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 the 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 suggest that locality requirements in natural languages are less rigid than previously thought, and that there is a non-trivial semantic dimension to hyperraising phenomena.

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

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 (i.e., 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; Urk and Richards 2015; Halpert 2016, 2019; Branan 2018; Branan and Davis 2019; Preminger 2019; Pesetsky 2021; Toquero-Pérez 2021; Carstens 2023b, 2023a). 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).[2] In the sentences in (1), the matrix subject can be separated/displaced from the embedded predicate (with which it is thematically related).[3] However, the same displacement is disallowed in the sentences in (2), where a different set of attitude verbs are involved.[4]

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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). See Ura (1994) for an early comprehensive cross-linguistic study. The following serves as 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:
     Janitzio P'urhepecha (Zyman 2017), 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. Cantonese examples are transcribed in *Jyutping* (the Linguistic Society of Hong Kong Cantonese Romanization Scheme, 1993), and tones (1-6) are represented when necessary. Vietnamese examples are transcribed in Vietnamese alphabets. Abbreviations that are not in the Leipzig Glossing Rules: ACCOMP=accomplishment marker; ANT=anterior marker, CL=classifier; EXP=experiential aspect; INCHO=inchoative aspect, MOD=modification marker; SFP=sentence-final particle. The Cantonese and Vietnamese data in this paper are collected from the Internet, interviews with native speakers (during 2019-2023, for Vietnamese), and introspection by the two authors (for Cantonese). The judgment is confirmed by nine native speakers of Hong Kong Cantonese (including the two authors) and five native speakers of Hanoi/Northern Vietnamese.

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

4. These hyperraising cases, to the best of our knowledge, have not been systematically studied in Cantonese and Vietnamese, nor in Mandarin Chinese, where similar patterns of subject displacement are also found:

(i) Na chang yu {ganjue/*juede} (shuo) bu hui ting.   Mandarin
    that CL rain feel.like/think COMP not will stop
    'It is felt/*thought that the rain will not stop.'

Note that these cases are different from the Mandarin cases reported in Ura (1994), which involves epistemic modals (rather than genuine raising verbs); and those in Chen (2022), which involves passives. See footnote 6 and Chen (2023) for an interesting connection between hyperraising and passivization.

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

    a. Coeng jyu **gamgok/tengman** waa m-wui ting.   Cantonese
        CL   rain feel.like/hear   COMP not-will stop
        'It is felt/heard that the rain will not stop.'

    b. Cơn mưa này **cảm giác/nghe nói** rằng/là sẽ không dừng.   Vietnamese
        CL   rain this feel.like/hear   COMP FUT not   stop
        "It is felt/heard that the rain will not stop.'

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

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

    b. *Cơn mưa này **cảm-thấy/biết** rằng/là sẽ không dừng.   Vietnamese
        CL   rain this feel-ACCOMP/know COMP FUT not   stop
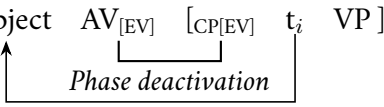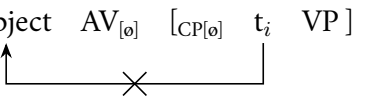   Int.: 'It can be felt/is known that the rain will not stop.'

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 proposals 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)

    a. Subject   AV$_{[EV]}$ [$_{CP[EV]}$ t$_i$ VP]   Agree ➜ licit subject movement
                   Phase deactivation

    b. *Subject   AV$_{[ø]}$ [$_{CP[ø]}$ t$_i$ VP]   No Agree ➜ Illicit subject movement

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 suggestion that phase-induced locality requirements are not established once and for all. Rather, they 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 there are non-trivial semantic dimensions that underlie hyperraising constructions (cf. Yoon 2007; Horn 2008; Şener 2007; Wurmbrand 2019; Lohninger, Kovač, and Wurmbrand 2022). Such a correlation provides a partial explanation on why predicates participating in cross-clausal A-dependencies are largely similar across languages.

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

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5.   Examples (6b,e,f) are elicited from native speakers of Vietnamese. The rest of the data are taken from the Internet, with the source url links and access dates listed below:

(5a): https://forum.hkgolden.com/thread/7502278/page/2, accessed on January 30, 2022;

(5b):   https://www.hkepc.com/forum/viewthread.php?fid=20&tid=2448986&extra=page%3D6&page=4, accessed on January 30, 2022;

(5c): https://www.discuss.com.hk/viewthread.php?tid=29616035, accessed on May 10, 2021;

(5d): https://zh-yue.wikipedia.org/wiki/%E6%87%B7%E7%96%91, accessed on May 10, 2021;

(5e): https://neard.com/feeds/146968, accessed on May 10, 2021;

(5f): https://lihkg.com/thread/2722456/page/36, accessed on January 30, 2022;

(5g):   https://hk.sports.yahoo.com/news/%E9%BB%9E%E8%A7%A3%E9%A6%AC%E6%96%AF%E5%85%8B%E6%9C%AA%E6%9C%89-cosplayer-072317130.html, accessed on May 10, 2021;

(5h): https://diary.showhappy.net/?id=76768&page=26, accessed on January 30, 2022;

(5i):   https://medium.com/econ%E8%A8%98%E8%80%85/5g-plan-%E8%AC%9B%E7%B7%8A%E5%B9%BE%E5%A4%9A%E9%8C%A2-d203f51d73bf, accessed on May 10, 2021;

(6a):   https://truyenfull.vn/sieu-viet-thang-cap-he-thong/chuong-395/, accessed on September 20, 2021;

(6c): https://www.quansuvn.net/index.php?topic=41.435;wap2, accessed on September 20, 2021;

(6d): https://books.google.com/books?id=33NbuReW5PYC&pg=PA166&lpg=PA166&dq=%22n%C3%A0y+nghi+l%C3%A0%22&source=bl&ots=5Yv1RGhg7R&sig=ACfU3U1S6YJgQdAUkn7C0n9jWWu-IFsPtw&hl=en&sa=X&ved=2ahUKEwjv-9yu0I7zAhUGVN8KHXT9AkEQ6AF6BAgIEAM#v=onepage&q=%22n%C3%A0y%20nghi%20l%C3%A0%

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) <u>Licit cases of subject displacement in Cantonese</u>

    a. Hoenggong **tenggong** waa hou ngaihim.   (Internet)
       Hong Kong hear   COMP very dangerous
       'It is heard that Hong Kong is dangerous.'

    b. Ni coeng bo **gamgok** cungmun woping jyu oi.   (Internet)
       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.   (Internet)
       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.   (Internet)
       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. (Internet)
         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.   (Internet)
       Westerners be.sure   COMP say play like robot
       'It is certain that the Westerners will say "play like robot".'

    g. Maasihak **taipaa** hai gamnin saugwai fungwan janmat.   (Internet)
       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 gaa3 laa1.   (Internet)
       CL   hand say-PFV not-enough big SFP SFP
       '(See?) It is (already) said that the hand is not big enough.'

    i. 5G Plan **gong-gan** geido   cin?   (Internet)
       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?)'

22&f=false, accessed on September 20, 2021;
(6g): https://www.otofun.net/threads/thanh-ly-giay-da-that-moi-tinh.1753941/, accessed on January 30, 2022;
(6h): https://baodautu.vn/tai-tu-sat-gai-o-hollywood-so-rang-da-truyen-hiv-cho-hang-loat-nguoi-tinh-cu-d35395.html, accessed on September 20, 2021.

(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   COMP have population relative small only

        bằng một nửa ngôi làng phía Đông mà thôi. (Internet)
        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 FUT stop

       'It is felt that the snow will stop tomorrow.'

    c. Khẩu này **đoán** là   trung liên   Hotchkiss M1922.   (Internet)
       CL   this guess COMP light machine-gun Hotchkiss M1922

       'It is guessed that this one is a Hotchkiss M1922 light machine-gun.'

    d. Làng Yên Lãng này **nghi** là   làng Yên Lãng quê mẹ   của Từ Đạo Hạnh.
       village Yên Lãng this suspect COMP 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
       even.though have policy   new CL   teacher that believe COMP FUT not

        bỏ việc.
        resign

       '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   COMP FUT not   come

       'It is certain that the person will not come.'

    g. 44 thì **e** rằng quá khổ   ạ.   (Internet)
       44 then fear COMP 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!   (Internet)
       then   whole life this afraid COMP not   left chance more

       Lit.: 'Then, it is feared 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 **gamgok-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 COMP 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) <u>Illicit cases of subject displacement in Vietnamese</u>

a. *Khẩu này **cảm-thấy/nghe-được/đoán-được** là trung liên
   CL this feel-ACCOMP/hear-ACCOMP/guess-ACCOMP COMP light machine-gun

   Hotchkiss M1922.
   Hotchkiss 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 COMP 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 COMP 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)*.[6]

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

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6. With the exception of 'suspect' and 'believe', all the RAVs, despite having transitive usages, cannot be passivized, unlike NRAVs. Yet, as will be seen in the next subsection, evidentiality captures the split between RAVs and NRAVs better than argument structure. Intriguingly, though, passivized NRAVs may allow long-distance passive movement of the embedded subjects, constituting another type of hyperraising (see Chen 2022 for Mandarin). See Chen (2023) for an interesting idea that hyperraising is "general" for all the attitude verbs, namely RAVs and passivized 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-PFV'	waa-zo	/	'think'	gokdak	cho
'say-PROG'	gong-gan	/	'think'	jingwai	nghĩ

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

component can interact with elements such as verbal suffixes and prefixal/lexical negation, which in turn affects the (un)availability of subject displacement.

Before we proceed, we make the following working definitions of direct/indirect evidence for the sake of concreteness (cf. Willett 1988; von Fintel and Gillies 2010; Murray 2014).

(9) Working definitions of the two type of evidence

   a. *Direct evidence*: the source of the speaker's information is of a primary nature and the information settles the truth of the associating proposition.

   b. *Indirect evidence*: the source of the speaker's information is of a secondary nature (e.g., reportative and inferential) and the information does not settle the truth of the associating proposition.

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 their usage. The contexts in (10a) and (11a) specify two types of indirect evidence respectively, namely, reportative evidence and inferential evidence (cf. Willett 1988). The sentences in (10) 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' (where *dou* here marks successful completion of an action; see more discussions in Sect. 2.2.2). A similar contrast is observed with Vietnamese in (11) as well, where the context specifies (indirect) inferential evidence.

(10) 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.'

(11) 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-thấy**} 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 (12) and (13), the RAVs become infe-
licitous, whereas the NRAVs are acceptable.

(12) 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.'

(13) RAVs are incompatible with *direct* evidence in Vietnamese
      Context with direct tactile evidence: On a winter day, John went out without wearing a coat. Shiv-
      ering, he said:

      a. Tôi { #**cảm giác**/ ^{OK}**cảm-thấy**} 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 evi-
dence or reportative evidence, or both. RAVs listed as "reportative" are only compatible with contexts
like (10), and those listed as "inferential" with contexts like (11). None of them is felicitous in contexts
like (12) and (13), however. We suggest that the evidential requirement on RAVs is encoded in their
lexical semantics.

It should be noted that the evidential component in RAVs is not unique to Cantonese and Viet-
namese. A similar component is said to be present in epistemic modals. For example, von Fintel and

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

Table 2: The evidential component of raising attitude verbs

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 (14) and (15). (14) specifies a direct evidence context and (15) an indirect one (von Fintel and Gillies 2010, p.353), and epistemic modals are only compatible with the latter.[7] We suggest that a similar evidential component resides in RAVs.

(14)   *Context: Seeing the pouring rain*

    a.   It's raining.

    b. ?? It must be raining.

(15)   *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:

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7. 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.

(16) 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	COMP	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)			
Gloss	**Cantonese**	**Vietnamese**	**Evidential component**
'feel-ACCOMP'	gamgok-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 (17), repeated from (3).

(17) 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, as shown in (18).[8]

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8. As correctly pointed out by an anonymous reviewer, the indirect evidential component should not be equated with "speakers' uncertainty," since verbs like *hangding* in Cantonese and *chắc chắn* in Vietnamese express speakers' certainty, but they allow subject displacement. Thus, subject displacement is correlated with the indirect evidence component, rather than an uncertainty component. This also suggests that certainty, or the strength of belief, is not necessarily correlated

(18) *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.PFV go.out
        'I think that Ming didn't go out.'

    b. *Aaming **jingwai** mou   ceothoei.
        Ming   think   not.PFV go.out
        Int.: 'It is thought that Ming didn't go out.'

2.2.2 Interaction with verbal suffixes

To substantiate the generalization in (17), 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 (10)/(11) and (12)/(13). 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 (17): when the verbs no longer encode indirect evidentiality, subject displacement is disallowed. The relevant examples that display this interaction are listed in Table 4.[9,10]

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 (19), *soengseon* 'believe' and *waaiji* 'suspect' in Cantonese do not allow subject displacement if they are negated by the prefix *m-* 'not' (cf. M. Yip 1988), as shown in (19). The same pattern is observed in Vietnamese, illustrated in (20).

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with evidence type. As argued by von Fintel and Gillies (2010), strong necessity modals like *must* also encode an indirect evidence. In other words, one can be certain about a proposition not only based on direct but also indirect evidence.

9. 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'.

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

(19) 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-PFV
        '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.'

(20) 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   FUT 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 (21).

(21) 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 (22a). 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 (22b). This shows that the availability of subject displacement is not only affected by negation on verbs, but also by lexical semantics of verbs.

(22) 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-

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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 (23). 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.

(23)   <u>RAV-*dou* vs. RAV-*m-dou*</u>   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 (24).

(24)   <u>RAV-*được* vs. *không* RAV-*được*</u>   Vietnamese

Cơn mưa đó/ấy   { ^{??}**đoán**-được/   ^{OK}không **đoán**-được}   là   sẽ   không   dừng.
CL   rain   that   guess-ACCOMP/   not guess-ACCOMP   COMP   FUT   not   stop
'It *can/cannot be guessed that that rain will not stop.'

An anonymous reviewer raises concern on the nature of the interaction between evidentiality and negation. We suggest that the "cancellation" of the lexical evidentiality specification of the attitude verbs (and hence the change of their raising profiles) indeed occurs at the *lexical* level, rather that the syntactic level. Conceptually, it is implausible for sentential negation to operate directly on featural specification which is determined in the lexical component. Empirically, there is also evidence that the lexical/"constituent" negation that interacts with the subject displacement (raising) possibilities is in contrast with syntactic negation. We briefly discuss these issues below.

First, as mentioned above, while the negation of *geidak* 'remember' (NRAV) in Cantonese is transparent, i.e., *m-geidak* 'not-remember' (RAV) in (21b), the Vietnamese negation of *nhớ* 'remember' (NRAV) is expressed by another lexical item *quên mất* 'forget' (RAV) as in (22b). It shows that the interaction between negation and raising possibilities occurs at the lexical level.

Second, unlike the lexical/infixed negation -*m*- in (23), the syntactic negation *mou* fails to change the raising profile of NRAVs like *gu-dou* 'guess-ACCOMP,' as shown in (25) in Cantonese. Hyperraising becomes possible when *gu-dou* is negated by the infixed -*m*-, but not *mou*.

(25)   <u>Syntactic (aspectual) negation does not affect the raising profile of NRAVs</u>

a.   *Coeng jyu   **mou**   **gu**-dou   gam   faai   ting.
     CL   rain   not.PFV   guess-ACCOMP   so   fast   stop
     Int.: 'It cannot be guessed that the rain has stopped so quickly.'

b.   Ngo   **mou**   **gu**-dou   coeng jyu   gam   faai   ting.
     1SG   not.PFV   guess-ACCOMP   CL   rain   so   fast   stop
     'I couldn't guess that the rain has stopped so quickly.'   Cantonese

In a similar vein, (high) sentential negation *m-hai* also fails to affect the raising profile of RAVs, as

shown in (26). The RAVs like *soengseon* 'believe' and *waaiji* 'doubt' retain the possibility of allowing subject displacement in the presence of *m-hai*.

(26) Sentential negation does not affect the raising profile of RAVs   Cantonese

       a.   Go faan   **m-hai soengseon** camjat   jiging zou-zo   laa me?
             CL criminal not-COP believe   yesterday already leave-PFV SFP SFP.Q
             'Isn't it the case that it is believed that the criminal has escaped yesterday?'

       b.   Po faa   **m-hai waaiji** tingjat   sin   wui hoi   me?
             CL flower not-COP suspect tomorrow until will blossom SFP.Q
             'Isn't it the case that it is suspected that the flower will blossom as soon as tomorrow?'

The same patterns carry over to Vietnamese. In (27), with the sentential negation *không phải là*, the RAV *cảm giác* 'feel like' still allows subject displacement. This contrasts with the lexical negation *không* in (20), where subject displacement is blocked when *không* applies to an RAV.

(27) Sentential negation does not affect the raising profile of RAVs   Vietnamese
       Khẩu này **không phải là cảm giác** là trung liên   Hotchkiss M1922.
       CL   this not   COP   feel.like C light   machine-gun Hotchkiss M1922
       'It is not felt that this one is a Hotchkiss M1922 light machine-gun.'

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/nghĩ* 'think') have a different profile regarding negation. Their incompatibility with a displaced subject is retained when negated, as illustrated in (28).

(28) 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 effect on subject displacement.

2.2.4   Interim summary

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

(29) 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)/(17), repeated below.

(30) 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 four 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 (31) (which is also a subject island) and the adjunct island in (32).

(31) Complex NP islands   Cantonese
*Aaming$_i$ **tenggong** [waa [$_{DP}$ t$_i$ jiging zau-zo ge siusik] hai gaa ge].
Ming   hear   COMP   already leave-PFV MOD rumor be false SFP
Int.: 'It is heard that the rumor that Ming already left is false.'

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(32) <u>Adjunct islands</u>   Vietnamese

  *Minh$_i$ **nghi** [là [$_{Adjunct}$ vì   t$_i$ không đến], thầy giáo rất   vui   ].
   Ming suspect COMP   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 (33). 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.[11]

(33) <u>Sentential idioms</u>

  a. [Ni-zek laaihaamou]$_i$ **gamgok** [waa   t$_i$ soeng sik tinngojuk].   Cantonese
     this-CL toad   feel.like COMP   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   COMP   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 markers *ne* in Cantonese and *thì* in Vietnamese) can be co-referential with a base-generated pronoun, i.e. a resumptive pronoun, as shown in (34).

(34) <u>Resumptive pronouns compatible with base generated topics</u>

  a. Aaming$_i$ ne, ngo **gamgok** [waa   keoi$_i$ m-wui   lai   ].   Cantonese
     Ming   TOP 1SG feel.like COMP 3SG not-will come
     'As for Ming$_i$, I feel like he$_i$ will not come.'

  b. Minh$_i$ thì, tôi **nghe nói** [là   anh ta$_i$ sẽ   không đến   ].   Vietnamese
     Ming TOP 1SG hear   COMP 3SG FUT not   come
     'As for Ming$_i$, I heard that 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 (35). We suggest that this is because the displaced subject is base generated in the embedded clause, but not in the matrix clause (*cf.* (34)), and thus the resumptive pronoun cannot occupy the same position.[12]

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11. 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 COMP   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.'

12. 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).

(35) Resumptive pronouns disallowed in RAV-constructions

    a. Aaming$_i$ **gamgok** [waa   (*keoi$_i$) m-wui   lai   ].   Cantonese
        Ming   feel.like COMP 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   COMP 3SG   FUT not   come
        'It is heard that Ming will not come.'

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 *Dou*P). In (36), *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.

(36) *Dou* quantifier floating in Cantonese   Cantonese
    [Mui   go hoksaang]$_i$ (dou) **tenggong** [waa   t$_i$ (dou) jiging   haaujyun si   ].
     every CL student   DOU hear   COMP   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.[13] In the next subsection, we further argue that RAV-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 (37).

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13. 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 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   COMP examine-EXP Ming
       'It is felt that Dr. Wong has examined Ming.'

    b. Aaming **gamgok** [waa bei Wong jisang gimcaa-gwo].
       Ming   feel.like   COMP PASS Wong doctor examine-EXP
       'It is felt that Ming has been examined by Dr. Wong.'

(37) 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 (38).
This suggests that the position before RAVs is a subject/A-position, instead of a topic/A'-position.[14]

(38) *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   COMP   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   COMP   FUT   not   come
        'It is heard that many people will not come.'

    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 (39), where the subject, but not the object, can move to the ma-
trix clause. This is also observed in Cantonese ditransitive constructions in (40), where the movement
privileges the subject over the direct object and the indirect object.

(39) 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 COMP   FUT 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 COMP CL hurricane this FUT make.down

(40) Movement that privileges subjects in Cantonese

    a. Aaming$_i$ **gamgok** [waa   t$_i$ bei-zo   houdo syu Aafan].   (Subject)
        Ming   feel.like COMP   give-PFV many book Fan
        'It is felt that Ming gave many books to Fan.'

    b. *[Houdo syu]$_i$ **gamgok** [waa   Aaming bei-zo   t$_i$ Aafan].   (Direct object)
        many   book feel.like   COMP Ming   give-PFV   Fan

    c. *Aafan$_i$ **gamgok** [waa   Aaming bei-zo   houdo syu t$_i$].   (Indirect object)
        Fan   feel.like COMP Ming   give-PFV many book

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

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 (41), 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). A'-movement constructions such as topicalization in both languages are subject to crossover effects (both strong and weak) and no new binding possibilities may be created (see Yip and Ahenkorah 2023 for Cantonese and Dao 2021, p.200 for Vietnamese; see also Cheung 2009; T. T.-M. Lee 2017 for Cantonese right-dislocation).

(41)   Pronominal binding fed by movement   Vietnamese

   a.   *Impossible binding on pronouns*
        *[Tuỳtheo   xuấtxứ của **nó**$_i$] nghe nói [là   **mỗi   viên kimcương**$_i$ sẽ   có
        according.to origin of it   hear   COMP every CL   diamond   FUT have
           độsáng khácnhau].
           luster   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 kimcương$_i$ [tuỳtheo   xuấtxứ của **nó**$_i$] nghe nói [là   t$_i$ sẽ   có
        every CL   diamond   according.to origin of it   hear   COMP   FUT have
           độsáng khácnhau].
           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 (42), where the displaced subject can only bind a reflexive in the matrix clause after movement from the embedded clause.

(42)   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 COMP 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 COMP

  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 (41) and on anaphors in (42) 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. This argues against a restructuring analysis where the embedded clauses are reduced to a smaller size such as *v*/VP (*cf.* Wurmbrand 2001; Cinque 2006; see the end of this section for a contrasting case). Below, we present arguments to build up the size of the embedded clauses from AspP to TP, then to finite TP, and finally to (finite) CP.

First, the embedded clauses in RAV-constructions can accommodate aspectual elements, such as the perfective marker *-zo* in Cantonese and the anterior marker *đã* in Vietnamese with an embedded scopal interpretation, as illustrated in (43). Other aspectual markers, such as Cantonese progressive *-gan* and experiential *-gwo* may also occur in RAV-constructions (see examples like (10b) and footnote 6). Hence, the embedded clauses are larger than *v*/VP, as least AspP.

(43) Aspectual markers in RAV-constructions

    a. [Go faan]$_i$ **gugai** [waa t$_i$ jiging zou-<u>zo</u>].   Cantonese
        CL criminal guess COMP already escape-PFV
        'It is guessed that the fugitive has escaped the jail.'

    b. [Gã phạm nhân đó]$_i$ **nghe nói** [là t$_i$ <u>đã</u> bỏ trốn].   Vietnamese
        CL prisoner that hear COMP ANT escape
        'It is heard that the fugitive has escaped the jail.'

Second, the embedded clauses in RAV-constructions may have distinct temporal specification from the matrix clauses, as in (44). This indicates that embedded clauses are at least as large as TP to accommodate tense elements.

(44) Distinct temporal specifications in RAV-constructions

    a. [Baan gei]$_i$ <u>camjat</u> **gugai** [waa t$_i$ <u>gamjat</u> wui ziu fei]. Cantonese
        CL flight yesterday guess COMP today will as.scheduled depart
        'Yesterday, the flight was guessed (i.e. estimated) to depart as scheduled today.'

    b. [Gã phạm nhân đó]$_i$ <u>hôm nay</u> **nghe nói** [là t$_i$ <u>hôm qua</u> đã bỏ trốn] Vietnamese
        CL prisoner that today hear COMP yesterday ANT escape
        'Today, it is heard that the fugitive has escaped the jail yesterday.'

Third, while temporal specification may not necessarily indicate finiteness of T (as an anonymous reviewer points out), the embedded clauses in RAV-constructions can accommodate elements that only occur in finite clauses in both Cantonese and Vietnamese. Duffield (2017) argues that the above-mentioned anterior marker *đã* and the future marker *sẽ* in Vietnamese are only allowed in finite clauses and locate at T (or move from Asp to T for *đã*). As shown in (44b) above and (45) (reproduced from (6f)) below, the embedded clauses in RAV-constructions allow *đã* and *sẽ* respectively, showing that they are finite clauses (i.e. at least finite TPs).[15]

(45) Embedded finite future marker in RAV-constructions   Vietnamese
      Người đó **chắc chắn** [là   sẽ   không đến].
      person that be.sure   COMP FUT not   come
      'It is certain that the person will not come.'

Zhang (2019) argues that temporal SFPs (like *le* and *laizhe*) are the locus of finiteness in Mandarin Chinese. Cantonese also has a similar set of SFPs whose distribution is restricted to finite clauses, like *laa3* (perfect) and *lai4* (recent past) (Tang 1998). Notably, they can be embedded in RAV-constructions such as (46), supporting the finite status of the embedded T.[16]

(46) Embedded finite temporal SFPs in RAV-constructions   Cantonese
      Dung lau   **tengman** [waa   zingwaa lam-zo laa3/ lai4] wo3.
      CL   building hear   COMP just.now fall-PFV SFP   SFP SFP
      '(Let me tell you,) it is heard that the building fell down just now.'

Fourth, the presence of complementizers in RAV-constructions indicate that the embedded clauses are CPs. 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; J. Huang 2021; C.-T. J. Huang 2022; for Vietnamese, see Chappell 2008). It is therefore natural to consider the size of embedded clauses a full finite CP.

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 (47a) in Vietnamese. However, RAV-constructions can only be formed with an embedded interrogative clause (but not a declarative clause), as shown in (47b). 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.

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15. The finiteness of the embedded clauses in RAV-constructions also speaks against a defective CP approach to hyperraising, as we will discuss in Sect. 4.3.

16. These SFPs are in the embedded rather than matrix clause, as evidenced by the following two tests. First, the temporal contribution by the SFPs (perfect/recent past) applies to the embedded predicate 'fell down' rather than the matrix one in (46). Such scope is made explicit by the corresponding adverb *zingwaa* 'just now' in the embedded clause, which, as argued by Tang (2009) and Cheng (2015), forms a *clause-bounded* discontinuous construction with the SFP *lai4*. Second, when the embedded clause is displaced, these SFPs must also be displaced together (as shown below with a transitive use of *tengman* 'hear'), indicating that they form a constituent with the embedded clause.

(i) [Dung lau   zingwaa lam-zo laa3/ lai4]$_i$, ngo tengman t$_i$ wo3.   Cantonese
     CL   building just.now fall-PFV SFP   SFP   1SG hear   SFP
     'That the building (just) fell down yesterday, I heard.'

(47)   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

       Minh not know COMP$_{[-Q]}$ Lan ANT go Paris COMP$_{[+Q]}$ Lan ANT go Paris

       chưa].
       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 COMP$_{[-Q]}$ ANT go Paris COMP$_{[+Q]}$ ANT go Paris not

       'It is not known [*that Lan has gone to Paris/whether Lan has gone to Paris or not].'

This point is further supported by the ability of the embedded clause in RAV-constructions to host a topic or a focus, such as a base-generated topic in (48a) or an ex-situ focus in (48b). Under the assumption that elements in the left periphery indicate the presence of a CP (or a phase edge in phase-theoretic terms), (48) provides additional support to the presence of a CP boundary.[17]

(48)   Embedded topic/focus in RAV-constructions

    a.   Aaming$_i$ **gamgok** [$_{CP}$ gam-do-ceot hei t$_i$ zinghai tai-zo ni-ceot hei].

       Ming feel.like so-many-CL film only watch-PFV this-CL film

       'It is felt that, among so many films, Ming only watched this one.'   Cantonese

    b.   Nó$_i$ **nghe nói** [$_{CP}$ ngay cả sách$_j$ t$_i$ cũng không đọc t$_j$].

       3SG hear even at.all book also not read

       'It is heard that s/he does not even read books.'   Vietnamese

Finally, the embedded clauses in RAV-constructions are large enough to have their own illocutionary domain and may accommodate speaker-oriented adverbs that are high on the clausal spine (*cf.* Cinque 1999). As illustrated in Cantonese in (49), the embedded clauses allow mirative 'surprisingly' and evaluatlve 'unfortunately'. Following C.-T. J. Huang (2022), we take encoding of illocutionary information, along with the temporal information mentioned above, as evidence for finiteness.

(49)   Illocutionary adverbs allowed in RAV-constructions   Cantonese

    Go jincoengwui **tengman** [zeoihau gingjin/ m-houcoi laan-zo mei].

    CL concert hear at.last surprisingly unfortunately rot-PFV finish

    'It is heard that the concert had a poor finish at last, surprisingly/unfortunately.'

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*.

Before we move on to our analysis, an anonymous reviewer raised concerns that not all raising structures are connected to evidentiality. For example, in Cantonese, predicates like *hoici* 'begin', *hou jungji* 'be.easy' as well as middle constructions with the inchoative suffix *heilei* allow subject raising but

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17. An anonymous reviewer notes that this assumption, while reasonable, is not guaranteed. For example, Zubizarreta (1998, chapter 3) argues that in certain variety of Spanish, overt leftward focus movement and *wh*-movement targets Spec TP, rather a Spec position in the CP domain. Supporting evidence comes from the observation that these elements compete with the preverbal subject for a single position. To the best of our knowledge, base generated topic or focus elements do not share this property in Cantonese and Vietnamese, but we are grateful to the reviewer's suggestion bringing our attention to this possibility.

do not necessarily encode an evidential component. It should be, however, remarked that it is not the purpose of the paper to link all raising cases in Cantonese and Vietnamese to evidentiality. Instead, we argue that only *hyper*raising cases (i.e. raising out of CP) are related to evidentiality. It follows that raising cases that are not "hyper" (e.g. raising out of TP/vP) need not be connected to evidentiality. That the predicates under discussion do not involve hyperraising is evidenced by the observation that the embedded clauses of these predicates do not allow (i) embedded focus, (ii) speaker-oriented adverbs, and (iii) distinct temporal specifications. They are thus plausibly restructuring predicates and take a smaller clause than CP (e.g. TP/vP).

(50)   <u>Raising predicates that do not embed a CP are not correlated with evidentiality</u>   Cantonese

    a. *Saanfo$_i$ **hou jungji** [<u>lin-ceontin</u>   t$_i$ dou faatsan].
        Forest.fire be.easy   even-Spring   also happen
        Lit.: 'Forest fire is easy to happen even in Spring.'

    b. *Aaming$_i$ camjat   **hoici** [t$_i$ <u>gingjin</u>   hok jingman].
        Ming   yesterday begin   surprisingly learn English
        Lit.: 'Aaming began yesterday to surprisingly learn English.'

    c. *[Nei gin seotsaam]$_i$ <u>camjat</u>   **zoek-heilei** [t$_i$ <u>gamjat</u> hou syufuk   ].
        this cl shirt   yesterday wear-incho   today very comfortable
        Lit.: 'This shirt is comfortable today to wear yesterday.'

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 (51) from (17):

(51)   <u>The Subject-Evidentiality Correlation</u>
    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$_{indirect}$] feature, and its uninterpretable counterpart [uEV$_{indirect}$].[18] The latter must be checked be-
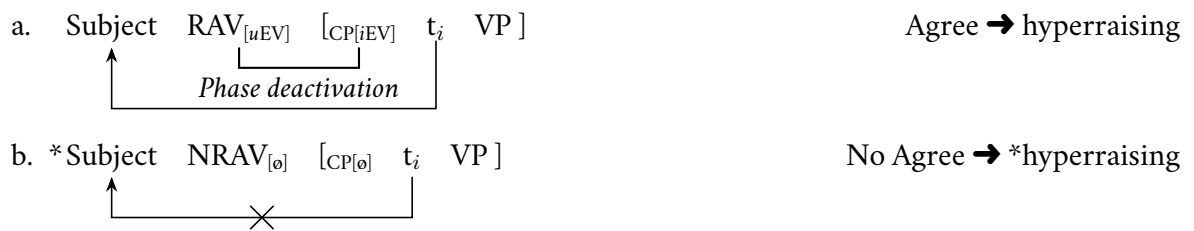
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fore Transfer to interfaces for LF convergence. In Cantonese and Vietnamese, the RAVs bear $[u\text{EV}_{\text{indirect}}]$, whereas their CP complements bear $[i\text{EV}_{\text{indirect}}]$, indicating that the denoted proposition is based on indirect 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	$[\boldsymbol{u}\textbf{EV}_{\textbf{indirect}}]$	$[i\text{EV}_{\text{indirect}}]$
NRAVs	ø	ø

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 (52a). 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 (52b).

(52) Schematic representation of the proposal[19]

   a.   Subject   RAV$_{[u\text{EV}]}$ [$_{\text{CP}[i\text{EV}]}$ t$_i$ VP]   Agree ➜ hyperraising
        Phase deactivation

   b.   *Subject   NRAV$_{[ø]}$ [$_{\text{CP}[ø]}$ t$_i$ VP]   No Agree ➜ *hyperraising

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.[20]

For concreteness, we suggest that the inventory of C heads in the two languages is as shown in Table 6. We suggest that in Cantonese the C heads (*waa*, or its null counterpart) are phonetically indistinguishable by its featural makeup - it sounds the same regardless of whether it possesses an evidential feature or whether it comes with a clause type feature does not. On the other hand, in Viet-

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19. We refer to the [EV$_{\text{indirect}}$] feature as [EV] feature for short.

20. 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).

namese, while the two declarative C heads are also phonetically indistinguishable, the interrogative C head bearing the evidential feature takes a different form.[21]

Cantonese	Vietnamese
waa_{DECL}	$r\grave{a}ng/l\grave{a}_{\text{DECL}}$
$waa_{i\text{EV, DECL}}$	$r\grave{a}ng/l\grave{a}_{i\text{EV, DECL}}$
$waa_{i\text{EV, INT}}$	$li\hat{e}u_{i\text{EV, INT}}$

Table 6: The proposed inventory of C heads in Cantonese and Vietnamese

4.2 An illustration

We illustrate the proposal step by step with the Cantonese example in (1a), partially repeated in (53).

(53) Coeng jyu **gamgok** waa   m-wui   ting.   Cantonese
      CL   rain feel.like COMP not-will stop
      'It is felt that the rain will not stop."

First, the complement CP 'the rain will not stop' is built. The C head *waa* bears the [*i*EV] feature and percolates to the CP projection. Under Phase Theory (Chomsky 2000), it constitutes a *phase*, and is opaque to subsequent syntactic operations (indicated by the solid line frame).

(54) Step 1: Building the complement CP with the [EV] feature
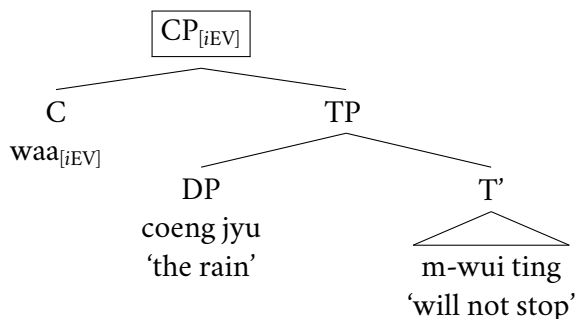
Then, the matrix verb *gamgok* 'feel like' selects this CP as its complement. As proposed, *gamgok* encodes [*u*EV] and agrees with the CP to check the [*u*EV] feature. Crucially, this Agree relation "opens up"/"unlocks" the CP, i.e., the CP phasehood is deactivated with respect to the V head (indicated by the dash frame).[22]

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21. As correctly pointed out by an anonymous reviewer, the proposed inventory of C heads potentially increases the lexical costs of the current proposal. We, however, maintain that a lexicalist approach to the Subject-Evidentiality Correlation established in Sect. 2 is superior to an approach that directly links the hyperraising of the subject (as also hinted at by the same reviewer) to some semantic distinction. Under standard assumptions on the modularity of the computational system, it would require fairly non-standard assumptions to implement how the semantic distinction could be reflected on the locality condition of subject movement. Acknowledging that potential lexical concerns on the proposed inventory, we argue that the Subject-Evidentiality Correlation is better handled by introducing the mediation of Cs that bear an evidential feature, which requires no modification on standard architectural assumptions.

22. 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) - it is relativized to the respective head which agrees with the phasal CP.

(55) Step 2: The matrix verb agrees with its complement CP on the [EV] feature
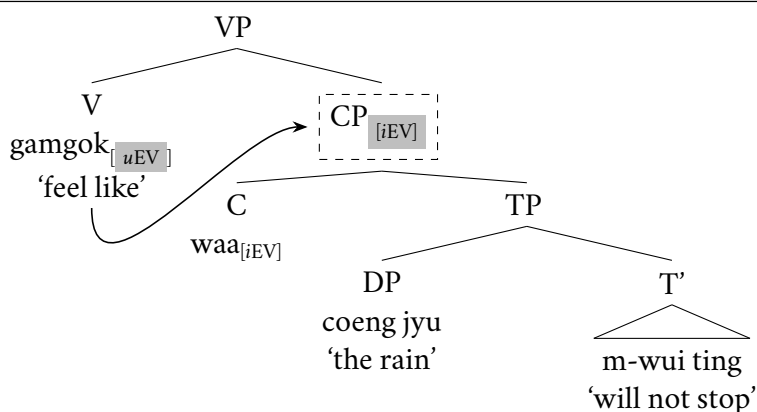
Subsequently, the *v* head bearing a [D] feature combines with the structure and triggers V-*v* movement.[23] The complex head *gamgok+v* inherits the properties of V head. As a result, the CP that is "transparent" with respect to V is now also "transparent" to *v* (following the Principle of Minimal Compliance). The [D] on *v* can thus further probe down into the CP and attract the embedded DP subject to satisfy its [D] feature.[24] The subject is then allowed to move across the CP boundary (to Spec *v*P).[25] The derivation continues with a further movement of the subject to Spec TP for another

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For example, long-distance passiviation, whose application is only limited to crossing non-finite clausal boundaries (and blocked by finite clasual boundaries, C.-T. J. Huang 2022), cannot apply across the embedded CP in RAV-constructions:

(i) a. *Sizoeng$_j$ bei [$_{TP}$ gingcaat$_i$ **tengman** [$_{CP}$ t$_i$ zukzau-zo t$_j$]].   Cantonese
      mayor   PASS   police   hear   arrest-PFV
      Int.: 'It is heard that the mayor is arrested by the police.'

   b. Sizoeng$_j$ bei [$_{TP}$ gingcaat zukzau-zo t$_j$].   Cantonese
      mayor   PASS   police   arrest-PFV
      'The mayor is arrested by the police.'

The phasal CP in RAV-constructions also blocks agreement. K.-F. Yip (2022) argues that the universal concord element *-can* agrees with a universal quantifier such as *mui-ci* 'every time', and the agreement is (finite) clause-bounded. Crucially, *-can* cannot be embedded in RAV-constructions, showing that the CP from which the subject is hyperraised is still a phase for other operations.

(ii) a. *Keoi$_i$ mui-ci   **gamgok** [$_{CP}$ t$_i$ king-can gai], lousi zau wui fat   keoi.   Cantonese
      3SG   every-time feel.like   chat-can chat teacher then will punish 3SG
      Int.: 'Whenever it is felt that s/he chats, the teacher will punish him/her.'

   b. Keoi mui-ci   king-can gai, lousi zau wui fat   keoi.   Cantonese
      3SG every-time chat-can chat teacher then will punish 3SG
      'Whenever s/he chats, the teacher will punish him/her.'

Conceptually, as discussed in footnote 20, the mechanism of phase unlocking, as with many other proposals, is based on the Principle of Minimal Compliance (Richards 1998), the spirit of which is to avoid multiple application of the same (locality) constraint on an element (hence minimal compliance). Put differently, whether a domain is transparent or not depends on its probe. In our analysis, while the CP (of RAVs) is transparent to its probe, it does not necessarily mean that it is so to other probes (if any).

23. Such movement is argued for by Tang (2003) and Chan, Lee, and Yip (2022) in Cantonese and Fukuda (2007) and Tsai and Phan (2023) in Vietnamese.

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

25. Using the same quantifier floating test discussed in Sect. 3.1, we see that the distributive operator *dou* can be "floated"

[D] feature on T (not shown in the diagram).

(56)   Step 3: The matrix verb attracts movement of the embedded subject out of the unphased CP
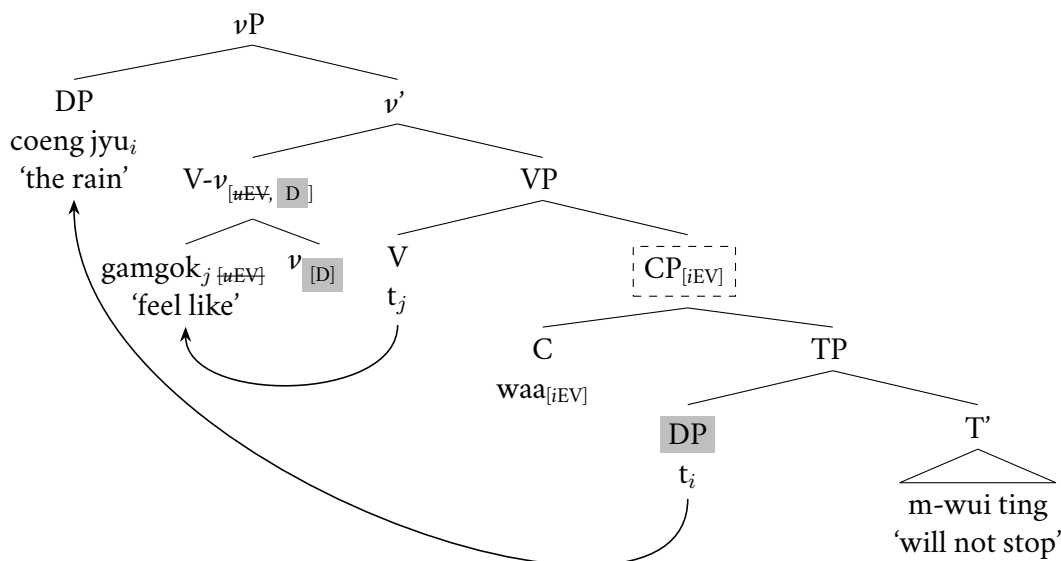
Notably, if the embedding verb is a NRAV, the subject movement in (56) is disallowed due to the absence of a prior Agree relation. In such case, if the subject moves in one fell swoop, it violates the locality requirement imposed by the CP phase (i.e. Phase Impenetrability Condition, Chomsky 2000, 2001). 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.

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).[26] A standard approach to rule out hyperraising structures in English, for example, involves the conspiracy of two components in (57).

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at a position lower than the temporal adverb but above the verb, i.e., the Spec vP position. This indicates the intermediate position of the hyperraised subject.

(i)   *Dou* floating below TP but above vP

[$_{TP}$ Mui-go   hoksaang gamjat [$_{vP}$ t$_i$ dou **tengman** jiging   haau-jyun-si   ]] laa3.
      every-CL   student   today   DOU hear   already   take-finish-exam   SFP
‘It is heard that every student finished their exam today.’

26. See the languages cited in footnote 1.

28

(57) 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:

(58) 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 Rack-
          owski (2001), Tanaka (2002), Takeuchi (2010), Obata and Epstein (2011), Fong (2019), and
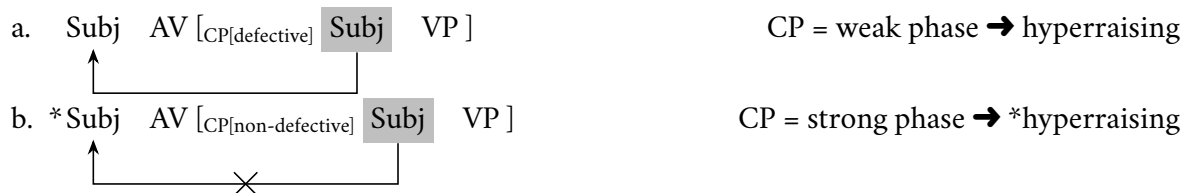   Wurmbrand (2019).

   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 sug-
gest that hyperraising in Cantonese and Vietnamese involves one movement step instead of multiple
steps. We discuss this issue in Sect. 4.3.2.[27]

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
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 hyerraising 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 defective-
ness 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 differenti-
ates 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 (59).

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27. 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.

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

    a.   Subj   AV [$_\text{CP[defective]}$ Subj   VP]   CP = weak phase ➜ hyperraising

    b. *Subj   AV [$_\text{CP[non-defective]}$ Subj   VP]   CP = strong phase ➜ *hyperraising

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.[28] 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/nghĩ* '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 (60) (see also (18b)).

(60)   *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 (60) 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 whereas the latter does. However, this is subject to a similar challenge given (60), if we exclude the role of attitude verbs in accounting for hyperraising constructions.
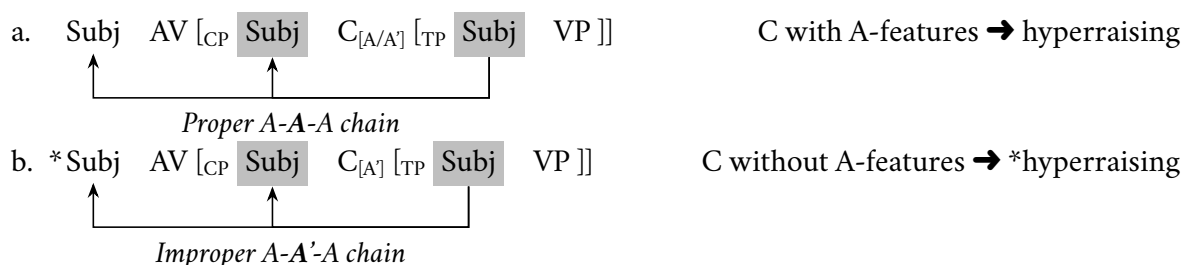
On the other hand, under our phase deactivation account, these issues do not arise. Instead of positing a general distinction in phasehood on CPs (i.e., indirect/defective CPs vs. direct/non-defective CPs), we suggest that attitude verbs differ in terms of feature encoding. In our cases of Cantonese and Vietnamese, the indirect evidential component on RAVs is realized as a syntactic feature that triggers an Agree relation with the CP. Crucially, this feature is responsible for phase deactivation as proposed. As such, in (60), while the clausal complement bears an (interpretable) indirect evidential feature, the attitude verb does not bear the uninterpretable counterpart. No Agree relation is established, and the locality requirement is in effect. This explains why (60) is unacceptable.

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

4.3.2 Successive A-movement and the featural definition of Spec CP

Another alternative to hyperraising constructions suggests that the movement steps involved in hyperraising can be a legitimate successive cyclic A-movement via Spec CP. This is achieved by reformulating the A/A'-nature of the Spec CP position. Following Chomsky (2007, 2008), the A/A'-distinction relies on the featural specification of the head. If the C head has A-features (in addition to A'-features, i.e., it is a composite Probe, van Urk 2015), its specifier is also an A-position. If so, A-movement via Spec CP to the matrix clause would not constitute Improper Movement. The movement chain is now a *proper* A-**A**-A chain, rather than an "improper" A-**A'**-A chain. This approach has been adopted to explain hyperraising in Japanese, Lusaamia (Bantu), Mongolian, and other languages (Bruening and Rackowski 2001; Tanaka 2002; Takeuchi 2010; Obata and Epstein 2011; Fong 2019; Wurmbrand 2019).[29]

(61)   Schematic representation of a successive movement approach to hyperraising

  a. Subj AV [$_{CP}$ Subj C$_{[A/A']}$ [$_{TP}$ Subj VP]]   C with A-features ➡ hyperraising

        *Proper A-**A**-A chain*

  b. *Subj AV [$_{CP}$ Subj C$_{[A']}$ [$_{TP}$ Subj VP]]   C without A-features ➡ *hyperraising

       *Improper A-**A'**-A chain*

An implementation of this approach to Cantonese and Vietnamese requires us to posit a link between the evidential features and A-features through lexical selection. A verb endowed with an evidential feature would need to select a CP that has A-features, in order to ensure that the moving subject can take Spec CP (an A-position) as an intermediate landing site. In contrast, a verb without an evidential feature obligatorily selects a CP that has only A'-features, whose specifier is an A'-position and thus disallows hyperraising.

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 (62). Note that this is possible in Mongolian hyperraising constructions discussed in Fong (2019), and is taken as evidence for a successive A-movement approach.

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29. There are two variants of the successive movement approach. For Alboiu and Hill (2016), hyperraising in Romanian is indeed A'-movement (with mixed A-properties) driven by an A'-feature on the matrix *v*. The movement proceeds via the embedded Spec CP as standard A'-movement. The A-properties of hyperraising are due to the A-features on the composite *v* Probe. Another variant is a Horizon-based approach by Kobayashi (2020), following Keine (2019, 2020). For Kobayashi, an A-A'-A chain is allowed in Brazilian Portuguese hyperraising. Despite differences in terms of implementations, these approaches share the core idea that the Spec CP position is an intermediate landing cite of cross-clausal A movement. We do not further distinguish these approaches.

(62)   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 COMP 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 COMP FUT 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 (63), the quantifier *dou* can only float at the embedded subject position (i.e. Spec TP), but not at the embedded Spec CP.

(63)   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 <u>dou</u> jiging haaujyun si]].
   every CL student hear COMP 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 <u>dou</u> [waa [TP jiging haaujyun si]]].
   every CL student hear DOU COMP already finish exam
   Int.: 'It is heard that every student has already finished the examination.'

Likewise, Vietnamese quantifier *tất cả* 'all', as exemplified in (64a), shows a similar ban on floating at Spec CP. In (64b), the prenominal quantifier *tất cả* may float and be realized at the embedded subject position at Spec TP. In (64c), however, *tất cả* cannot be pronounced at the embedded Spec CP.

(64)   No floating of *tất cả* 'all' at the embedded Spec CP in Vietnamese

 a. *Baseline*
   [<u>Tất cả</u> học sinh] đều sẽ không đến.
   all student DEU FUT not come
   'All the students will not come.'

 b. Tất cả *quantifier floating at Spec TP:*
   [_ học sinh] **nghe nói** [CP là [TP <u>tất cả</u> đều sẽ không đến].
   student hear COMP all DEU FUT not come
   'It is heard that all the students will not come.'

 c. *No* tất cả *quantifier floating at Spec CP:*
   *[_ học sinh] **nghe nói** [CP <u>tất cả</u> [là [TP đều sẽ không đến].
   student hear all COMP DEU FUT not come
   Int.: 'It is heard that all the students will not come.'

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 (65).

(65) 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 (66) shows that elements in Spec CP (e.g., a topic) can bind the reflexive *keoizigei* 'himself/herself' in the perspective adverbial.[30]

(66) 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 (67), 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.

(67) 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   COMP   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 (67), together with (62) and (63), 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.

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30. Cross-linguistically, bare reflexives may involve logophoric licensing and 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; Huang and Liu 2001). The same is true for Cantonese *zigei* 'self' vs. *keoizigei* '3SG.self' (Matthews and Yip 2011).

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 Romanian in Sect. 5.1.1, and Spanish in Sect. 5.1.2. We further discuss the case in Tiriki (Bantu) in Sect. 5.1.3.

5.1.1 Hyperraising-to-Object in Romanian

Similar to Cantonese and Vietnamese, Romanian shows a connection between evidentiality and hyperraising (to object) (Alboiu and Hill 2013a, 2013b, 2016). Consider (68) and (69). 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 (=68) and verbs of knowledge (=69). These verbs come with indirect evidentiality in the hyperraising cases.

(68) 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 COMP Mihai fixes   house.the
        'I have 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 COMP   fixes house.the
        'I have heard Mihai claiming that he's fixing the house.'

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

(69) Hyperraising to object in Romanian, with verbs of knowledge
(Other verbs include: *afla* 'find out', *bănui* 'suspect', and *şti* 'know'[31])

    a. Am   **ghicit** [că   *Mihai* îşi   aranjează plecarea].
        have.1SG guessed COMP Mihai REFL.DAT arranges leave.the
        'I suspected/figured out that Mihai is arranging his leave.'

    b. L-am   **ghicit** *pe* *Mihai$_i$* [că-şi   t$_i$ aranjează plecarea].
        him-have.1SG guessed DOM Mihai COMP-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 *dovedeşte* 'prove', and these verbs do not seem to

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31. Alboiu and Hill (2016) points out that *şti* 'know' is compatible with inferential semantics, hence not a factive verb.

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.[32] Two examples are given in (70).

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

 a. *Ion (o) **dovedeşte** *pe*   *Maria*$_i$ [că   ieri t_i a   furat   motocicleta   ].
  Ion her proves   DOM Maria   COMP yesterday   has stolen motocycle.the
  Int.: 'Ion proves that Maria has stolen the motocycle yesterday.'

<div align="right">(Alboiu and Hill 2013a, p.10, adapted)</div>

 b. *L-am   **amintit**   *pe*   *Mihai*$_i$ [că t_i repară casa   ].
  him-have.1SG remembered DOM Mihai   COMP   fixes   house.the
  Int.: 'I remembered that Mihai fixes the house.'   (p.c. with Andreea Ciobanu)

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. For concreteness, we propose the following feature specification on attitude verbs in Romanian (same as Cantonese and Vietnamese).

Types of AV	Feature on AV	Required feature on the clausal complement
RAVs	$[u\text{EV}_{\textbf{indirect}}]$	$[i\text{EV}_{\text{indirect}}]$
NRAVs	ø	ø

<div align="center">Table 7: The proposed feature specification on attitude verbs in Romanian</div>

Given this feature specification, our proposed deactivation account readily extends to capture the split among different attitude verbs and their connection with evidentiality in Romanian.[33]

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

33. As pointed out by an anonymous reviewer, hyperraising in Romanian, unlike Cantonese and Vietnamese, has an additional constraint: it is blocked by embedded topic/focus (Nunes 2008:94 fn.9; see also Grosu and Horvath 1987; Dobrovie-Sorin 1994). Moreover, hyperraising in Romanian is also incompatible with long-distance *wh*-movement (Alboiu and Hill 2016). The incompatibility between hyperraising and A'-movement (topic/focus/*wh*-movement) is reminiscent of the idea of composite A'/A probes suggested in Obata and Epstein (2011) and van Urk (2015). C heads in languages like Kilega and Dinka carries both [A']/[A] features, and triggers mixed A'/A-movement that conflicts with (pure) A'-movement since both move to/via Spec CP. This explanation is adopted by Alboiu and Hill (2016) to account for the Romanian data, where the hyperraised DP moves *via* the embedded Spec CP headed by a composite C probe. This idea is further pursued in Lohninger, Kovač, and Wurmbrand (2022) and Lohninger and Yip (2023) to account for a set of languages where hyperraising disallows additional A'-movement, including Romanian, Japanese, Korean, Tsez, and Turkish. Strikingly, this set of languages also imposes a semantic restriction on the hyperraised DPs (e.g., topic/focus/evidential source), which is attributable to the interpretation of the [A'] feature in the mixed A'/A movement. On the other hand, Cantonese and Vietnamese impose no semantic restrictions on the hyperraised DPs (but instead on the matrix verbs, as we propose). This provides a plausible explanation on why A'-movement does not block hyperraising in these languages, unlike Romanian. We would also like to note that the intermediate movement to Spec CP in Romanian does not void the need of the phase deactivation account, since Romanian also exhibits the evidential restrictions on the *verbs* in a way similar to Cantonese and Vietnamese. See also Urk and Richards (2015) and Carstens (2023b) for a view that languages like Dinka or Xhosa require both movement to phasal edge and phase deactivation for extraction.

5.1.2 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 (71) and (72), 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 ∆).

(71)   The perception verb 'hear' in Spanish   (adapted from Suñer 1978, p.107, 109)

    a.   **Oigo** [que Juan toca la guitarra].   (V + CP)
        hear.1SG COMP John is-playing the guitar
        'I hear that John is playing the guitar.'

    b.   **Oigo** a Juan [que ∆ toca la guitarra].   (V + object + CP)
        hear.1SG DOM John COMP (he) is-playing the guitar
        'I hear that John is playing the guitar.'

    c.   Lo **oigo** [que ∆ toca la guitarra].   (clitic + V + CP)
        him hear.1SG COMP (he) is-playing the guitar
        'I hear that John is playing the guitar.'

(72)   The perception verb 'see' in Spanish   (adapted from Suñer 1978, p.107, 109)

    a.   **Veo** [que el río trae mucha agua].   (V + CP)
        see.1SG COMP the river carries a-lot-of water
        'I see that the river brings a lot of water.'

    b.   **Veo** el río [que ∆ trae mucha agua].   (V + object + CP)
        see.1SG the river COMP (it) carries a-lot-of water
        'I see that the river brings a lot of water.'

    c.   Lo **veo** [que ∆ trae mucha agua].   (clitic + V + CP)
        it see.1SG COMP (it) carries a-lot-of water
        'I see that the river brings 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 (73) with inferential evidence. The contrast in (73) suggests that the complement clause must be based on direct (perceptual) evidence for hyperraising to occur.

(73)   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 COMP 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
       saw.1SG DOM Mary COMP (she) was   back   because her car was   in
       el   garage
       the 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 (74).

(74)   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 saw.1SG COMP (he) used.to get.up   at six
       Int.: 'I saw that he used to get up at six.'

    b. *Lo **veo**   [que   Δ   puede/   debe levantarse a las seis]. (Suñer 1978, p.114)
       him see.1SG COMP (he) is.able.to/ must get.up   at six
       Int.: 'I saw that 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 (75)).

(75)   Perceptions verbs without hyperraising   (Herbeck 2020, p.113)
Veo   [que *pro* has   aprobado].
see.1SG COMP (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	ø	ø

Table 8: The proposed feature specification in Spanish

5.1.3 Hyperraising-to-Subject in Tiriki (Bantu)

We have seen that languages may vary in the types of evidential features that license hyperraising: while it is the *indirect* feature in Cantonese, Vietnamese and Romanian, it is the *direct* feature in Span-

ish. Indeed, *both* types of features can be found in one single language and similarly license hyperraising. This is attested in Tiriki (Luhya, Bantu) (Diercks, Venning, and Hernandez 2022).

To begin with, Tiriki has two expletive agreement markers on verbs, *ka-* (class 6) and *i-* (class 9). They are sensitive to the direct vs. indirect classification of evidentiality: *ka-* is only compatible with indirect evidence, whereas *i-* is only compatible with direct evidence. As shown in (76), where the context is an indirect (i.e., inferential) one, the matrix attitude verbs must be marked with *ka-*, but not *i-*.

(76) *Ka*-marked verbs are only compatible with *indirect* evidence contexts
      Context: You live next to the school and hear the children making noise as they are leaving (you don't see them directly):
      {Ka-/#i-}lolekh-a khuli vaana va-mal-i   kasi   y-a   musukulu.
      {6sm-/9sm-}seem-fv that 2-child 2sm-finish.pst-fv 9-work 9-assc 18-in.school
      'It seems that the children have finished their schoolwork.'
                                                      (Diercks, Venning, and Hernandez 2022:43)

In contrast, *i-*marked verbs are only allowed in contexts where the embedded proposition is based on direct evidence like the direct visual evidence in (77). *Ka-* is not compatible with the context in (77).

(77) *I*-marked verbs are only compatible with *direct* evidence contexts
      Context: If I come across the students leaving the gate of the school:
      {#Ka-/i-}lolekh-a khuli vaana va-mal-i   kasi   y-a   musukulu.
      {6sm-/9sm-}seem-fv that 2-child 2sm-finish.pst-fv 9-work 9-assc 18-in.school
      'It seems that the children have finished their schoolwork'
                                                      (Diercks, Venning, and Hernandez 2022:43)

More importantly, both *ka-*marked verbs and *i-*marked verbs allow hyperraising, and, strikingly, they retain the *same* evidential restrictions. Hyperraising with *ka-*verbs is only licensed with indirect evidence, and hyperraising with *i-*marked verbs is only licensed with direct evidence. The patterns are exemplified in (78)-(79).[34]

(78) Hyperraising with *ka-*marking (but not *i-*) is compatible with *indirect* evidence contexts
      Context: You live next to the school and hear the children making noise as they are leaving (you don't see them directly):
      Vaana **{ka-/#i-}lolekh-a** khuli va-mal-i   kasi   ya   musukulu.
      2-child {6sm-/9sm-}seem-fv that 2sm-finish.pst-fv 9-work 9-assc 18-in.school
      'The children seem to have finished their schoolwork.'
                                                      (Diercks, Venning, and Hernandez 2022:44)

(79) Hyperraising with *i-*marking (but not *ka-*) is compatible with *direct* evidence contexts
      Context: If I come across the students leaving the gate of the school:
      Vaana **{#ka-/i-}lolekh-a** khuli va-mal-i   kasi   ya   musukulu.
      2-child {6sm-/9sm-}seem-fv that 2sm-finish.pst-fv 9-work 9-assc 18-in.school
      'The children seem to have finished their schoolwork.'
                                                      (Diercks, Venning, and Hernandez 2022:43)

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34. In (78)-(79), the matrix predicates carry the expletive agreement markers and do not agree with the hyperraised DPs, which is called "non-agreeing raising" in Diercks, Venning, and Hernandez (2022) and is sometimes called "further raising" in the literature (e.g., Halpert 2019).

Incorporating these observations to our proposal, we suggest that Tiriki is a language that has both indirect evidential $[u\mathrm{EV}_{\mathrm{indirect}}]$ and direct evidential $[u\mathrm{EV}_{\mathrm{direct}}]$ features on the verbs, exponed as *ka-* and *i-*, respectively. Under our proposal, they crucially establish agreement relations with the clausal complement clauses that carry the corresponding evidential features, thus allowing hyperraising (to subjects).

Types of AV	Feature on AV	Required feature on the clausal complement
ka-RAVs	$[\boldsymbol{u}\mathbf{EV_{indirect}}]$	$[i\mathrm{EV}_{\mathrm{indirect}}]$
i-RAVs	$[\boldsymbol{u}\mathbf{EV_{direct}}]$	$[i\mathrm{EV}_{\mathrm{direct}}]$

Table 9: The proposed feature specification in Tiriki

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 $[\mathrm{EV}_{\mathrm{indirect}}]$ and $[\mathrm{EV}_{\mathrm{direct}}]$ 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.

(80) <u>Illicit hyperraising to subject in English</u>   (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.[35]

We briefly discuss a piece of suggestive evidence for this suggestion. The claim that English lacks syntactic evidential features on attitude verbs can be linked to the absence of *grammatical* evidential marking in English. In English evidentiality is marked via lexical means, including adverbials such as *reportedly* and *allegedly*, and parentheticals such as *I think*.

On the other hand, as we have already seen, the evidential marking is grammatically marked on verbs in Tiriki, and hyperraising is allowed. Although the evidential features on attitude verbs in Cantonese and Vietnamese are phonologically null, their presence may find support from the presence

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35.   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).

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 (81).

(81) 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*). P. P.-L. Lee (2021) also argues that *lo1* is a grammatical evidential marker. Likewise, in Vietnamese, SFPs such as *rồi*, express indirect grammatical evidentiality (Dao 2021).

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

We take the presence of evidentiality-related SFPs as a piece of suggestive evidence for the grammaticalization/syntactization of the evidential component in Cantonese and Vietnamese. The proposed null evidential features belong to a larger grammatical system of evidential marking in these languages.[36]

6   Conclusions

In this paper, we first revealed a correlation between the position of subjects and evidentiality in (83), repeated from (3).

(83) 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

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36. As critically pointed out by an anonymous reviewer, it is crucial to provide evidence for the syntactic nature of the proposed evidential features associated with SFPs. Possible syntactic realizations of the syntactic evidential feature may take form of morphological agreement (double marking), locality conditions, and feature intervention, among others. It is, however, not immediately clear to us whether there is evidence from Cantonese and Vietnamese illustrating these points, due to the general lack of inflection in these languages. To the best of our knowledge, proposals specifically addressing the syntactic nature of evidential features are limited. We are aware that in Quechua evidential features can be doubly marked on both C and T, lending support to the syntactic nature of evidential feature (Sánchez 2004). We thank the reviewer for raising the careful question relating to the nature of evidential features.

2008; Halpert 2016, 2019; Branan 2018; Branan and Davis 2019; den Dikken 2018; Toquero-Pérez 2021; Carstens 2023b, 2023a), 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 Lohninger, Kovač, and Wurmbrand (2022) 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.

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