

Revisiting the connection between (hyper)raising and evidentiality

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0 Overview

- In this presentation I will present novel arguments that constraints on thematic relations are crucial for licensing raising and hyperraising.
- The presentation is organized as follows:
 - Section 1 walks through a novel empirical discovery, namely the existence of hyperraising in English. I walk through several notable properties of this construction and conclude (to be revised) that the principle factor mediating hyperraising in English is a constraint on movement between θ positions.
 - Section 2 explores the relationship between thematic structure and hyperraising crosslinguistically, with special focus on the distinct thematic structures of indirect and direct perception predicates. I argue that new data from ordinary raising in English and previously reported data on hyperraising in Cantonese and Vietnamese provide further evidence in favor of a theta-theoretic account of these dependencies.
 - In section 3, I revisit the status of the θ -criterion. I note that the full force of the classic θ -criterion is not needed to rule out the illicit sentences from the previous sections, and argue in support of subsuming the theta-criterial effects shown in the previous section under a semantic constraint on the denotations of arguments which prevents a single argument from being thematically associated with multiple events.
 - In section 4, I conclude and discuss potential typological generalizations, plus directions for future research.

1 English hyperraising

- Hyperraising, or raising out of a finite CP, is generally assumed to be illicit in English on the basis of the following contrast between (1) and (2):

- (1) Mei seems [_{TP} Mei to be happy].
- (2) *Mei seems [_{CP} (that) Mei is happy].

- The standard syntactic analyses deal with this using a number of constraints/conditions, including Activity, the PIC, and the Ban on Improper Movement, although various efforts have been made to unify analyses of hyperraising with as few conditions stipulated as possible (Keine (2018), Zyman (2023)).
- Activity Chomsky (2001) says that successful case assignment renders an argument inactive for further A-relations; this means ‘Mei’ can A-move in (1) can raise if it’s the subject of a non-case-assigning (i.e. infinitival) TP, but not in (2) where finite embedded T already assigned case to it.
- The Phase Impenetrability Condition (Chomsky (2000) (PIC) renders everything but the edge of a phase inaccessible to operations outside of the phase, like movement to a matrix subject position. Assuming the CP in (2) is a phase, then ‘Mei’ can’t raise out of it unless it proceeds through the edge.
- Finally, the Ban on Improper Movement says that movement from an A’ position to an A position is banned, so A-movement can’t proceed through the CP edge under the assumption that Spec,CP is an A’ position.
- These considerations notwithstanding, a construction like ‘Mei it seems is happy’ looks like it could involve a long-distance A-dependency across a finite CP boundary. In order to show this, I will analyze sentences that look like the following:

- (3) Mei it seems [_{CP} Mei is happy].
- (4) **He** it seems [_{CP} ~~he~~ is being pitched as the moderately sane face of the Tory Party]. (web)
- (5) So many people it seems [_{CP} like ~~so many people~~ are condemning the RF for something that they didn’t have a part in]. (web)
- (6) These people it seems [_{CP} as though ~~these people~~ have been eaten as we eat chicken]. (web)

- In such sentences, the hypothetical raised DP can be an R-expression like *Mei* (3), a pronoun like *he* (4), or a quantified DP like *so many people* (5).
- The embedded clause can be introduced by a null complementizer (3–4), *like*, or *as though*, but *that* results in ungrammaticality:

- (7) *Mei it seems that is happy.

- Perhaps most strikingly, an instance of the pronoun *it* between the raised DP and the matrix verb appears to be obligatory:

- (8) Mei *(it) seems is happy.

- A first-pass analysis of (3–6 could be that *it seems/appears* is a parenthetical inserted in the middle of a single TP like ‘Mei is happy’. Indeed, there’s a possible parse of (3–2) where *it seems* is offset before and after by a pause and can be placed in various positions, including sentence-finally:

(9) Mei, it seems, is happy.

(10) Mei is happy, it seems.

- But this analysis fails to fully capture the construction. *It seems* may be accompanied by *as though* (11), or by matrix subject-bound NPIs (11–12), which unlike true parentheticals Ross (1984) can’t be sentence-final:

(11) The police (✓it seems as though) have a new sheriff in town, (*it seems as though). (**web**)

(12) **Only he** (✓it **ever** seemed) was being pitched as the face of the party, (*it **ever** seemed).

- Another possible non-hyperraising analysis is that sentences like *Mei it seems is happy* involve a base-generated topic in the left-periphery. However, base-generated topics in English bear default case, namely ACC (Parrott (2006), Radford (2018)), as in (13). By contrast, the raised DP in the hypothesized hyperraising construction bears NOM (14):

(13) Him/*he, he’s a great guy.

(14) He/*him it seems is being pitched as the moderately sane face of the Tory Party.

- Having ruled out two plausible non-movement analysis, I now turn to positive evidence in favor of a movement analysis for *Mei it seems is happy*. First, as exemplified below, the hypothesized moved DP *Mei* obeys islands:

(15) **Ed** it seems you think ~~Ed~~ is boring. (No island)

(16) ?***Ed** it seems you wonders whether ~~Ed~~ is boring. (*wh*-island)

(17) ***Ed** it seems Mei hates the way ~~Ed~~ is a loser. (Complex NP island)

- Second, the moved DP can strand quantifiers:

(18) The boys it seems **both** ~~the boys~~ went home.

(19) The kids it seems **all** ~~the kids~~ know what they’re doing.

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- To diagnose the movement of *Mei* in *Mei it seems as happy* as A-movement rather than A-bar movement, we make use of weak crossover and binding. Two diagnostics that favor an A-movement analysis include an absence of Weak Crossover (WCO) effects and the ability to feed new binding possibilities (Postal (1971), Wasow (1972), and much subsequent work; see Van Urk (2015) for contemporary overview).
- WCO: the moved preverbal DP in the hypothesized hyperraising sentences is able to bind a pronoun that it “crosses over”, suggesting an absence of weak crossover effects in this construction.

(20) Every dad_i it seems to his_i kids ~~every dad~~ is terrible at telling jokes.

(21) Some students_i it seems to their_i professors have never really bounced back from the pandemic.

- Binding: the moved DP can bind from its final landing site (see, e.g. Van Urk (2015)). We see that movement of *Mei* in the following sentences creates new NPI binding possibilities, favoring an A-movement analysis:

(22) *It ever seemed only Mei cares about the assignment.

(23) Only Mei it ever seemed ~~only Mei~~ cares about the assignment.

Given the previous diagnostics, our interim conclusion is as follows: we’re dealing with movement of the subject from the embedded CP to the matrix clause, and this movement acts like A-movement.

1.1 *It, seems and thematic relations*

- A puzzling property of English hyperraising is the obligatory presence of *it* between the raised DP and raising verb, as in *Mei *(it) seems is a genius*.
- My solution to this puzzle has two parts: first, I argue that *it* is actually referential and denotes a P(erceptual)-source, and then I argue that *seems* has a P-source theta-role to assign when it embeds a CP.

1.1.1 *It is referential*

- R-*it* can occur with the control verb *want* (24) and can be quantified (25); contrast this with expletive *there* (27):

(24) *Looking in mirror: It* almost wants to seem like a few pounds came off. (web)

(25) 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))

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

- (27) a. ***There** wanted to arrive plenty of people.
 b. ***There all** arrived plenty of people.

1.1.2 CP-embedding *seems* has a theta-role to assign its external argument

- Now we're faced with the question of why a referential *it* is necessary with hyperraising *seems* but not in ordinary raising constructions:

(28) a. John (*it) seems to be happy. (ordinary raising)
b. John *(it) seems is happy. (hyperraising)
- I argue that the presence of R-*it* in hyperraising sentences is required in order to absorb a P(ERCEPTUAL)-SOURCE θ -role assigned by CP-embedding *seems* to its external argument.
- Otherwise, the raised subject (e.g. *Mei*) is forced passes through two θ positions, which we assume to be ruled out, following much previous work
 - An aside: there are a number of ways to theoretically capture a ban on movement between theta positions, each with its own merits and drawbacks.
 - * For instance, we could adopt the classic theta criterion from Chomsky (1981), which requires that 'each argument bears one and only one θ -role, and each θ -role is assigned to one and only one argument', which has been revived to a degree in recent work by Angelopoulos et al. in work on passives.
 - * Another alternative is to adopt a more general principle such as Full Interpretation (Chomsky 1995), which entails that every element visible at LF be licensed and interpreted at LF.
 - * Finally, one could also analyze these effects as a stemming from a constraint on eventualities, as Carlson (1984)'s seminal work suggests for Thematic Uniqueness (the constraint that a single thematic role be specified only once for a given eventuality); we could similarly imagine that the theta criterion boils down to a constraint against a single variable in the semantics being associated with multiple thematic rules in a single eventuality.
 - * For now will leave open the question of how exactly to rule out movement of a single argument between multiple theta positions, but I will return to the issue and make a concrete proposal in section 4.
- I will assume R-*it* is required to save us from the embedded subject *Mei* having to move between θ positions.
- This because, as I will show, *seems* has an external P-SOURCE θ -role to assign to its external argument exactly when it embeds a CP.
- Consider the contrast below, adapted from Rudolph (2019). Imagine Ed is not in his kitchen, but you see pots and pans are on the stove with food simmering in them. You may felicitously utter (29a), but not (b):

(29) (a) Tom seems [_{TP} to be cooking]. / (b) #Tom seems [_{CP} (like/as though) he's cooking]. (Rudolph (2019))

- Ordinary raising *Seems* in (29a) imposes no thematic requirement on its subject. Hyperraising *Seems* in (29b) requires that its subject be the perceptual source of evidence for the embedded proposition (Landau (2011)), ruling out a context where Ed himself is not perceived.
 - An aside: there is some controversy about whether the contrast just reported always holds; Landau (2011) and Heycock (1992) both purport to show counterexamples.
 - (30) Here's the grade sheet: Oh, John looks like he has failed the exam. Landau (2011)
 - (31) (In response to a report about someone else's car) Your car sounds like it needs tuning very badly. Heycock (1992)
 - But as Asudeh and Tovoinen (2017) discuss, these sentences are still compatible with a P-SOURCE interpretation, but where the mention of the car (as in (31)) or the appearance of John's name on the grade sheet (as in (30) serve as stand-ins/proxies for the car itself and John himself, respectively
 - This matches my intuition that not just any hearsay can license (31) and not just any gradesheet can license (30).
 - * I find (30) 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.
 - Additionally, experimental work by Rett et al. (2013) replicates the contrast reported by Rudolph (2019) and others. Sentences like “Milo seems like he visited the pig farm” were uniformly rejected by participants (i.e. rated ‘weird’) when they were given a context that was incompatible with direct perception of the referent Milo.
- A final piece of evidence in favor of a thematic difference between CP-embedding and TP-embedding seems is that the former can alternate with a rich class of perceptual verbs while the latter cannot:
 - (32) a. It {seems / sounds / smells / feels} like John is here. (CP-embedding seems)
 - b. John {seems / *sounds / *smells / *feels} to be here. (TP-embedding *seems*)

1.1.3 Interim summary

‘Mei seems is happy’ is illicit because (i) English doesn’t allow null subjects and (ii) we only have one external argument (Mei) in this sentence despite having two predicates that assign theta-roles to external arguments (*seems* and *is happy*). We need another (overt) subject to absorb the extra θ -role, hence *it* is required.

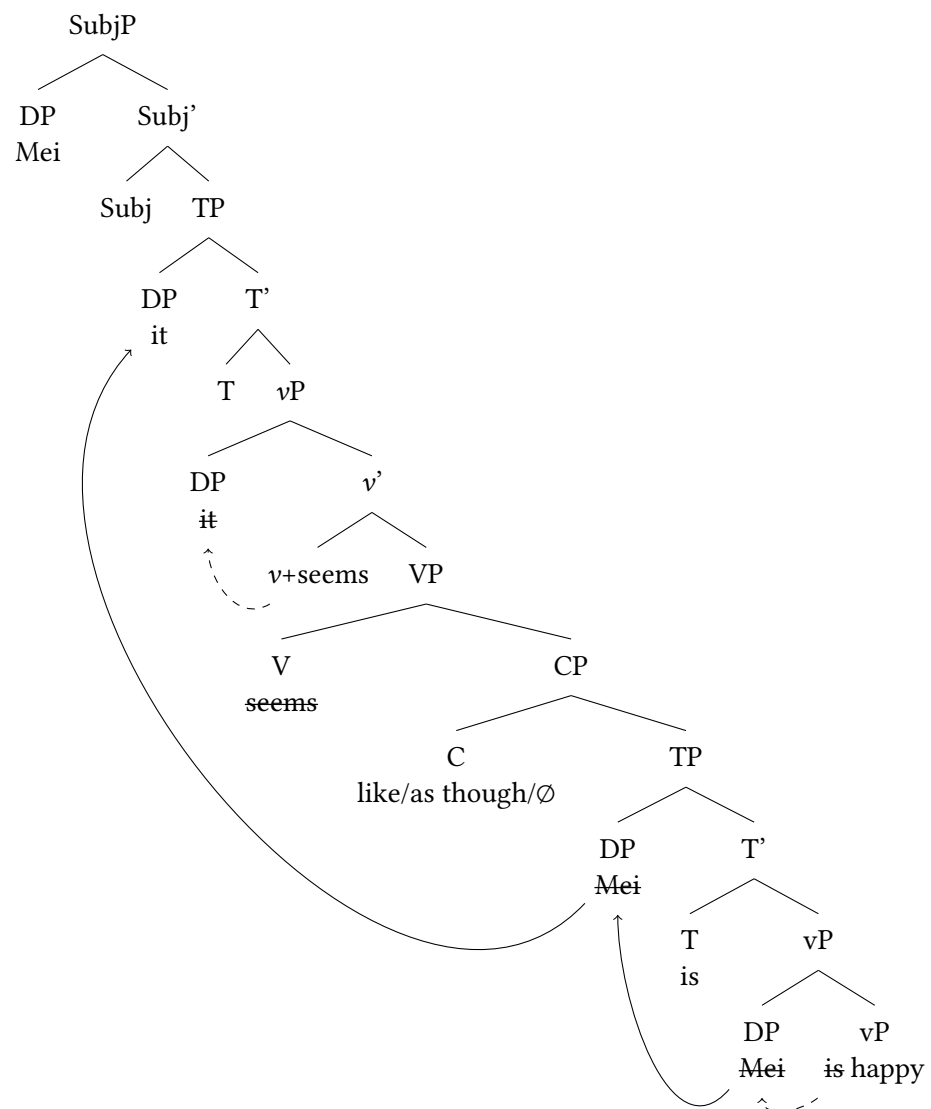
1.2 A sample derivation

1.2.1 Where to fit two preverbal DPs?

- Following Cardinaletti (2004) and many others, I assume a second A-position above Spec,TP, namely Spec,Subj: Subj° attracts R-expressions and strong pronouns while Spec,TP hosts expletives and weak pronouns.
- In (2/3)-type hyperraising sentences ('Mei it seems is happy'), the P-SOURCE-denoting argument *it* is base-merged in Spec,vP in the matrix clause where it is assigned a P-SOURCE θ -role, then moves to Spec,TP.
- Finally, the raised subject raises from embedded Spec,Subj to matrix Spec,Subj.

1.2.2 A tree

(33)



1.3 Mixed A/A' properties

- How do we square the finding that A-movement out of a CP is licit in English with constraints like Minimality, the PIC, and the Ban on Improper Movement?
- One possibility is that the locality profile of English hyperraising comes from the fact that it is not strictly A-movement, but rather bears properties of both A and A'-movement (à la Lohninger et al. (2022)'s treatment of cross-clausal A-dependencies)
- This approach has a number of advantages, since the hyperraising phenomenon we've been looking at in English has a number of A'-like properties: it's optional, unlike infinitival raising, and it appears to be associated with information structural differences:

(34) (out of the blue) # Mei it seems is happy.

(35) A: How's Mei doing anyway? B: ✓ Mei it seems is happy.

- So perhaps *Mei* bears a TOPIC feature, and something like the following holds:
 - Subj probes for ϕ and TOPIC and requires conjunctive/Boolean satisfaction, (Coon and Bale (2014), Van Urk (2015), Scott (2021), Lohninger et al. (2022), Oxford (2022),)
- Note that that while 'It seems that Mei is happy' is fine to utter out of the blue, 'Mei it seems is happy' is a bit odd without the right context. The hyperraising sentence is fine, however, in a context like the following:

(36) Q: How's Mei doing?

A: Mei it seems is happy.

- Given these information structural properties, we could propose that the hyperraised argument bears a TOPIC feature. Since we have mixed A/A' behavior, we could accordingly posit that SUBJ probes conjunctively for both A-bar features (TOPIC) and A () features.
- Then, intervening non-topics will not lead to Minimality violations.
- Furthermore, Lohninger et al. (2022) and Lohninger and Yip (2023) show an additional diagnostic of cross-clausal A(/A') dependencies:
- Unlike intraclausal A-dependencies, CCA dependencies are incompatible with *wh*-extraction.
- When we examine the interaction between English hyperraising and *wh*-extraction, we see that the two may not be combined, suggestive of this being a mixed A/A' dependency rather than strictly A-movement.

(37) Ordinary raising

- a. Mei seems to have hit him.
 - b. Who(m) does Mei seem to have hit ~~who(m)~~? (wh-extraction)
 - c. Him, Mei seems to have hit ~~him~~. (topicalization)
- (38) Embedded subject *in situ* under raising *it*
- a. It seems Mei has hit him.
 - b. Who(m) does it seem Mei has hit ~~who(m)~~? (wh-extraction)
 - c. Him, it seems Mei has hit ~~him~~. (topicalization)
- (39) Hyperraising over raising *it*
- a. Mei it seems has hit him.
 - b. *Who does Mei it seem has hit ~~who~~? (wh-extraction)
 - c. *Him, Mei it seems has hit ~~him~~. (topicalization)

- From these contrasts, we see that English hyperraising cannot co-occur with other A'-dependencies like *wh*-extraction and topicalization.
- Under Lohninger et al. (2022) and Lohninger and Yip (2023)'s analyses, this is because the C head that probes for the A' features involved in *wh*-extraction is the same C head that probes conjunctively for A and A'-features in CCA dependencies; once it has probed once and encountered a suitable goal, this probe is done.
- If this is right, then Minimality, the Phase Impenetrability Condition, Activity, and the Ban on Improper Movement are not threatened by my analysis: the PIC can be skirted by movement through the edge of CP, which wouldn't violate the Ban on Improper Movement if said movement is both A and A' movement. Finally, Activity does not apply to A'-movement in the same way as A-movement, as even after Case assignment an A'-moved element still has uninterpretable A' features to check.

1.4 Section recap

In this section we've seen that even English has what appears to be A-movement out of a finite clause, contradicting many standard assumptions about English and A-movement in general. This is a welcome result, particularly for deactivation analyses of hyperraising. Consider the following excerpt from Zyman's Zyman (2023) overview of the hyperraising literature:

- Zyman (2023): "Deactivation analyses boast empirical successes but do not straightforwardly rule out hyperraising in English". But if I'm on the right track, we don't need or want to rule out hyperraising in English, so the theory unification problem no longer holds.

2 (In)directness and raising cross-linguistically

- In this section, I focus in more detail on the syntactic and semantic connection between hyperraising and indirect evidence/indirect perception.
- To do this, I consider additional data from a number languages including Cantonese, Vietnamese, Spanish, and more data from English.

2.1 Background: Lee and Yip (2023)

- Lee and Yip (2023) [henceforth LY23] 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** evidentiality; it is illicit over attitude verbs that encode direct evidentiality.
- A relevant minimal pair from LY23 involves the Cantonese attitude verb *tenggog* ('hear/be.heard'), which entails indirect auditory perception, vs. its counterpart *teng-dou* ('hear/be.heard-ACCOMP'), which entails direct auditory perception:

(40) Hoenggong tenggong [_{CP} waa ~~Hoenggong~~ hou ngaihim].
Hong Kong hear [_{CP} COMP ~~Hong Kong~~ very dangerous].
"Hong Kong is heard to be very dangerous". (Cantonese, indirect evid. verb)

(41) *Hoenggong teng-dou [_{CP} waa ~~Hoenggong~~ hou ngaihim].
Hong Kong hear-ACCOMP [_{CP} COMP ~~Hong Kong~~ very dangerous].
Intended: "Hong Kong is heard to be very dangerous." (Cantonese, direct evid. verb)

- LY23 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 perceptual verbs

- LY23'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 w.r.t. 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:

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

(43) *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:

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

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

- An aside: an anonymous PLC reviewer points out that 'The wine tastes acidic' is perfectly grammatical and asks whether this is problematic for the present analysis.
- I assume that these constructions involving secondary predication involve control of a small-clause subject PRO and *not* A-movement.
- A nice piece of evidence for analyzing 'the wine tastes acidic' as a non-movement dependency comes from languages like Spanish that richly expose number agreement on verbs, nouns, and adjectives.
- It has been observed in Storment (2024) for Spanish that the number morphology on secondary predicates need not match the number morphology on the verb.

(46) *pro_{arb}* escribieron la carta borracho(s).
pro_{arb} wrote-PL the letter drunk(-PL).
"Someone wrote this letter drunk." (Storment 2024)

- On the basis of data like (46), Storment (2024) argues that secondary predication necessarily involves a distinct subject position
- To check whether the same asymmetry goes through for verbs of perception, we can check the agreement facts for the Spanish equivalent of "this wine tastes acidic".

(47) Los vinos saben rancido-(s).
the wines taste-PL rancid-PL
"The wines taste rancid."

(48) Los vinos parecen ser rancido-*(s).
the wines seem-PL be-INF rancid-PL
Intended: "The wines seem to be rancid."

(49) What we see is that sentences like 'the wine tastes rancid' do *not* require identity of the embedded and matrix subjects while sentences like 'the wine seems to be acidic' do, supporting a control/raising asymmetry.

2.3 Directness and thematic relations

- The English contrast above directly parallels the Cantonese and Vietnamese hyperraising contrast from LY23, but LY23'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 as follows:
 1. The external argument of a direct perception verb is assigned a θ -role (e.g. P(ERCEPTUAL)-SOURCE or CAUSE).
 2. The external argument of an indirect perception verb is not assigned a θ -role. This follows from psycholinguistic evidence that the linguistic encoding of temporally adjacent happenings in the world only groups these happenings into a single event if direct causation connects each subpiece (Fodor (1970), Wolff (2003), cf. Truswell (2011) for a semantic implementation); accordingly, a source of evidence that directly triggers perception can be a participant in the θ -grid of an event, but indirect evidence cannot be.
- Putting all this together, A-movement to the subject position of a direct perception verb in both English and LY23's Cantonese/Vietnamese data can be ruled out by the θ a ban on movement between theta positions.
- 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.
- Under the requirement that a single argument can have at most one θ -role, this P-SOURCE argument cannot be the downstairs subject, because this 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.

2.4 θ -roles, not evidentiality

- Finally, I would like to draw attention to the distinction between a source of evidence encoded by evidentiality marking in languages that robustly mark it and the type of perceptual source we've been dealing with here so far.
- As Doran (2015) points out, languages that robustly mark evidentiality (e.g. Quechua) encode things like direct or indirect evidence *for the entire proposition*.
- There are no evidential-marking languages that I (or Doran) am aware of that mark evidentiality and impose a requirement that the evidence pertain to a single argument, e.g. the subject.
- The fact that all the raising/hyperraising cases we've seen so far crucially concern the interpretation of the matrix subject suggests that a thematic structure approach is better suited.

- Finally, the fact that many of the (hyper)raising verbs in question (tastes, smells, *tenggog* [‘hear’]) have an alternate use as ordinary transitive verbs (e.g. ‘I tasted the wine’) where the internal argument is a P-SOURCE or THEME provides further support for an argument structural approach.

3 The status of the θ -Criterion

- So far, I have argued in favor of a θ -theoretic analysis to explain why hyperraising over perception predicates is highly constrained.
- Invoking the θ -criterion is certainly one straightforward way to capture the fact that direct perception predicates block raising to subject: direct perception predicates in many languages have an extra θ -role, P-SOURCE, to assign their external argument, and the θ -Criterion straightforwardly bans movement from one θ -position (e.g. embedded subject) to another (the P-SOURCE matrix subject position).
- However, I will argue in this section that although a θ -theoretic analysis is the right way to go, we don’t need the full force of the classic θ -criterion and its associated baggage in order to account for the facts in this paper.
- The main line of reasoning to be advocated for in this section is as follows: popular θ -criterion-violating analyses of particular phenomena like verbal reflexives, complex events, and control violate the θ -Criterion in a different way than sentences like **The soup tastes to be salty*.
- Reflexives, complex event verbs, and (perhaps to a lesser extent) obligatory control are all reducible to a single cohesive linguistic event.
- By contrast, imagine a sentence like (50) uttered by a speaker who’s reporting their recent experience at a wine testing, when they tried Malbec (a type of red wine) for the first time and deemed it ‘fruity’:

(50) *Malbec tasted to be too fruity for my liking.

- The derivation for a sentence like (50) involves two distinct eventualities that do not any intuitive criteria for unification under a single super-event (such as simultaneity and direct causation between subevents).
- The tasting event for which *Malbec* is meant to be the P-SOURCE is telic as it has a defined endpoint. By contrast, the subeventuality denoted by [*TP* *Malbec* to be fruity] is atelic and holds indefinitely; *fruity* is an individual-level property of Malbec.
- Additionally, there is no sense in which my having tasted Malbec leads to Malbec tasting the way it does, nor is the fact that Malbec tastes fruity the reason that the speaker tasted it.

3.1 Defining eventhood

- Before we proceed, it will be useful to make our definition of ‘single event’ more explicit.
- Throughout this paper, I follow Truswell (2011) in assuming temporal coincidence and direct causation as the two main criteria for grouping subevents together into a single superevent.
 - These observations date to Fodor (1970) and have since received experimental support in psycholinguistic work by Wolff (2003).
- The temporal coincidence requirement captures the intuition that in a sentence like ‘I regret today having eating too much yesterday’, regretting and eating are distinct events regardless of any causal relationship between the two.
- Direct causation is a bit more complex, but is defined by Truswell as follows: “If some property of an object x causes some change of state in another object y , with no intermediary, then we perceive a single event” (Truswell 2011; 4).
- First, the direct causation criterion captures the fact that sentences like *The ABV tastes to be about 8%* are grammatical despite the fact that the landing site of the raised subject is the specifier of a predicate with an evidential/perceptual entailment.
- The key here is that *tastes* in the sentence above is associated with *indirect* evidence entailments, and accordingly there is no unbroken chain of events such that *the ABV* sets off an unbroken chain of events constituting a tasting event.
- Instead, the utterer of (51) is understood to have tasted some alcoholic drink and then made an educated guess about the ABV; the ABV itself, an abstract entity, was not directly probed by the speaker.
- Because of this, the subject of (51) is not construed as part of the *tasting* event, and as such there is no ‘tasted thing’ role in the θ -grid to be assigned to the external argument.
- Accordingly, these instances of raising do not instantiate raising to thematic positions.

(51) I didn’t test the ABV, but it tastes to be about 8%.

- Additionally, being able to delineate events will allow us to take a closer look at the θ -criterion and how it relates to distinct events
- The position I’ll defend in the following section is that the classic θ -criterion is too strong; when we take events seriously we’ll see that the θ -criterion is violable if the θ -roles accumulated by a single argument belong to the same superevent.

3.2 Revisiting analyses that violate the θ -criterion

- In this subsection I take a closer look at popular analyses of A-movement phenomena that relate two θ positions in violation of the classic θ -criterion.
- What we will show via closer examination of each of these phenomena in turn is that while all threaten the classic θ -criterion, they violate the θ -criterion within a single (potentially complex) event
- This is compatible with a more nuanced constraint that only cares about a single argument not being associated with multiple events.

3.2.1 Complex event intransitives

- Ramchand (2020) notes that in a sentence like *The chair broke*, the breaking event described is a complex event involving the actual process by which the chair breaks and a result state of a newly broken chair.
- Accordingly, in Ramchand's analysis of these types of sentences, *the chair* is associated with two thematic roles: an UNDERGOER or THEME role, and a RESULT role.
- Likewise, in (52), Ramchand & Svenonius observe that *dead rat* is interpreted both as the undergoer of a throwing event and the holder of an abstract result state; crucially, both of these roles are associated with the same throwing event.

(52) Throw the dead rat out!

(Ramchand and Svenonius 2002)

3.2.2 Tamil *-ko-* Sundaresan (2013)

- The Tamil verbal morpheme *-ko-* is associated with change-of-state unaccusatives, non-reflexive transitives, and reflexives
- In each of these constructions, the presence of *-ko-* relates an argument in its specifier (which is a thematic position) to a result state of the main event in the verbal complex, resulting in said argument being associated with two θ -roles.
- Consider the following minimal pair from Sundaresan (2013):

(53) Raman Maya-væ paar-tt-an.
Raman.NOM Maya-ACC see-PST-3MSG
“Raman saw Maya.”

(54) Raman Maya-væ paar-ttŭ-ko-ŋd-aan
Raman.NOM Maya-ACC see-ASP-*ko-*-PST-3MSG.
“Raman saw Maya (for his own benefit / for his own sake).”

3.2.3 Verbal reflexives [Akkuş and Paparounas (2024)]

- In a study of reflexives in Turkish, Akkuş and Paparounas (2024) argues that verbal reflexives such as (55) are derived via movement of the sole argument from an internal THEME argument position to an external AGENT argument position.

(55) Çocuk besle-n-di.

child feed-REFL-PAST

“The child feed himself.”

Akkuş and Paparounas (2024)

- Through an exhaustive battery of tests, Akkuş and Paparounas (2024) show that the sole argument of reflexive-marked verbs as in (55) has properties of both internal arguments . . .
 - (compatibility with stative passivization, resultatives, adjectival participials)
- As well as external arguments
 - (compatibility with episodic impersonals, compatibility with the Turkish adverbial gerundive -ARAK, causativization, and long object movement)
- Akkuş and Paparounas (2024) also show that *within a single verbal reflexive construction*, the sole argument can simultaneously show both types of property:

(56) *pro* [çocuğ-u ter-temiz yıka-n]-dır-dı-m.

pro [child-ACC REDUP-clean wash-REFL]-CAUS-PST-1SG.

“I caused the child to wash (himself) clean.”

Akkuş and Paparounas (2024)

3.2.4 Control

- Perhaps the best-known challenge to the θ -criterion comes from movement-based theories of control.
- Since O’Neill (1995) and subsequent work by Hornstein (1999) and Manzini and Roussou (2000), obligatory control sentences like (57) have been given an analysis in terms of A-movement (58) rather than binding of a null anaphor PRO in the embedded clause (59):

(57) Ali wanted to eat the cake.

(58) Ali wanted [_{TP} Ali to eat the cake].

(59) Ali_i wanted [_{TP} PRO_i to eat the cake].

- I omit a full discussion of control for time, but the crucial finding from the literature is that there is compelling positive evidence for control as movement *exactly when* the control predicate and embedded predicate denote a single event as with *dare* and *manage*, but not for other predicates like *be glad*:

(60) Modern Greek (adapted from Alexiadou et al. 2010 & cited in Grano 2015)

- O Yanis tolmise na peksi kithara.
The Yanis dare.PP.3SG NA play guitar.
“Yanis dared (for Yanis himself) to play the guitar.” (OC reading)
- Tolmise na peksi o Yanis kithara.
dare.PP.3SG NA play the Yanis guitar.
“Yanis dared (for Yanis himself) to play the guitar.” (OC reading)
- O Yanis xerete pu epekse kithara.
the Yanis be.glad.INP.3SG that play guitar.
“Yanis_i is glad that he_{i/j} played the guitar.” (OC reading available)
- Xerete pu epekse o Yanis kithara.
be.glad.INP.3SG that play the Yanis guitar
“He_{*i/j} is glad that Yanis_i plays the guitar.” (OC reading unavailable)

- Additionally, Yan (2022) provides additional evidence from Mandarin Chinese showing that overt subjects in the embedded control complement are allowed just in case the control complement licenses partial control; otherwise they are banned. This is expected if exhaustive control and only exhaustive control constitutes A-movement under standard assumptions about copy deletion. The following Mandarin paradigm comes from Yan (2022):

(61) {Wo-men / wo} jihe le.
{1-PL / 1.SG} gather ASP.
“We gathered.”

(62) Partial control verbs:

- Wo {changshi/buyuanyi/jujue} jihe.
“I attempt/reluctant/refuse gather.
“I attempt/refuse/am reluctant to gather.”
- Wo {changshi/buyuanyi/jujue} [wo liudian chufa]
I attempt/reluctant/refuse [I six.o'clock leave]
“I attempt/refuse/am reluctant to leave at six o'clock.”

(63) Exhaustive control verbs:

- a. *Wo {gan/jixu/nuli} jihe.
I dare/continue/endeavor gather.
Intended: “I dare/continue/endeavor to gather.”
- b. Wo {gan/nuli} [(**wo*) liudian chufa].
I {dare/endeavor} [I six.o'clock leave]
“I dare/endeavor to leave at six o'clock.”
- c. Wo jixu [(**wo*) xue yizhengtian].
I continue [I study whole.day]
“I continue to study the whole day.”

3.3 A refined θ -criterion

- Given the preceding discussion, an appealing (informal) restatement of the θ -criterion might be as follows:

(64) The Single Event θ -Criterion: A single argument may not accumulate θ -roles from different events.

- This constraint resembles the classic θ -criterion in that it still cares chiefly about the association of arguments with distinct thematic roles.
- I will leave open the question of how to formally cash this out.
- One possibility is that eventhood always corresponds to a structural difference and/or that vP corresponding to a standalone event is always a strong phase.
- This revised θ -criterion also seems potentially amenable to an appeal to third factor considerations like psychological constraints on the mental conception of distinct events.
- One possibility proposed by Truswell (2011) is that maintaining a filler-gap dependency active during online processing across multiple events is highly costly and therefore disfavored
- Independent support for this idea comes from Rob Truswell's (2011) book on events and locality, in which he notes the following contrast:

(65) What did John drive Mary crazy whistling ~~what~~?

(66) *What does John work whistling ~~what~~?

- In (65), the adjunct (*PRO*) *whistling* denotes the manner in which Mary was driven crazy by John and as such is causally and temporally related to the rest of the clause; the entire sentence in (65) is thus readily interpretable as a single driving-crazy-by-whistling event.
- In (66), while there is temporal overlap between the whistling and working events, there is no direct chain of events relating the whistling to the working; they are not causally related and therefore resistant to a single event construal.
- This leads Truswell to posit the following:

(67) **The Single Event Condition:** An instance of *wh*-movement is legitimate only if the minimal constituent containing the head and the foot of the chain can be construed as describing a single event. (Truswell 2011)

- So far, we've established that it's not the θ -criterion *per se* that has the best crosslinguistic empirical coverage, but rather a version of the θ -criterion that cares only about whether a single argument is associated with θ -roles from distinct events;
- This, in turn, may be a subcase of Truswell's (2011) Single Event Condition, which was originally designed to account for A'-movement asymmetries.
- However, if we want to fully unite Truswell's Single Event Condition as it applies to *wh*-movement with my Constraint on Event Association, further consideration of the full empirical scope of Truswell's account is needed. I leave unification of these two theories of locality and eventhood for future research, while simply noting for now the striking similarity of the two.

4 Conclusion

- In this study, I have argued that there is a tight relationship between the licensing of A-movement, thematic structure, and the linguistic encoding of events.
- I also covered extensive empirical ground and in doing so overturned a number of previous generalizations about A-movement and hyper-raising more generally.
- In section 1, I showed that hyperraising is possible in a language like English, despite previous consensus. I showed that for the English hyperraising construction, the PIC, Activity, and Ban on Improper Movement are not what mediates A-movement, but rather thematic structure and event structure determine whether hyperraising may take place.
- I refrain from concluding that my data directly argue against the existence of these constraints in the grammar; a plausible conclusion in line with recent research on cross-clausal A-dependencies (Lohninger et al. 2022) is that the A'-like locality profile of hyperraising follows from the status of the probe at the landing site requiring conjunctive satisfaction of both A and A' features.

- In section 2, I offered a thematic structural account of the relationship between evidentiality/perception and raising crosslinguistically, including previous data from the literature on Cantonese and Vietnamese.
- What I showed is that we expect indirect evidence predicates to more readily license (hyper)raising, and that this prediction is born out.
- I argue that the very indirect/tangential nature of these predicates' external arguments' involvement in the occurrences denoted by the rest of the clause means that they are incapable of illicitly associating a single argument with an additional event.
- In section 3, I revisited the classic θ -criterion as it relates to raising/A-movement and argued in favor of recasting the θ -criterion as a more nuanced constraint that merely bans A-movement between θ -positions in a single event domain.

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