Revisiting the connection between (hyper)raising and evidentiality

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1 Introduction

As long-distance A-dependencies such as hyperraising are discovered in more and more languages, syntactic theory must determine what makes hyperraising languages unique in being able to license A-movement out of finite clauses/CPs, and what sets these languages apart from languages like English which are traditionally understood to only license clause-bound A-movement. Currently, many analyses of hyperraising in the literature implicitly or explicitly assume that hyperraising is ruled out by default, but may be facilitated if a given CP is somehow "defective" or is "deactivated" as a barrier by some prior operation (Zyman 2023). In this paper, I paint a very different picture in which hyperraising is in principle allowed as long as it obeys the θ-criterion. I focus in particular on a documented connection between indirect perception predicates and hyperraising in Cantonese and Vietnamese (Lee and Yip 2024), which I argue is best captured in terms of the θ-criterion rather than the phase-deactivation analysis proposed in Lee and Yip (2024). After discussing my new analysis of the Cantonese/Vietnamese facts, I show that this analysis correctly predicts that hyperraising may be allowed even in English as long as the θ-criterion is obeyed.

The rest of this paper is organized as follows: in section 2, I discuss recent work by Lee and Yip (2024), who argue hyperraising in Cantonese and Vietnamese is enabled by a phase-deactivating instance of Agree, and argue with new data from English that we can instead simply invoke the θ-Criterion. In section 3, I argue that direct evidentiality cannot be leveraged to license hyperraising; it is specifically the thematic properties of *in*direct perception verbs that allow (hyper)raising. In section 4, I will discuss the potential overgeneration of English hyperraising and argue that hyperraising in English is ruled out when the θ-criterion is violated, but may be possible otherwise. Finally, section 5 concludes and discusses directions for future research into hyperraising and the θ-criterion.

2 Cantonese & Vietnamese hyperraising are like English raising

2.1 Background: Lee and Yip (2024)

Lee and Yip (2024) [henceforth LY24] show (a) that Vietnamese and Cantonese allow subject-to-subject raising across a finite clause boundary and (b) that this raising is only possible across attitude verbs that encode **indirect** perception; it is illicit over attitude verbs that encode direct perception.

A relevant minimal pair from LY24 involves the Cantonese attitude verb *tenggog/tengman*[1] ('hear/be.heard'), which entails indirect auditory perception, vs. its counterpart *teng-dou* ('hear/be.heard-ACCOMP'), which entails direct auditory perception. To illustrate this interpretive contrast, consider an indirect evidence scenario in which you find out via hearsay (i.e. indirectly) that Ming is playing the piano. In this context, the indirect perception verb *tengman* is felicitous while the direct evidence verb **teng-dou** is infelicitous (data from Lee and Yip 2024):

(1) Ngo { tengman / #teng-dou   } Aaming taan-gan   kam.
     1SG { hear   / #hear-ACCOMP } Ming   play-PROG piano.

[1]LY24 gloss both *tenggong* and *tengman* as "hear (indirect)." I've reproduced the examples from LY24 as they appear in their paper. For the sake of my analysis and theirs, they are treated exactly the same.

"I heard that Ming is playing piano."   (**Cantonese**; indirect context)

However, in a direct perception context in which the speaker is near Ming and hears him playing piano directly, the contrast goes in the other direction (Lee and Yip 2024):

(2) Ngo { #tengman / teng-dou   } Aaming taan-gan kam.
     1SG { #hear   / hear-ACCOMP } Ming   play-PROG piano.
     "I heard that Ming is playing piano."   (**Cantonese**; direct context)

Interestingly, while the indirect perception verb *tenggong/tengman* is compatible with hyperraising, the direct perception verb is not:

(3) **Cantonese** hyperraising asymmetry (Lee and Yip 2024)

   a. **Hoenggong**$_i$ tenggong [$_{CP}$ waa tr_i hou ngaihim   ].
       Hong Kong   hear   [$_{CP}$ COMP tr very dangerous].
       "Hong Kong is heard to be very dangerous".   (indirect perception V)

   b. ***Hoenggong**$_i$ teng-dou   [$_{CP}$ waa tr_i hou ngaihim   ].
       Hong Kong   hear-ACCOMP [$_{CP}$ COMP tr very dangerous].
       Intended: "Hong Kong is heard to be very dangerous."   (direct perception V)

A similar asymmetry is found in Vietnamese. For example, in a context where the speaker is warm and cozy inside their home, but sees through the window that people outside are shivering, the indirect perception verb *cảm giác* is felicitous while the direct perception verb *cảm-thấy* is infelicitous:

(4) Tôi { cảm giác / #cảm-thấy   } bên ngoài rất   lạnh.
     1SG { feel.like / #feel-ACCOMP } outside   very cold.
     "I feel it is cold outside."   (**Vietnamese**; indirect context)

In a context where there is direct tactile evidence, however, e.g. where the speaker is walking outside in the winter without a coat, the contrast is flipped:

(5) Tôi { #cảm giác / cảm-thấy   } bên ngoài rất   lạnh.
     1SG { #feel.like / feel-ACCOMP } outside   very cold.
     "I feel it is cold outside."   (**Vietnamese**; direct context)

Once again, hyperraising is only possible with the verb that encodes *indirect* perception:

(6) **Vietnamese** hyperraising asymmetry (Lee and Yip 2024)

   a. **Cơn mưa này**$_i$ cảm giác rằng tr_i sẽ   không dừng.
       CL   rain this feel.like COMP tr FUT not   stop
       "It is felt that the rain will not stop."   (indirect perception V)

   b. ***Cơn mưa này**$_i$ cảm-thấy   rằng tr_i sẽ   không dừng.
       CL   rain this feel-ACCOMP COMP tr FUT not   stop.
       Intended: "It is felt that the rain will not stop."   (direct perception V)

LY24 give an analysis of this contrast in terms of phase deactivation: indirect perception verbs host an [uEV**indirect**] feature that selects for and Agrees with a CP bearing an [iEV**indirect**] feature. This instance of Agree between evidentiality features on the verb and embedded CP 'unlocks' the otherwise opaque CP for further operations like raising out of CP. Direct perception verbs do not realize this feature and thus cannot 'unlock' their complements through Agree.

2.2 Parallels from English raising

LY24's analysis neatly captures the contrasts exhibited by CP-embedding attitude verbs in Vietnamese and Cantonese, but it frames the direct vs. indirect evidentiality divide with respect to A-movement strictly in terms of hyperraising out of an otherwise opaque CP. I will now show data from English that show the same direct/indirect evidentiality divide, but with ordinary raising out of syntactically transparent infinitival TPs. English verbs of perception like *taste* and *sound* are categorically ruled out as raising predicates in the following examples:

(7) *The kettle sounds to be boiling.   (Hearing a whistling kettle)

(8) *This wine tastes to be acidic.   (Sampling a sour wine)

However, in contexts where the tasting or hearing event *indirectly* triggers an inference in favor of the embedded proposition, these verbs may serve as raising predicates:

(9) RDNA3 sounds to be a real work of art.   (Twitter)

(10) I didn't test the ABV, but it tastes to be about 8%.   (Online cider forum)

These are indeed cases of raising, not control, as evidenced by the possibility of an expletive subject in (11–12). In these examples, the respective perceptual events involving taste and sound are again inferential and indirect.

(11) This is your typical IPA with maybe a bit more of a "tropical" twist. By that, I mean **there tastes to be a bit more of a lime taste to this**.   (Online beer forum)

(12) There sounds to be a lack of clarity at source.   (Audio software forum)

The beer drinker in (11) is expressing their opinion about a subtle flavor quality of a beer, i.e. inferring that the beer is a bit lime-like, a quality is unlikely to be directly tasted (in contrast to a primary taste like sourness/aciditiy). The user in (12) is likewise commenting on a complex and subtle auditory property i.e. "a lack of clarity", which the same author notes is an artifact/epiphenomenon caused by the removal of certain sounds, writing: "it's [a sound-mixing tool] perfectly capable of removing what you actually want to keep, and a 'lack of clarity' is often the way that's percieved." In sum, like Cantonese and Vietnamese hyperraising, English raising (out of TP) displays an asymmetry wherein raising is only possible out of a predicate that denotes indirect perception.

2.3 Directness and thematic relations

The English contrasts above directly parallel the Cantonese and Vietnamese hyperraising contrast from LY24, but LY24's phase deactivation is of no use here because infinitival TPs in English are known to be transparent for the sake of A-movement and thus don't need to be "deactivated." I thus suggest an alternative θ-theoretic analysis that can account for both the English and Cantonese/Vietnamese data. My key assumptions are (a) that the external argument of a direct perception verb is assigned a θ-role (e.g. P(ERCEPTUAL)-SOURCE or CAUSE), and (b) that the external argument of an indirect perception verb is not assigned a θ-role.

This asymmetry is motivated by the consensus from the psycholinguistic and semantic literature which says that the linguistic encoding of temporally adjacent occurrences in the world only groups these occurrences into a single linguistic event if *direct causation* connects each occurrence/potential subevent (Fodor 1970, Wolff 2003, Truswell 2011). Accordingly, a source of evidence that directly and immediately triggers perception and a corresponding inference can be a participant in the θ-grid of an event, but indirect evidence cannot be (trivially, for something to be in the θ-grid of an event, it must be grouped in as part of that event).

With this thematic asymmetry in mind, we can now use the θ-criterion to account for the raising asymmetries found in Cantonese and Vietnamese hyperraising and English raising. In its classic conception (Chomsky 1982), the θ-criterion says that "each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument." Consequently, an argument cannot

move from one θ-assigning position to another such that it receives two θ-roles. Under my above-motivated assumptions about the respective θ-grids of indirect and direct perception predicates, the θ-criterion is violated if an already θ-bearing subject raises from the embedded clause to be the subject of a verb of *direct* perception where it would be assigned CAUSE or P-SOURCE.

(13) *Hoenggong$_i$ teng-dou [$_{CP}$ waa tr_i hou ngaihim].
Hong Kong hear-ACCOMP [$_{CP}$ COMP tr very dangerous].
Intended: "Hong Kong is heard to be very dangerous." (**Cantonese**, direct perception V)

(14) *The kettle sounds to be boiling. (**English**; direct context)

Putting all this together, A-movement to the subject position of a direct perception verb in both LY24's Cantonese/Vietnamese data (13) and English (14) can be ruled out by the θ-criterion. The direct perception verbs in the illicit examples have a P-SOURCE role to assign to their external arguments, so it must find an argument to assign this role to. But under the requirement that a single argument can have at most one θ-role, this P-SOURCE argument cannot be the downstairs subject (e.g. *Hoenggong*, *the kettle*) because this subject already received a θ-role from the downstairs verb. The issue does not arise with indirect perception events as they have no associated P-SOURCE event participant.

3 Is indirect perception special?

A major difference between the θ-theoretic analysis presented here and the phase deactivation analysis presented in Lee and Yip (2024) concerns our predictions about cross-linguistic variation. In Lee and Yip (2024)'s analysis, [iEV$_{indirect}$] is just one of many features that could in principle be involved in a phase-deactivating instance of Agree such that hyperraising is allowed (alongside, e.g. ϕ-Agree as in Halpert 2019). In fact, they argue that languages may differ with respect to whether is indirect or direct evidentiality that is encoded as a feature on verbs and CPs. So while Vietnamese and Cantonese appear to realize indirect evidentiality as a feature, they claim that other languages may encode [iEV$_{direct}$] on V and CP such that exclusively direct evidence predicates allow hyperraising, the mirror image of Vietnamese and Cantonese.

By contrast, because I argue that P-SOURCE θ-role assignment stems from the very nature of direct perception predicates, I predict that we should find more languages like Vietnamese and Cantonese (as I have argued for English), but not the reverse type of language where direct perception predicates allow hyperraising to the exclusion of indirect perception predicates.

To test the rival predictions of our two accounts, we can look to Spanish data from Herbeck (2020), which Lee and Yip (2024) argue is a language where direct evidence is leveraged to unlock CP for hyperraising. The relevant construction is exemplified below. (15) illustrates the base sentence which (16) is hypothesized to be derived from via A-movement in Herbeck (2020) and Lee and Yip (2024). Note that in addition to the position of *(a) María*, the two sentences differ with respect to their interpretations: (15) is compatible with the speaker either directly or indirectly seeing María leave, while (16) requires that the speaker see María leave directly, not merely infer her absence from visual evidence.

(15) Vi [$_{CP}$ que María estaba enferma].
see-1SG.PAST [$_{CP}$ that María was sick]
"I saw that María was sick." (OK direct, OK indirect)

(16) Vi a María [$_{CP}$ que — estaba enferma].
see-1SG.PAST DOM María [$_{CP}$ that — was sick].
"I saw that María was sick." (OK direct, # indirect)

Following Herbeck's proposal that (16) is derived via A-movement from the embedded CP to the matrix object position, Lee and Yip propose the following: Spanish encodes [iEV$_{direct}$] on direct perception verbs (i.e. on *vi* "see-1SG.PAST") in (16) and the CPs they select, allowing the verb and

CP in (16) to enter into an Agree relationship that "unlocks" the CP phase for further operations like A-movement.

My analysis makes the opposite prediction: an A-movement derivation of (16) takes *María* from its base θ-position into a P-SOURCE θ-position, and we have so far relied on the assumption that movement between θ-positions is illicit. However, since Spanish allows *pro*-drop, (16) is actually ambiguous between a true hyperraising-to-object derivation and a non-movement analysis where embedded *pro* is bound by *María* (perhaps similar to prolepsis, *cf.* Salzmann 2017). To tease apart these possibilities, I consulted 3 Spanish speakers to compare judgments of the subject-to-subject hyperraising islands reported in Fernández-Salgueiro (2005) to island configurations in the hypothesized hyperraising to object construction.

(17) *Juan y   Pedro parece   [$_{CP}$ que Eva se   pregunta   si —
     Juan and Pedro seem-3SG.PRES [$_{CP}$ that Eva 3SG.REFL ask-3SG.PRES if —
     se marcharon].
     left-3PL.PAST]
     Intended: "It seems that Eva wonders whether Juan and Pedro left."   (Fernández Salgueiro 2005)

(18) Voy   a ver   a   María [$_{CP}$ si — se marchó].
     Go-1SG.PRES to see-PRES DOM María [$_{CP}$ if — left]
     "I'm going to see if María left" (OK direct perception, # indirect).

My consultants judge Fernández-Salgueiro's subject-to-subject raising across a *wh*-island (17) to be ungrammatical as predicted, but deem (18) perfectly OK. I take this to suggest that the gap in the embedded clause is not an A-trace but rather *pro* bound by *María* (see also Casalicchio et al. 2021's comparison of German proleptic constructions with these constructions in Spanish). While LY24's analysis does not make any predictions regarding prolepsis/binding, under my account, the fact that (16) & (18) are derived via binding of an embedded pronominal is exactly what the θ-criterion predicts: two arguments for two θ-roles.

4 Addressing the overgeneration (non-)problem

Recall that in LY24's analysis, embedded CPs in Cantonese and Vietnamese are assumed to be opaque for A-movement by default, but an instance of Agree between the matrix predicate and the CP "unlocks" CP. Under my analysis, I rely on the θ-criterion rather than a combination of the Phase Impenetrability and phase deactivation to mediate hyperraising.

An underlying tension between these two analyses is what they have to say regarding the crosslinguistic availability of hyperraising more generally: for LY24, hyperraising is blocked by default in Cantonese and Vietnamese (and presumably most other languages, given standard assumptions about CP phasehood) and only allowed in exceptional circumstances where Agree deactivates CP. But in my analysis, I implicitly assume hyperraising is generally available in Cantonese and Vietnamese and only becomes illicit when the θ-criterion is violated, like classic raising in English.

Under the standard assumption that hyperraising is unavailable in English, my account would have to make an additional stipulation about the difference between Cantonese and Vietnamese on the one hand and English on the other, such that CP in Cantonese/Vietnamese is generally transparent for A-movement and generally opaque in English. In the absence of data independently motivating a syntactic difference between CPs in these languages, this seems like an undesirable stipulation. However, such a stipulation is unnecessary if we can reduce the apparent lack of hyperraising in English to a consequence of the θ-criterion, which I argue is possible in the next section. I also argue, following Greeson (2023), that an additional prediction is borne out: hyperraising becomes possible in English if the θ-criterion is obeyed.

Hyperraising is generally assumed to be illicit in English on the basis of the following contrast between (19) and (20):

(19) Mei$_i$ seems [$_{TP}$ tr_i to be happy].   (Canonical/infinitival raising)

(20)   *Mei$_i$ seems [$_{CP}$ (that) tr_i is happy].   (Hyperraising)

The standard syntactic analyses deal with this using a number of constraints, including the Phase Impenetrability Condition (Chomsky 2000), the Ban on Improper Movement (Chomsky 1973), and/or Minimality (Halpert 2019); see Zyman (2023) for an overview. However, all of these analyses share an implicit assumption, namely that the thematic properties of *seems* is identical in (19) and (20). In Greeson (2023), though, I show that this assumption is problematic: English *seems* entails direct perception of its subject when it embeds a CP, but not when it embeds a TP. Using reasoning parallel to my analysis of Cantonese and Vietnamese above, Greeson (2023) argues that sentences like (20) are ruled out via the θ-criterion. *Mei* is assigned a θ-role THEME in the embedded clause, then moves to spec,vP of the matrix verb *seems*. But since, by hypothesis, spec,vP of CP-embedding *seems* is also a θ-position (corresponding to P-SOURCE), this derivation is ruled out by the θ-criterion.

Now we turn to the empirical evidence for a thematic asymmetry between TP-*seems* and *CP*-seems. Consider the contrast below, adapted from Rudolph (2019). Imagine Mei is not in her kitchen, but you see pots and pans are on the stove with food simmering in them. You may felicitously utter (21), but not in (22)[2]:

(21)   Mei seems [$_{TP}$ to be cooking].

(22)   # Mei$_i$ seems [$_{CP}$ (like) she$_i$'s cooking].

This shows us that *seems* in (21) imposes no thematic requirement on its subject while *seems* in (22) does. But what about the fact that *seems* can embedded a CP and take an expletive subject, as in (23)?

(23)   It seems [$_{CP}$ (like) she's going to quit her job].

The answer to this concern is that *it* is not a true expletive in these constructions, an idea dating back to at least Schwartz (1972) and Bolinger (1973). Notice that *it* can be quantified or replaced with a referential DP like "things":

(24)   "I have the same feeling towards [Andrew] Tate.. remember when he says he is the first angel and the last man? Entrusted by God? All knowing? **It all** seems like he is trying to be a new prophet."   (web)

(25)   "He left the royal family by choice. Now **it all** seems $\emptyset_C$ he wants to feel relevant again." (web)

(26)   So, if today things seem like you're at a dead end or you really wish you were in a different place, turn to the Father.   (web)

On introspection, I and other English speakers report that *it*, *it all*, and *things* correspond to the source(s) of evidence that lead(s) the attitude holder to infer the embedded proposition, be it a news

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[2]Heycock (1992) and Landau (2011) point out sentences like the following, which seem to be counterexapmles to the generalization that CP-embedding *seems* has a P-SOURCE role to assign (contra the data in (21)).

(1)   Here's the grade sheet: Oh, John looks like he has failed the exam.   Landau (2011)

In this example, the referent corresponding to the matrix subject (the person John) has not been directly perceived by the speaker. Landau (2011) and Heycock (1992) take such data to suggest that there is no requirement that the subject be interpreted as a P-SOURCE, which in turn would undermine an argument for this position being a thematic one. However, as Asudeh and Tovoinen (2017) discuss, these types of sentences are still compatible with a P-SOURCE interpretation, but where, for example, the appearance of John's name on the grade sheet as in (1) serves as stand-in/proxy for John himself. This matches my intuition that not just any gradesheet can license (1). For example, I find (1) infelicitous in a context where the observed gradesheet simply reports a class average, although one can confidently infer that John failed if the class average on the sheet is 0%; it must be the case that John's name and grade appear and are directly observed, providing support for Asudeh and Tovoinen's proxy account.

report, a general state of affairs, etc. In other words, this *it* corresponds to a P-SOURCE, supporting the conclusion that CP-embedding *seems* assigns a θ-role to its subject.

I propose accordingly that the variation between Cantonese & Vietnamese vs. English can be reduced to a lexical matter: while Cantonese has a set of CP-embedding predicates that do not assign θ-roles to their subjects, English CP-embedding *seems* blocks hyperraising since it assigns a θ-role to its subject.

This proposal makes the additional prediction that English should in principle be able to license hyperraising as long as the θ-criterion is not violated. I argue that this is exactly what happens in examples like (27):

(27) **Mei**$_i$ it seems tr_i is happy.

In Greeson (2023), I propose that sentences like this are derived via A-movement out of the embedded clause, citing among other diagnostics the fact that this dependency obviates weak crossover (28) and does not obligatorily reconstruct for principle C (29):

(28) Every dad$_i$ it seems to his$_i$ kids [$_{CP}$ $\emptyset_C$ tr_j is awful at telling jokes.

(29) Mei$_i$'s father$_j$ it seems to her$_i$ [$_{CP}$ $\emptyset_C$ tr_j is a real jerk].

I argue that the reason hyperraising sentences like (27–29) are possible while the hypothesized hyperraising sentence in (20) is not is because the former obviate the θ-criterion using *it*. In licit hyperraising derivations, P-SOURCE-denoting *it* absorbs the θ-role that CP-*seems* must assign its external argument, freeing the embedded subject to A-move to a higher non-thematic position (Spec,SubjP in Greeson 2023)[3].

Finally, there is an additional possibility for hyperraising in English not explored in Greeson (2023). I predict that it should in principle be possible to have hyperraising in English even without a P-SOURCE-denoting *it* if we could find a suitable CP-embedding predicate without any θ-role to assign its external argument. This appears to be the case with the passive predicate *to be thought* in (30), which is accepted by a significant minority of speakers in an informal social media survey (N=5 accept, N=10 'iffy', N=15 reject), compared to categorical rejection of (31)-type sentences:

(30) $^{\%}$Gaps behind the cladding$_i$ are thought [$_{CP}$ tr_i may have created a chimney effect, drawing flames upward].[4]   (Quote from news site *Inside Croydon*)

(31) *Gaps behind the cladding$_i$ seem [$_{CP}$ tr_i may have created a chimney effect, drawing flames upward].

Overall, then, it seems that we should not worry that the analysis of Vietnamese and Cantonese hyperraising presented here might overgenerate hyperraising in English. On the contrary, adopting an analysis of hyperraising in which the chief mediating constraint is the θ-criterion correctly predicts that hyperraising is possible in English exactly when a nonthematic position is made available as a landing site.

5 Discussion and conclusion

In this paper I've argued that the θ-criterion plays a crucial role in mediating raising and hyperraising. Two relevant questions that need to be addressed in future work are **(i)** besides the θ-criterion, what other constraint(s) is/are necessary to understand the crosslinguistic restrictions on hyperraising?, and **(ii)** is the θ-criterion universally applicable to all A-dependencies in all languages?

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[3]Several details of Greeson (2023)'s analysis are omitted due to space, including an explanation for why *it* fails to intervene along the embedded subject's movement path, and counterarguments against a parenthetical analysis of sentences like *Mei it seems is happy*. The reader is referred there for these and other details.

[4]Similar data were discussed in Haegeman and Danckaert (2017), but their examples all involved *wh*-movement, *cf. the toys which are believed may contain lead*. Since they were unable to find any grammatical attestations of apparent hyperraising without *wh*-movement, the authors opted for a non-hyperraising analysis of these data.

5.1 What other constraints are at play?

Regarding question (i), the novel data presented here and in Greeson (2023) suggest that raising out of a CP is less restricted than previously thought, so perhaps the Phase Impenetrability Condition (PIC; Chomsky 2001) is too strong. In recent work by Halpert and Zeijlstra (2024), the authors advocate replacing the PIC with Relativized Minimality (Rizzi 1990). They highlight a cross-linguistic tendency for CPs that bear ϕ-features and compete for the matrix subject position to be opaque for hyperraising (although see Greeson 2024 for potential counterexamples from Brazilian Portuguese). For them, raising out of CP is ruled out in non-hyperraising languages because CP itself acts as a ϕ-intervener. Halpert and Zeijlstra note that in English, which they analyze as a non-hyperraising language, CPs may occupy Spec,TP and trigger ϕ-agreement, as in the following example (from Halpert and Zeijlstra 2024, citing Iatridou and Embick 1997):

(32) $[_{CP}$ That Susan has married Tom] and $[_{CP}$ that she took up scuba diving] bother me equally.

In Halpert and Zeijlstra (2024)'s account, the status of CP as a potential occupier of Spec,TP and trigger for ϕ-agreement means that it intervenes when matrix T probes for a subject such that matrix T is never able to agree with the embedded subject. While my account differs from Halpert and Zeijlstra (2024)'s regarding the availability of hyperraising in English, I actually think they make the correct prediction: hyperraising is indeed impossible out of the *that*-headed CPs in (32):

(33) Susan$_i$ it seems (*that) tr_i has married Tom.

Relatedly, the *that*-less clauses that license hyperraising may not satisfy the EPP or trigger ϕ-agreement:

(34) $[_{CP}$ *(That) Susan has married Tom] bothers me.

While these facts may be amenable to alternate analyses (e.g. (33) might be analyzed as a COMP-trace effect applying to an A-trace), the fact that hyperraising is impossible out of CPs that can serve as subjects and possible out of CPs that cannot certainly aligns with Halpert and Zeijlstra (2024)'s Minimality-based analysis that does away with the PIC.

Other proposed constraints on (A) movement, such as the Ban on Improper Movement (Chomsky 1973), the Williams Cycle/Generalized Ban on Improper Movement (Williams 1974, Williams 2003, Williams 2013), and the Activity Condition (Chomsky 2001) will need to be carefully evaluated in future work with respect to hyperraising.

5.2 How universally applicable is the θ-criterion?

Regarding question (ii), future work should address the tension between the analysis of hyperraising presented here and the many existing analyses of a wide range of phenomena that assume movement between θ-positions is allowed. In O'Neill (1995) and subsequent work by Hornstein (1999) and Manzini and Roussou (2000), obligatory control sentences have been analyzed as A-movement dependencies between θ-positions; in Ramchand and Svenonius (2002), complex event intransitives like *the chair broke* are analyzed with derivations where *the chair* gets both an UNDERGOER θ-role and a RESULT θ-role (see Sundaresan 2013 for a related analysis of *koL*-raising in Tamil); and in Akkuş and Paparounas (2024), verbal reflexives in Turkish are analyzed as a movement between a PATIENT-assigning position and an AGENT-assigning position. One possibility is that these analyses are simply wrong, and each phenomenon just described does not actually involve A-movement between θ-positions. For example, the idea that control cannot be derived via A-movement has been argued in response to movement analyses (Culicover and Jackendoff 2001, Landau 2003 a.o.). However, another possibility is that the θ-criterion could be refined such that it rules out subject-to-subject raising between θ-positions but doesn't necessarily rule out movement between θ-positions in certain other configurations. Since many of the phenomena described above involve movement between θ-positions within a single clause (e.g. verbal reflexives, complex intransitives), perhaps the

θ-criterion could be refined such that it applies only across distinct vP/event domains (*cf.* Truswell's 2011 Single Event Condition).

A more troubling counterexample comes from thematic hyperraising to subject in Tiriki (Bantu). Johnson and Diercks (2024) argue Tiriki has two types of hyperraising: (a) a non-agreeing double-subject construction where the raised subject lands in a non-thematic position and an intervening *pro* absorbs a EVIDENCE θ-role assigned by the matrix verb, and (b) a construction where the embedded subject raises from the embedded clause, lands in a thematic subject position in the matrix clause where it is assigned EVIDENCE, and triggers agreement on the matrix verb.

(35)   Tiriki hyperraising configurations (Johnson and Diercks 2024)

   a. Va-ana va-loloekh-a   khuli va-tukh-i.
      2-child 2SM-seem-FV that   2SM-arrive-FV
      "The children seem to have arrived." (referent of *the children* must be directly perceived)

   b. Va-ana *pro*$_{\text{EVIDENCE}}$ ka-loloekh-a   khuli va-tukh-i.
      2-child *pro*$_{\text{EVIDENCE}}$ 6SM-seem-FV that   2SM-arrive-FV.
      "The children seem to have arrived." (referent of *the children* need not be directly perceived)

The (a) construction is almost exactly parallel to the English hyperraising construction proposed by Greeson (2023), except instead of *pro*$_{\text{EVIDENCE}}$ English overtly realizes *it*$_{\text{P-SOURCE}}$. Construction (a) also parallels English hyperraising in that there is no thematic restriction on the raised argument. The (b) construction is thematically on par with English copy-raising constructions like *The children$_i$ seem(*s) like they$_i$'ve arrived* in which the matrix subject *the children* triggers agreement on the matrix verb and must correspond to a source of evidence. However, unlike English copy-raising (which is not a movement dependency, but rather involves two coindexed subjects) Tiriki "agreeing hyperraising" is analyzed by Johnson and Diercks as a movement dependency. If they're correct, Tiriki would constitute a counterexample to my claim that hyperraising is only available when the θ-criterion is obeyed. There is an alternative analysis of the Tiriki facts, however, which is that the embedded subject gap in (b)-type "agreeing hyperraising" sentences may be a bound *pro* (i.e. copy-raising) rather than an A-trace, as Tiriki is a *pro*-drop language (Johnson and Diercks 2024). While Johnson and Diercks (2024) follow Diercks et al. (2022) in analyzing the agreeing hyperraising construction as movement rather than copy-raising, their evidence is primarily semantic/pragmatic in nature. They show that (b)-type sentences consistently retain idiomatic readings, and claim that this is not entirely expected on a copy-raising analysis. However, it is not clear that the idioms they used are wholly opaque idioms, which is an important distinction because proleptic/binding non-movement dependencies have been shown to preserve partially transparent idioms (Salzmann 2017). I thus leave open the question of whether Tiriki constitutes a genuine counterexample, a question which can hopefully be addressed with additional movement diagnostics in future work.

5.3 Recap

In this paper I've argued that the possibility of hyperraising and raising is mediated by a constraint against movement between θ-positions. I showed that a θ-theoretic analysis is not only able to account for the hyperraising facts presented in Lee and Yip (2024) but also makes correct predictions regarding infinitival raising and hyperraising in English. The end result is a significant departure from the existing theoretical and empirical consensus about hyperraising. However, as I just discussed, there is much to be done to square the results of this study with the existing literature on locality constraints and hyperraising.

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