only float at the embedded subject position (i.e. Spec TP), but not at the embedded Spec CP.

(56) No floating of *dou* at the embedded Spec CP in Cantonese

- a. *Dou* quantifier floating at Spec TP:
 Mui go hoksaang **tengman** [CP waa [TP dou jiging haaujyun si]]
 every CL student hear C DOU already finish exam
 'It is heard that every student has already finished the examination.'
- b. *No dou* quantifier floating at Spec CP:
 *Mui go hoksaang **tengman** [CP dou [waa [TP jiging haaujyun si]]]
 every CL student hear DOU C already finish exam
 Int.: 'It is heard that every student has already finished the examination.'

Additionally, evidence from reflexive binding shows that the subject movement in hyperraising constructions does not land at the Spec CP in the derivation. To set up the relevant configuration, we include a perspective adverbial, which is higher than the subject at Spec TP, as in (57).

(57) Perspective adverbials are higher than the subject at Spec TP Cantonese

- [Adverbial Deoi **Aaming**_i zek gau lai gong], [TP keoi_i hai jat go hou ok ge
 for Ming CL dog to say 3SG COP one CL very savage MOD
 zyujan]
 owner
 'For Ming_i's dog, he_i is such a savage owner.'

The example in (58) shows that elements in Spec CP (e.g., a topic) can bind the reflexive *keoizigei* 'himself/herself' in the perspective adverbial.

- (58) Reflexives in perspective adverbials can be bound by a topic in Spec CP Cantonese
 [CP **Aaming**_i ne, [Adverbial deoi **keoizigei**_i zek gau lai gong], [TP t_i hai jat go hou
 Ming TOP for 3SG.self CL dog to say COP one CL very
 ok ge zyujan]]
 savage MOD owner
 ‘Ming_i, for his_i (lit.: himself_i’s) dog, is such a savage owner.’

Crucially, in the hyperraising case in (59), where a sentence with a perspective adverbial is embedded by the RAV *tengman* ‘hear’, the binding relation between the matrix subject and the reflexive in the perspective adverbial is no longer possible. This points to the absence of a potential reconstruction position in the embedded Spec CP.²²

- (59) Matrix subjects fail to bind reflexives in perspective adverbials embedded by RAVs Cantonese
 ??**Aaming**_i tengman [CP waa [Adverbial deoi **keoizigei**_i zek gau lai gong], [TP t_i hai jat
 Ming hear C for 3SG.self CL dog to say COP one
 go hou ok ge zyujan]]
 CL very savage MOD owner
 Int.: ‘It is heard that Ming_i, for his_i (lit.: himself_i’s) dog, is such a savage owner.’

The unacceptability of (59), together with (55) and (56), shows that there is no intermediate position at Spec CP for hyperraising. The position is not available for pronunciation in the PF nor interpretation in the LF. This is unexpected if hyperraising of subjects is derived via a two-step movement passing through the Spec CP. We therefore conclude that hyperraising constructions in Cantonese and Vietnamese involve subject movement in one fell swoop, which is made possible under the proposed phase deactivation analysis.

5 Extension: the hyperraising-evidentiality connection

We extend our proposal to other languages in this section. In Sect. 5.1, we suggest that the connection between hyperraising constructions and evidentiality is not limited to Cantonese and Vietnamese, but also in other languages. This not only lends support to the proposed evidential feature that licenses hyperraising, but also highlights evidentiality as one important semantic dimension in hyperraising. In Sect. 5.2, we briefly discuss how languages that disallow hyperraising may be explained under the current proposal.

5.1 Cross-linguistic split in predicates allowing hyperraising

We show that many attested cases of hyperraising reveal an evidential split in a way similar to Cantonese and Vietnamese. We discuss hyperraising in Brazilian Portuguese in Sect. 5.1.1, Romanian in Sect. 5.1.2, and Spanish in Sect. 5.1.3.

22. Reconstruction is possible if the reconstructed site is the Spec TP, as discussed in Sect. 3.1.

5.1.1 Hyperraising-to-Subject in Brazilian Portuguese

Hyperraising constructions in Brazilian Portuguese (BP) are discussed in Nunes (2008), Ferreira (2009), and Kobayashi (2020). It is suggested that “[h]yperraising in [BP] is limited to a subset of unaccusative clause embedding predicates.” (Kobayashi 2020, p.12) An example is given below with the verb *parecer* ‘seem’. It is argued that the surface subject ‘the books’ originates from the embedded clause and reaches the matrix position via A-movement.

- (60) Hyperraising to subject in BP, with the verb ‘to seem’ (Kobayashi 2020, p.11, adapted)
- [Os livros]_i **parec**-em [que t_i cheg-aram]
 the books seem-PL C arrive-PL
 ‘It seems that the books arrived.’

A less discussed but crucial observation is that not all embedding predicates allow hyperraising. Kobayashi (2020) notes that verbs like *ser comprovado* ‘be proven’ do not allow hyperraising. Another verb we notice is *acabar* ‘turns out (to be the case)’, which presupposes the truth of its complement (with surprise) and similarly disallows hyperraising.

- (61) Illicit hyperraising to subject in BP, with factive verbs
- a. *Cê_s_i **foram comprovad**-os [que t_i me roubaram] (Kobayashi 2020, p.12, adapted)
 2_{PL} were proven-MASC.PL C me stole
 Int.: ‘It was proven that y’all stole from me.’
- b. ??[Os livros]_i **acabam** [que t_i cheg-aram] (p.c. with *****)
 the books turn.out-PL C arrive-PL
 Int.: ‘It turns out that the books arrived.’

The contrast between (60) and (61) highlights the role of predicate types in licensing hyperraising constructions in BP. Importantly, the semantics of predicates can be a predictor for hyperraising verbs. While ‘seem’ is a verb that encodes indirect evidence, verbs like ‘prove’ and ‘turns out’ are factive, exhibiting a similar evidential split between RAVs and NRAVs to Cantonese and Vietnamese. The contrast in BP falls out from the current proposal if we assume that verbs like ‘seem’ in BP bear an [uEV_{indirect}] feature, whereas other verbs like ‘prove’ lack this feature.

5.1.2 Hyperraising-to-Object in Romanian

Romanian shows a similar connection between evidentiality and hyperraising (to object) (Alboiu and Hill 2013a, 2013b, 2016). Consider (62) and (63). The (a) sentences represent the baseline, where the embedded subject *Mihai* resides in the embedded clause. The (b) sentences show that the subject is moved out of the embedded clause and lands at the matrix object position (marked with differential object marking, i.e., *pe Mihai*). The embedded verb still agrees with *Mihai* after movement. Notably, Alboiu and Hill (2016) observe that the movement of subject is possible “only in sentences with hearsay/inferential readings.” (p.261). They also provide a list of verbs that allow hyperraising, including verbs of perception (=62) and verbs of knowledge (=63). These verbs come with indirect evidentiality in the hyperraising cases.

(62) Hyperraising to object in Romanian, with verbs of perception
(Other verbs include: *văzut* ‘seen’, *mirosise* ‘smelled’, *simțit* ‘felt’)

- a. Am **auzit** [că *Mihai* repară casa]
have.1SG heard C Mihai fixes house.the
‘I heard that Mihai is fixing the house.’
- b. L-am **auzit** *pe Mihai_i* [că *t_i* repară casa]
him-have.1SG heard DOM Mihai C fixes house.the
‘I heard Mihai claiming that he plays the piano.’

(Alboiu and Hill 2016, p.256, adapted)

(63) Hyperraising to object in Romanian, with verbs of knowledge
(Other verbs include: *afla* ‘find out’, *bănui* ‘suspect’, and *ști* ‘know’²³)

- a. Am **ghicit** [că *Mihai* își aranjează plecarea]
have.1SG guessed C Mihai REFL.DAT arranges leave.the
‘I suspected/figured out that Mihai is arranging his leave.’
- b. L-am **ghicit** *pe Mihai_i* [că-și *t_i* aranjează plecarea]
him-have.1SG guessed DOM Mihai C-REFL.DAT arranges leave.the
‘I figured out that Mihai is arranging his leave.’

(Alboiu and Hill 2016, p.257, adapted)

Importantly, Alboiu and Hill (2016) report that a similar alternation is not observed with other verbs, such as *spus* ‘say’, *crede* ‘believe/think’, and *dovedește* ‘prove’, and these verbs do not seem to encode indirect evidence. We also observe that verbs with factivity like *aminti* ‘remember’ and *regreta* ‘regret’ and verbs that do not specify evidence types like *gândi* ‘think’ disallow hyperraising.²⁴ Two examples are given in (64).

(64) Illicit hyperraising to object in Romanian with other verbs

- a. *Ion (o) **dovedește** *pe Maria_i* [că ieri *t_i* a furat motocicleta]
Ion her proves DOM Maria C yesterday has stolen motorcycle.the
Int.: ‘Ion proves that Maria has stolen the motorcycle yesterday.’

(Alboiu and Hill 2013a, p.10, adapted)

- b. *L-am **amintit** *pe Mihai_i* [că *t_i* repară casa]
him-have.1 remembered DOM Mihai C fixes house.the
Int.: ‘I remembered that Mihai fixes the house.’ (p.c. with *****)

The restrictions on both the choice of predicates and the potential interpretation with regard to (indirect) evidentiality in Romanian pattern with our case of Cantonese and Vietnamese. Our proposed deactivation account readily extends to capture the split among different attitude verbs and their connection with evidentiality in Romanian.

23. Alboiu and Hill (2016) points out that *ști* ‘know’ is compatible with inferential semantics, hence not a factive verb.

24. We thank our five Romanian consultants for the judgment.

5.1.3 Hyperraising-to-Object in Spanish

While all the cases we have seen so far show a correlation between hyperraising and *indirect* evidence, our last case in Spanish shows a slightly different pattern, where hyperraising is correlated with *direct* evidence.

Suñer (1978) and Herbeck (2020) discuss alternating structures of the (a) sentences in (65) and (66), which involve a matrix perception verb with an object DP (as in the (b) sentences) or a clitic (as in the (c) sentences) and a subject-less inflected complement (subject position indicated by Δ).

- (65) The perception verb ‘hear’ in Spanish (adapted from Suñer 1978, p.107, 109)
- a. **Oigo** [que Juan toca la guitarra] (V + CP)
I-hear C John is-playing the guitar
 - b. **Oigo** a Juan [que Δ toca la guitarra] (V + object + CP)
I-hear DOM John C (he) is-playing the guitar
 - c. Lo **oigo** [que Δ toca la guitarra] (clitic + V + CP)
him I-hear C (he) is-playing the guitar
- (66) The perception verb ‘see’ in Spanish (adapted from Suñer 1978, p.107, 109)
- a. **Veo** [que el río trae mucha agua] (V + CP)
I-see C the river carries a-lot-of water
 - b. **Veo** el río [que Δ trae mucha agua] (V + object + CP)
I-see the river C (it) carries a-lot-of water
 - c. Lo **veo** [que Δ trae mucha agua] (clitic + V + CP)
it I-see C (it) carries a-lot-of water

Without going into details, we follow Herbeck (2020) and assume a subject movement analysis for the sentences in (b) and (c), where the subject moves across the embedded CP into the matrix clause. Provided that the indicative *que*-complement is a CP, this arguably instantiates a case of hyperraising to object.

Crucially, Suñer (1978) and Herbeck (2020) argue that the relevant constructions are restricted with respect to direct perception. First, the movement is contingent on the type of evidence on which the complement clause is based. If the context disfavors a direct perception reading, the movement is disallowed, as illustrated by (67) with inferential evidence. The contrast in (67) suggests that the complement clause must be based on direct (perceptual) evidence for hyperraising to occur.

(67) Hyperraising in Spanish incompatible with inferred evidence (Herbeck 2020, p.98)

- a. **Vi** [que María estaba de regreso], dado que su auto estaba en el garage
 saw.1SG C Mary was back because her car was in the garage
 ‘I saw that Mary was back, given that I saw her car in the garage.’
- b. ***Vi** a María [que Δ estaba de regreso], dado que su auto estaba en el
 saw.1SG DOM Mary C (she) was back because her car was in the
 garage
 garage
 Lit.: ‘I saw Mary that (she) was back, given that her car was in the garage.’

Second, the hyperraising constructions are incompatible with propositions that cannot be directly observed, such as one’s habit or one’s ability/obligation in (68).

(68) Hyperraising in Spanish incompatible with propositions that cannot be directly observed

- a. *Lo **vi** [que Δ solía levantarse a las seis] (Suñer 1978, p.114)
 him I-saw C (he) used.to get.up at six
- b. *Lo **veo** [que Δ puede/ debe levantarse a las seis] (Suñer 1978, p.114)
 him I-see C (he) is.able.to/ must get.up at six

Note that in the absence of hyperraising, the sentence with a perception verb is compatible with direct or indirect evidence (hence ambiguous, as indicated in the translation in (69)).

(69) Perceptions verbs without hyperraising (Herbeck 2020, p.113)

- Veo** [que *pro* has aprobado]
 see.1SG C (you) have.2SG passed
 ‘I see/understand that you have passed the course.’ (Speaker witnesses the event or infers it)

We therefore suggest that the case in Spanish is minimally different from the Cantonese and Vietnamese in terms of the featural specification on the embedding verbs. The uninterpretable feature associated with attitude verbs that allow hyperraising is a direct feature, instead of an indirect feature. This means that perception verbs in Spanish are lexically ambiguous between RAVs and NRAVs, and the availability of subject movement is correlated with *direct* evidence.

Types of AV	Feature on AV	Required feature on the clausal complement
RAVs	$[uEV_{direct}]$	$[iEV_{direct}]$
NRAVs	\emptyset	\emptyset

Table 6: The proposed feature specification in Spanish

Summing up, this subsection revealed that the connection between hyperraising and evidentiality is supported by cross-linguistic evidence. Languages may vary with regard to the type of evidential features that license hyperraising, and both $[EV_{indirect}]$ and $[EV_{direct}]$ are attested. Under the current proposal, hyperraising in these languages is made possible since the phasehood of the CP complement is deactivated by the Agree relation in evidential features between the predicate and the complement clause.

5.2 Variations in evidential marking and hyperraising

Given that attitude verbs commonly encode evidentiality in natural language, and that, as we propose, hyperraising is correlated with evidentiality, this seems to predict that hyperraising would be available in general. However, many languages disallow hyperraising, such as English and German.

- (70) Illicit hyperraising to subject in English (Halpert 2019, p.124)
 *John_i **seems** (that) t_i eats pizza.

To explain why not all languages allow hyperraising under the current proposal, we suggest that hyperraising is not licensed by the semantic/lexical evidential component, but by the Agree relation established between elements that possess the syntactic evidential features. If a language lacks *syntactic* evidential features on attitude verbs, no Agree relation can be established between the verbs and the CP complement clauses. The CP phasehood would remain intact, and subject movement would be impossible from within the CP complement due to locality requirements. We suggest that this is why languages like English disallow hyperraising.²⁵

The claim that English lacks syntactic evidential features on attitude verbs is supported by the absence of *grammatical* evidential marking in English. Instead, English employs lexical means to mark evidentiality, including adverbials such as *reportedly* and *allegedly*, and parentheticals such as *I think*. On the other hand, although the evidential features on attitude verbs in Cantonese and Vietnamese are phonologically null, their presence is indirectly supported by the presence of other grammatical marking of evidentiality in both languages. For example, in Cantonese, the sentence-final particle (SFP) *wo5* marks hearsay evidence (Leung 2005; Sybesma and Li 2007; Tang 2015). It is often accompanied with the hearsay attitude verb *tenggong* ‘hear’, as shown in (71).

- (71) Evidential SFPs in Cantonese (adapted from Tang 2015, p.436)
 Tenggong [keoi wui heoi **wo5**]
 hear-say 3SG will go SFP
 Lit.: ‘It is said that he will come.’

In the evidential system proposed in Tang (2015), there are also SFPs that mark unexpectedness (*wo4*) and obviousness (*lo1*). Lee (2021) also argues that *lo1* is a grammatical evidential marker. Likewise, in Vietnamese, SFPs such as *ròi*, express indirect grammatical evidentiality (Dao 2021).

- (72) Evidential SFPs in Vietnamese (adapted from Dao 2021, p.221)
 (Kiểu này là) Trâng không đến **ròi**
 way this TOP Trâng not come SFP
 a. #‘(From what I can see/tell,) Trâng didn’t/hasn’t come.’ (direct evidence)
 b. ‘(From what I can see/tell, I suppose that) Trâng won’t come.’ (indirect inferential evidence)

These SFPs can be taken as overt realizations of evidential features on the C head, on a par with the proposed null evidential features on attitude verbs. In other words, the proposed null evidential features belong to a larger grammatical system of evidential marking in these languages.

25. This does not mean that languages without grammatical evidentiality cannot have hyperraising. As discussed in Sect. 4.3, languages with A-features on the C head may also allow hyperraising in a successive cyclic fashion, such as Mongolian (Fong 2019). Other languages may achieve phase deactivation for hyperraising via *phi*-features, such as Zulu (Halpert 2019).

6 Conclusions

In this paper, we first revealed a correlation between the position of subjects and evidentiality in (73), repeated from (3).

(73) The Subject-Evidentiality Correlation

A subject embedded under an attitude verb can surface in the matrix subject position only if the attitude verb encodes indirect evidence.

We then showed that subjects embedded under RAVs undergo A-movement to the matrix clause across a finite CP boundary, instantiating a hyperraising configuration. To connect hyperraising to evidentiality, we proposed a phase deactivation account, where the phasehood of a CP is deactivated by an Agree relation between the attitude verb and the CP complement. This Agree relation is achieved by an indirect evidential feature.

The findings of this paper reinforce the dynamic nature of phasehood, which may interact with other operations during the syntactic derivation. In other words, phasehood is not set once and for all. This is in line with recent proposals on phase deactivation (Rackowski and Richards 2005; Nunes 2008; Halpert 2016, 2019; Branan 2018; den Dikken 2018; Toquero-Pérez 2021), and more generally, the malleable nature of locality constraints (Gallego and Uriagereka 2006; Gallego 2010; den Dikken 2006; Stepanov 2012; Bošković 2014; Pesetsky 2021).

Another implication of the current proposal is that there may be a non-idiosyncratic distribution of hyperraising predicates. The strong correlation between evidence types and hyperraising in Cantonese, Vietnamese and other languages indicates that the distribution of hyperraising predicates across languages follows a semantic dimension, i.e., evidentiality. This provides a partial explanation for a cross-linguistic tendency observed in Wurmbrand, Kovač, and Lohninger (2021) that predicates participated in cross-clausal A-dependencies involve knowledge, belief and perception. Existing proposals also suggest that there may be other semantic dimensions of hyperraising. For example, topicality may play a role in Turkish (Şener 2007), and predicative properties potentially affect the possibility of hyperraising in Korean and Japanese (Yoon 2007; Horn 2008). Wurmbrand (2019) also points out that the raising possibility of English predicates is linked to their thematic configuration. We leave further investigation into the semantic dimensions of (hyper)raising phenomena to future research.

References

- Alboiu, Gabriela, and Virginia Hill. 2013a. *A-Bar Movement with Case Effects: Indirect evidentiality in Romanian*. Handout of talk, at Concordia University, Montreal.
- Alboiu, Gabriela, and Virginia Hill. 2013b. "On Romanian perception verbs and evidential syntax." *Revue roumaine de linguistique* 58 (3): 275–298.
- Alboiu, Gabriela, and Virginia Hill. 2016. "Evidentiality and raising to object as A'-movement: a Romanian case study." *Syntax* 19 (3): 256–285.
- Alexiadou, Artemis, and Elena Anagnostopoulou. 1999. "EPP without Spec, IP." In *Specifiers*, edited by David Adger, Bernadette Plunkett, George Tsoulas, and Susan Pintzuk, 93–109. Oxford: Oxford University Press.

- Bošković, Željko. 2014. "Now I'm a Phase, Now I'm Not a Phase: On the Variability of Phases with Extraction and Ellipsis." *Linguistic Inquiry* 45 (1): 27–89.
- Branan, Kenyon. 2018. "Attraction at a distance: \bar{A} -movement and case." *Linguistic Inquiry* 49 (3): 409–440.
- Bruening, Benjamin, and Andrea Rackowski. 2001. "Configurationality and object shift in Algonquian." In *Proceedings of British Columbia Working Papers in Linguistics*, edited by Suzanne Gessner, S Oh, and K Shiboara, 5:134–162.
- Carstens, Vicki, and Michael Diercks. 2013. "Parameterizing Case and Activity: Hyper-raising in Bantu." In *Proceedings of the 40th North East Linguistic Society*, edited by Seda Kan, Moore-Cantwell Claire, and Robert Staubs, 99–115. Amherst, MA: GLSA.
- Chappell, Hilary. 2008. "Variation in the grammaticalization of complementizers from *verba dicendi* in Sinitic languages." *Linguistic Typology* 12:45–98.
- Chiu, Bonnie Hui-Chun. 1993. "The inflectional structure of Mandarin Chinese." Ph.D. dissertation, University of California, Los Angeles.
- Chomsky, Noam. 1973. "Conditions on Transformations." In *A Festschrift for Morris Halle*, edited by Stephen Anderson and Paul Kiparsky, 232–286. New York: Holt Rinehart / Winston.
- Chomsky, Noam. 2000. "Minimalist inquiries: the framework." In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, edited by Roger Martin, David Michaels, and Juan Uriagereka, 89–156. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. "Derivation by phase." In *Ken Hale: a life in language*, edited by Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2005. "Three Factors in Language Design." *Linguistic Inquiry* 36 (1): 1–22.
- Chomsky, Noam. 2007. "Approaching UG from Below." In *Interfaces + Recursion = Language?*, edited by Uli Sauerland and Hans-martin Gärtner, 1–29. Berlin and New York: Mouton de Gruyter.
- Chomsky, Noam. 2008. "On Phases." In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, edited by Robert Freidin, Carlos Otero, and Maria Luisa Zubizarreta, 133–166. Cambridge: MIT Press.
- Cole, Peter, and Li-May Sung. 1994. "Head movement and long-distance reflexives." *Linguistic Inquiry* 25 (4): 335–406.
- Dao, Huy Linh. 2021. "Vietnamese expletive between grammatical subject and subjectivity marker." In *Studies at the Grammar-Discourse Interface: Discourse markers and discourse-related grammatical phenomena*, edited by Alexander Haselow and Sylvie Hancil, 195–228. Amsterdam: John Benjamins.
- den Dikken, Marcel. 2006. *Relators and Linkers*. Cambridge, MA: MIT Press.
- den Dikken, Marcel. 2018. *Dependency and Directionality*. Cambridge: Cambridge University Press.
- Duffield, Nigel. 2017. "On what projects in Vietnamese." *Journal of East Asian Linguistics* 26 (4): 351–387.

- Fernández-Salgueiro, Gerardo. 2005. "Agree, the EPP-F and Further-Raising in Spanish." In *Theoretical and Experimental Approaches to Romance Linguistics*, edited by Randall Geis and Edward Rubin, 97–108. Amsterdam: John Benjamins.
- Fernández-Salgueiro, Gerardo. 2011. "Romance null subjects at the sensory-motor interface." *Syntax* 14:1–28.
- Ferreira, Marcelo. 2009. "Null subjects and finite control in Brazilian Portuguese." In *Minimalist essays on Brazilian Portuguese Syntax*, edited by Jairo Nunes, 17–49. Amsterdam/Philadelphia: John Benjamins.
- Fong, Suzana. 2019. "Proper movement through Spec-CP: An argument from hyperraising in Mongolian." *Glossa: a journal of general linguistics* 4 (1): 1–42.
- Gallego, Ángel. 2010. *Phase Theory*. Amsterdam: John Benjamins.
- Gallego, Ángel J, and Juan Uriagereka. 2006. "Sub-extraction from subjects." In *Romance Linguistics 2006*, edited by José Camacho, Nydia Flores-Ferrán, Liliana Sánchez, Viviane Déprez, and José María Cabrera. New Brunswick: John Benjamins.
- Halpert, Claire. 2016. "Raising parameters." In *Proceedings of the 33rd West Coast Conference on Formal Linguistics (WCCFL 33)*, edited by Kyeong min Kim, Pocholo Umbal, Trevor Block, Queente Chan, Tante Cheng, Kelli Finney, Mara Katz, Sophie Nickel-Thompson, and Lisa Shorten, 186–195. Somerville, MA: Cascadilla Press.
- Halpert, Claire. 2019. "Raising, unphased." *Natural Language and Linguistic Theory* 37 (1): 123–165.
- Halpert, Claire, and Jochen Zeller. 2015. "Right dislocation and raising-to-object in Zulu." *Linguistic Review* 32 (3): 475–513.
- Herbeck, Peter. 2020. "On finite subject-to-object raising in Spanish." *Borealis: An International Journal of Hispanic Linguistics* 9 (1): 87–124.
- Hiraiwa, Ken. 2001. "Multiple agree and the defective intervention constraint in Japanese." *MIT working papers in linguistics* 40:67–80.
- Horn, Stephen Wright. 2008. "Syntax, semantics, and pragmatics of accusative-quotative constructions in Japanese." PhD diss., The Ohio State University.
- Hsieh, Miao-Ling. 2005. "Two types of modifiers and parallelisms between DPs and TPs in Chinese." *Language and Linguistics* 6 (3): 397–429.
- Huang, Jiahui. 2021. "The semi-complementizer *shuō* and non-referential CPs in Mandarin Chinese." *Proceedings of the Linguistic Society of America* 6 (1): 882–895.
- Jackendoff, Ray. 1997. "Twistin' the night away." *Language* 73 (3): 534–559.
- Keine, Stefan. 2019. "Selective opacity." *Linguistic Inquiry* 50 (1): 13–62.
- Keine, Stefan. 2020. *Probes and their horizons*. Cambridge, MA: MIT Press.
- Kobayashi, Filipe Hisao. 2020. *Proper Interleaving of A- and A'-movement: a Brazilian Portuguese Case Study*.

- Lee, Peppina Po-Lun. 2021. "Epistemic and evidential modal construction *mai6...lo1* in Cantonese: a case of modal strengthening and weakening." Paper presented on 2021 Linguistic Society of Hong Kong Annual Research Forum (ARF), City University of Hong Kong, December 4, 2021.
- Leung, Chung-sum. 2005. *A study of the utterance particles in Cantonese as spoken in Hong Kong*. Hong Kong: City University of Hong Kong.
- Marantz, Alec. 1997. "No Escape from Syntax: Don't Try Morphological Analysis in the Privacy of your own Lexicon." In *University of Pennsylvania Working Papers in Linguistics*, edited by Alexis Dimitriadis, Laura Siegel, Clarissa Surek-Clark, and Alexander Williams, 201–225. University of Pennsylvania.
- Matthews, Stephen, and Virginia Yip. 2011. *Cantonese: A Comprehensive Grammar*. 2nd. London: Routledge.
- May, Robert. 1979. "Must COMP-to-COMP movement be stipulated?" *Linguistic Inquiry* 10 (4): 719–725.
- Nunes, Jairo. 2008. "Inherent case as a licensing condition for A-movement: The case of hyper-raising constructions in Brazilian Portuguese." *Journal of Portuguese Linguistics* 7 (2): 83.
- Obata, Miki, and Samuel David Epstein. 2011. "Feature-Splitting Internal Merge: Improper Movement, Intervention and the A/A' Distinction." *Syntax* 14 (2): 122–147.
- Pesetsky, David. 2021. *Exfoliation: Towards a derivational theory of clause size*. Ms., MIT.
- Postal, Paul. 1971. *Cross-Over Phenomena*. New York, New York: Holt, Rinehart / Winston.
- Potsdam, Eric, and Jeffrey T Runner. 2001. "Richard returns: Copy Raising and its implications." In *Proceedings of CLS*.
- Preminger, Omer. 2019. "What the PCC tells us about "abstract" agreement, head movement, and locality." *Glossa: a journal of general linguistics* 4 (1): 1–42.
- Rackowski, Andrea, and Norvin Richards. 2005. "Phase Edge and Extraction: A Tagalog Case Study." *Linguistic Inquiry* 36 (4): 565–599.
- Richards, Norvin. 1998. "The principle of minimal compliance." *Linguistic Inquiry* 29 (4): 599–629.
- Şener, Serkan. 2007. "Cross clausal licensing of accusative case on subjects of CPs in Turkish." In *Proceedings of North East Linguistic Society 39*, edited by S. Lima, K. Mullin, and B. Smith, 679–690.
- Stepanov, Arthur. 2012. "Voiding island effects via head movement." *Linguistic Inquiry* 43 (4): 680–693.
- Suñer, Margarita. 1978. "Perception verb complements in Spanish: same or different?" *Canadian Journal of Linguistics/Revue canadienne de linguistique* 23 (1-2): 107–127.
- Sybesma, Rint, and Boya Li. 2007. "The dissection and structural mapping of Cantonese sentence final particles." *Lingua* 117 (10): 1739–1783.
- Takeuchi, Hajime. 2010. "Exceptional case marking in Japanese and optional future transmission." *Nanzan Linguistics* 6:101–128.
- Tanaka, Hidekazu. 2002. "Raising to object out of CP." *Linguistic Inquiry* 33 (4): 637–652.

- Tang, Sze-Wing. 2015. *Jyutjyu jyufaat gongji [Lectures on Cantonese Grammar]*. Hong Kong: The Commercial Press.
- Toquero-Pérez, Luis Miguel. 2021. "Revisiting extraction and subextraction patterns from arguments." *Linguistic Variation*: 1–86.
- Uchibori, Asako. 2000. "The syntax of subjunctive complements: evidence from Japanese." PhD diss., University of Connecticut.
- van Urk, Coppe. 2015. "A uniform syntax for phrasal movement: A case study of Dinka Bor." PhD diss., MIT.
- von Stechow, Kai, and Anthony S Gillies. 2010. "Must...stay...strong!" *Natural Language Semantics* 18 (4): 351–383.
- Wasow, Thomas. 1972. "Anaphoric Relations in English." PhD diss., MIT.
- Willett, Thomas. 1988. "A Cross-Linguistic Survey of the Grammaticization of Evidentiality." *Studies in Language* 12 (1): 51–97.
- Wurmbrand, Susi. 2019. "Cross-clausal A-dependencies." In *Proceedings of the Fifty-Fourth Annual Meeting of the Chicago Linguistic Society*, edited by Eszter Ronai, Laura Stigliano, and Yenan Sun, 585–604. 12. Chicago: University of Chicago, Chicago Linguistic Society.
- Wurmbrand, Susi, Iva Kovač, and Magdalena Lohninger. 2021. "From Prolepsis to Hyperraising." Handout distributed at Abralín Ao Vivo (online), October 18, 2021.
- Yeung, Ka-Wai. 2006. "On the status of the complementizer *waa6* in Cantonese." *Taiwan Journal of Linguistics* 4 (2006): 1–48.
- Yip, Moira. 1988. "Negation in Cantonese as a lexical rule." *Bulletin of the Institute of History and Philology* 59:449–477.
- Yoon, James H. 2007. "Raising of major arguments in Korean and Japanese." *Natural Language and Linguistic Theory* 25 (3): 615–653.
- Zeller, Jochen. 2006. "Raising out of finite CP in Nguni: The case of fanele." *Southern African Linguistics and Applied Language Studies* 24 (3): 255–275.