

Raising, Phase Unlocked

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1. Introduction*

Raising-to-subject constructions display cross-linguistic variations. In English, a raising predicate requires subject movement out of a *to*-infinitival clause (=1a), but such movement is disallowed if the subject is originated in a finite clause (=1b) (a construction known as *hyper-raising*, Ura 1994, *i.a.*).

- (1) a. The rain_i **seems** *t_i* not to stop.
b. *The rain_i **seems** that *t_i* will not stop.

Such raising pattern, however, has been reported in languages like Brazilian Portuguese (Nunes 2008), Japanese (Uchibori 2001; Takahashi and Uchibori 2003), Lubukusu (Carstens and Diercks 2013), Nguni (Zeller 2006) and Zulu (Halpert 2019). In Cantonese and Vietnamese, we also observe an apparent *hyper-raising* pattern with some attitude verbs.¹ First, consider the sentences in (2), which illustrate the ordinary usage of attitude verbs as a transitive predicate.²

- (2) a. Ngo **gamgok/tengman** waa coeng jyu m wui ting [Cantonese]
1SG **feel.like/hear** C CL rain NEG will stop
'I feel like/hear the rain will not stop.'
b. Tôi **cảm giác/nghe nói** rằng cơn mưa này sẽ không dừng [Vietnamese]
1SG **feel.like/hear** C CL rain this will NEG stop
'I feel like/hear the rain will not stop.'

Importantly, these attitude verbs demonstrate an (optional) alternation in terms of the argument structure. In both sentences in (3), the surface subject is thematically related to the embedded predicate instead of the matrix one (i.e. surface subject ≠ attitude holder). Crucially, the surface subject appears to cross a complementizer-marked clause boundary. We call these attitude verbs **raising attitude verbs (RAVs)** and the relevant constructions **RAV-constructions**.³

- (3) a. Coeng jyu **gamgok/tengman** waa m wui ting [C]
CL rain **feel.like/hear** C NEG will stop
(I) feel/hear that the rain will not stop.'
b. Cơn mưa này **cảm giác/nghe nói** rằng sẽ không dừng [V]
CL rain this **feel.like/hear** C will NEG stop
(I) feel/hear that the rain will not stop.'

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¹ Ura (1994) mentions in passing that Mandarin *keneng* 'be.possible' also involves a hyper-raising construction.

² Abbreviations: 1, 2, 3 for first, second, third person; C for complementizer; CL for classifier; DOM for differential object marker; MOD for modifier marker; NEG for negation; PERF for perfect aspect marker; PROG for progressive aspect marker; SG for singular; SFP for sentence particle; TOP for topic marker.

³ While the sentences in (3) lack an overt attitude holder, it is by default taken to be the speaker.

Such alternation, however, is not observed with other attitude verbs.⁴ We call these verbs **non-raising attitude verbs (NRAVs)**.

- (4) a. *Coeng yu **gamgok-dou/zidou** waa m wui ting [C]
 CL rain **feel-result/know** C NEG will stop
 ‘(I) felt/know that the rain will not stop.’
 b. *Con mưa này **cảm-thấy/biết** rằng sẽ không dừng [V]
 CL rain this **feel-result/know** C will NEG stop
 ‘(I) felt/know that the rain will not stop.’

The availability of such alternation crosscuts the class of attitude verbs in Cantonese and Vietnamese, suggesting a non-trivial correspondence that is unlikely to be reduced to some language-specific lexical idiosyncrasies. The two classes are given in Table 1 below.

Raising Attitude Verbs (RAVs)			Non-raising Attitude Verbs (NRAVs)		
Gloss	Cantonese	Vietnamese	Gloss	Cantonese	Vietnamese
‘feel like’	<i>gamgok</i>	<i>cảm giác</i>	‘feel-result’	<i>gamgok-dou</i>	<i>cảm-thấy</i>
‘hear’	<i>tengman/tenggong</i>	<i>nghe nói</i>	‘hear-result’	<i>teng-dou</i>	<i>nghe-được</i>
‘guess’	<i>gugai</i>	<i>đoán (là)</i>	‘guess-result’	<i>gu-dou</i>	<i>đoán-được</i>
‘believe’	<i>soengseon</i>	<i>tin (là)</i>	‘think’	<i>jingwai/gokdak</i>	<i>nghĩ/cho</i>
‘suspect’	<i>waaiji</i>	<i>ngghi (là)</i>	‘know’	<i>zidou</i>	<i>biết</i>
‘seem (lit.: fear)’	<i>paace/taipaa/ paahai</i>	<i>e/sợ</i>	‘remember’	<i>geidak</i>	<i>nhớ</i>
‘be.sure’	<i>hangding</i>	/			
‘talk-prog’	<i>gong-gan</i>	/			
‘say-perf’	<i>waa(-zo)</i>	/			

Table 1 – Two classes of attitude verbs in Cantonese and Vietnamese

In this paper, we argue for three claims. First, we show that hyper-raising constructions are attested in both Cantonese and Vietnamese. Second, the availability of hyper-raising is associated with evidentiality. In particular, we suggest that hyper-raising constructions are only possible for attitude verbs that presumes indirect evidence for their clausal complements. Lastly, we propose a phase deactivation account for hyper-raising in these languages, following the spirit in Rackowski and Richards (2005), Nunes (2008) and Halpert (2019). Specifically, a CP phase is made transparent by a previously established Agree relation in terms of an evidence feature with the attitude verbs.

The current proposal points to two implications. First, the “exceptional” raising behaviors are attributed to the lexical semantics of predicates. Specifically, it is tied to the indirect evidence specified by attitude verbs, suggesting that raising possibilities among verbs might not be entirely idiosyncratic (*contra* Polinsky 2013). Second, this paper reports another feature (i.e. evidence feature) whose Agree relation with a phase may “unlock” a phase, in addition to selectional features (Rackowski and Richards 2005) and phi-features (Halpert 2019) proposed in the literature. The idea of phase unlocking provides a way to explain why phasal opacity appears to be “selective”.

This paper is organized as follows. Section 2 shows that RAV-constructions involve hyper-raising, where the embedded subject undergoes A-movement across a CP boundary. Section 3 draws a correlation between indirect evidence and the possibility of hyper-raising. Section 4 presents our phase deactivation account implemented as phase unlocking achieved by an Agree relation with evidence features. Section 5 concludes with implications on raising and phasal opacity. For space reasons, only Cantonese examples are given in the paper, but the same pattern are also observed in Vietnamese.

2. Hyper-raising

Descriptively, the sentences in (3) share the schema in (5). We show that they constitute the hyper-raising pattern by showing three defining properties of hyper-raising, listed in (6).

⁴ Sentences in (4) are acceptable on an (irrelevant) topic reading, which requires a prosodic pause after ‘the rain’.

(5) RAV-constructions

S RAV [V (O)] *where S is thematically associated with V but not RAV*

- (6) a. The subject is in its derived position (against a hanging topic approach: S is base-generated in the matrix and co-referential with an embedded null *pro*.)
 b. The movement displays A-movement properties (against a topicalization approach: S is A'-moved from the embedded clause to the matrix one and the matrix subject is a null *pro*)
 c. The VO-clause is a finite CP (against an ordinary raising approach: S is A'-moved from an infinite clause to the matrix one)

2.1. Movement, not base generation

We suggest that the surface subject in RAV-constructions is derived by movement from the embedded subject position. The first argument comes from resumptive/coreferent pronouns. While base-generated topics may be associated with a (resumptive) pronoun (=7), this is however not the case for subjects in RAV-constructions (=8). The surface subjects cannot co-index with an embedded pronoun, suggesting they are in a derived position.

- (7) Aaming_i ne, ngo **gamgok** [waa keoi_i m-wui lai] (Base-generated topic)
 Ming TOP 1SG **feel.like** C 3SG NEG-will come
 'As for Ming, I feel like he will not come.'
 (8) Aaming_i **gamgok** [waa (*keoi_i) m-wui lai] (Ban on resumptive pronouns)
 Ming **feel.like** C 3SG NEG-will come
 '(I) feel like Ming will not come.' (cf. ^{OK}'Ming_i feels like he_j will not come')

Second, RAV-constructions display island effects. The surface subject cannot be thematically associated with an embedded predicate in an island, such as the complex NP island in (9).

- (9) *Aaming_i **tinggong** [waa [DP [CP *t_i* jiging zau-zo] ge siusik] hai gaa ge]
 Ming **hear** C already leave-PERF MOD rumor be false SFP
 '(I) hear that the rumor that Ming already left is false.'

Third, RAV-constructions preserve idiomatic meaning, despite the displacement of the subject of a sentential idiom, as shown in (10). This implies the subject originates from the embedded clause.⁵

- (10) ni-zek laaihaamou_i **gamgok** [waa *t_i* soeng sik tinngoju_k]
 this-CL toad **feel.like** C want eat swan.meat
 '(I) feel like (s/he) is aiming at the moon.' (lit.: '(I) feel like that this toad wants to eat swan meat.')

2.2. A-movement, instead of A'-movement

The subject movement is A-movement instead of A'-movement. First, we observe a subject-object asymmetry is observed in RAV-constructions. The movement in (11) privileges subjects over objects (both direct and indirect), an asymmetry attributable to a locality condition for A-movement.⁶

- (11) a. Aaming **gamgok** [waa *t_{subj}* bei-zo houdou syu Aafan] (subject)
 Ming **feel.like** C give-PERF many book Fan
 b. *houdou syu **gamgok** [waa Aaming bei-zo *t_{obj}* Aafan] (direct object)
 many book **feel.like** C Ming give-PERF Fan
 c. *Aafan **gamgok** [waa Aaming bei-zo houdou syu *t_{obj}*] (indirect object)
 Fan **feel.like** C Ming give-PERF many book
 (a-c): '(I) feel like Ming gave many books to Fan.'

⁵ Note that the idiomatic reading cannot be reduced to a metaphoric reading, since replacing the subject with a synonym does not give rise to the idiomatic reading.

i. #ni-zek gaapgwaai_i **gamgok** [waa *t_i* soeng sik tinngoju_k]
 this-CL toad **feel.like** C want eat swan.meat
 lit.: '(I) feel like that this toad wants to eat swan meat.' (NOT: '(I) feel like (s/he) is aiming at the moon.')

⁶ A'-movement does not display such asymmetry (i.e. objects can be topicalized in the presence of subjects).

Second, subject movement creates new binding possibility in RAV-constructions, which is a typical property of A-movement. We observe that the surface subject can bind a pronominal variable in the matrix clause after movement, as shown by the contrast in the sentences in (12).

(12) a. Impossible binding on pronouns

*[on_i keoi_i caandei ge m-tung] ngo **tengman** ...
 accord it origin MOD difference 1SG **hear.say**
 ... [waa mui-lap-zyunsek_i dou jau m-tung gwongzaak]
 C every-CL-diamond all have different luster
 ‘According to its_i origin, I heard that every piece of diamond_i will have different lusters.’

b. Possible binding on pronoun

mui-lap-zyunsek_i [on keoi_i caandei ge m-tung] **tengman** ...
 every-CL-diamond accord it origin MOD difference **hear.say**
 ... [waa ~~t~~_i dou jau m-tung gwongzaak]
 C all have different luster

(Lit.) ‘Every piece of diamond_i, according to its_i origin, (I) heard, will have different lusters.’

2.3. The complement clause as a (finite) CP

The subject movement in RAV-constructions crosses a CP boundary. First, RAVs are compatible with a complement clause marked with the C head *waa* (Cantonese, Hwang 2000, Yeung 2006) and *là/rằng* (Vietnamese, Chappell 2008), as already shown in the two sentences in (3), respectively.

Second, the complement clause of RAVs can take a (base generated) topic (=13).⁷ Under standard assumptions, topics are base generated in CP peripheral position (Rizzi 1997). This suggests that the complement clauses are CPs. We thus conclude that RAV-constructions involve A-movement crosses a CP boundary and hence constitute instances of hyper-raising.

(13) a. ngo **gamgok** [CP gam-do-ceot-hei [TP Aaming zinghai tai-zo ni-ceot-hei]] (transitive)

I **feel.like** so-many-CL-film Ming only watch-PERF this-cl-film
 ‘I feel like, among so many films, Ming only watched this one.’

b. Aaming **gamgok** [CP gam-do-ceot-hei [TP zinghai tai-zo ni-ceot-hei]] (RAVs)

Ming **feel.like** so-many-CL-film only watch-PERF this-cl-film
 ‘(I) feel like, among so many films, Ming only watched this one.’

3. Evidentiality and the two classes of attitude verbs

Recall the asymmetry between the two sets of attitude verbs noted in section 1: only a subset of attitude verbs allows hyper-raising. It suggests that the movement operation is subject to some independent constraint such that it only applies to the embedded subject of some attitude verbs. In this section, we explore a semantic approach by correlating the availability of the hyper-raising constructions to evidentiality. In particular, we suggest that RAVs all come with an evidential requirement in their lexical semantics, which requires the attitude report to be based on *indirect evidence*. Such requirement is lacking in NRAVs. We start with some (near-)minimal pairs in Table 1 (partly repeated below): some RAVs differ from NRAVs in the absence of the verbal suffix *-dou*.

- | | | | |
|------------|---------------------------------|-------------------------------|------------------------------|
| (14) RAVs: | <i>gamgok</i> ‘feel like’ | <i>tengman</i> ‘hear’ | <i>gugai</i> ‘guess’ |
| NRAVs: | <i>gamgok-dou</i> ‘feel-result’ | <i>teng-dou</i> ‘hear-result’ | <i>gu-dou</i> ‘guess-result’ |

Descriptively, *-dou* indicates “accomplishment or successful completion of an action” and it is used to forms verbs of perception (Matthews and Yip 2011:251-2). The following two examples in (15) contrast *teng-dou* and *tengman*: while the former in each pair is compatible with direct perception (hence direct evidence), the latter is not.

⁷ Our careful reader may notice that a (base-generated) topic, despite its DP status, does not block subject movement (unlike subjects blocking object movement) We suggest that this is due to the so-called A'-opacity effects (Rezac 2003), where elements at A'-positions do not block dependency occurring between A-positions (at least in some languages).

(15) [Scenario: Ming is playing piano now. You are in the same room and hear the sound and say:]

a. ngo { **teng-dou/ #tengman** } Aaming taan-gan kam (transitive usage)

1SG **hear-result hear.say** Ming play-PROG piano

‘I hear Ming playing piano.’

b. #Aaming **tengman** taan-gan kam (RAV-constructions)

Ming **hear.say** play-PROG piano

‘Ming, (I) heard that Ming is playing piano.’

We suggest that the RAVs without *-dou* require the attitude reports to be based on *indirect* evidence, whereas the presence of *-dou* requires the opposite: the attitude reports to be based on *direct* evidence. We further suggest that the requirement of indirect evidence also applies to other RAVs.⁸ Note that the indirect evidence could be either inferential or hearsay, subject to further lexical requirement. RAVs can thus be further specified as follows:

Raising Attitude Verbs (RAVs)			Non-raising Attitude Verbs (NRAVs)		
Gloss	Verbs	Evidence	Gloss	Verbs	Evidence
‘feel like’	<i>gamgok</i>	inferential	‘feel-result’	<i>gamgok-dou</i>	direct sensory
‘hear’	<i>tengman/tenggong</i>	hearsay	‘hear-result’	<i>teng-dou</i>	direct sensory
‘guess’	<i>gugai</i>	inferential	‘guess-result’	<i>gu-dou</i>	direct sensory
‘believe’	<i>soengseon</i>	inferential	‘think’	<i>jingwai/gokdak</i>	underspecified
‘suspect’	<i>waaiji</i>	inferential	‘know’	<i>zidou</i>	direct (factive)
‘seem (lit.: fear)’	<i>paace/taipaa/ paahai</i>	inferential	‘remember’	<i>geidak</i>	direct
‘be.sure’	<i>hangding</i>	inferential			
‘talk-prog’	<i>gong-gan</i>	hearsay			
‘say-perf’	<i>waa(-zo)</i>	hearsay			

Table 2 – Two classes of attitude verbs and their evidential component

The proposed evidential requirement is by no means particular to Cantonese (and Vietnamese). It patterns with epistemic modals in English which display a similar requirement, as illustrated below (see extensive discussion in (von Fintel and Gillies 2010)).⁹ The evidential component proposed here can be seen as an extension of their proposal on epistemic modals.

(16) [Seeing the pouring rain]

(direct evidence)

a. It’s raining.

b. ??It must be raining.

(17) [Seeing wet rain gears and knowing rain is the only possible cause]

(indirect evidence)

a. It’s raining.

b. It must be raining.

It is noteworthy that NRAVs do not consistently require the attitude reports to be based on direct evidence; instead, they simply lack the requirement of indirect evidence. The evidence component among NRAVs is indeed heterogeneous, ranging from direct evidence to underspecified evidence and factivity. To see one example, NRAVs like *jingwai* ‘think’ requires no evidence for the claim, in contrast with RAVs like *gamgok* ‘feel.like’.

(18) [Scenario: Aaming knows literally nothing about Hong Kong. Despite this, he insists:]

a. ngo { **jingwai / #gamgok** } waa Hoenggong m-oncyun

I **think feel.like** C Hong Kong NEG-safe

b. #Hoenggong **gamgok** waa m-oncyun

HK **feel.like** C NEG-safe

(a-b): ‘(I) think / feel that Hong Kong is not safe.’

⁸ Some attitude verbs are incompatible with *-dou* for independent reason, so we lack minimal pairs in those cases.

⁹ One difference is that epistemic modals impose a stricter requirement of the choice of indirect evidence: they require inferential (but not hearsay) evidence. We do not pursue an account for this difference in this paper.

The correlation between raising possibility and evidentiality is further supported by evidence in Romanian (Alboiu and Hill 2013, 2016). Attitude verbs with indicative clauses may give direct or indirect evidential reading, as in (19a-b). Raising(-to-object) is only allowed in a sentence with an indirect evidential reading, as in (19c).

(19) Raising correlates with indirect evidentiality in Romanian (Alboiu and Hill 2013:295-6)

- a. Văd [că e murdar pe mâini] (direct evidence)
see.1 that is dirty on hands
'I see his hands are dirty.'
- b. Am auzit [că Mihai_k repară_k casa] (indirect evidence)
have.1SG heard that Mihai fixes house.the
'I've heard that Mihai is fixing the house.'
- c. L-am auzit **pe Mihai_k** [că repară_k casa] (RtoO, indirect evidence)
him-have.1SG heard DOM Mihai that fixes house.the
'I've heard Mihai (claiming that) he's fixing the house.'

4. Towards a proposal

Standard generative theories are too restrictive in that they systematically rule out *any* instance of hyper-raising constructions, by virtue of (#1) the ban on Improper Movement (IM, Chomsky 1973, Chomsky 1986), (#2) the Phase Impenetrability Condition (PIC, Chomsky 2001) and (#3) restriction on multiple case by Activity Condition (Chomsky 2001). The presence of such constructions calls for a relaxation on the constraints on A-movement. Table 3 summaries three families of proposals on hyper-raising in the literature, corresponding to the relaxation on the three restrictions, respectively.

	Featural distinction on A/A'-positions
#1	(a) Spec,CP as A-positions (Obata and Epstein 2011, Fong 2019)
	(b) Hyper-raising as A'-movement with A-movement effects (Alboiu and Hill 2016)
	Conditioned deactivation of PIC
#2	(a) Selective opacity of a domain: (i) Phase unlocking (Halpert 2019)
	(b) Deactivation of phasehood: (i) Defective CP (Nunes 2008); (ii) Exfoliation (Pesetsky 2019)
	Parametrization on Multiple Case
#3	(a) Parametrization on Multiple Agree (Halpert 2019)
	(b) Spec,TP _{fin} may not be Case positions (Ura 1994)

Table 3: Different approaches on hyper-raising

We pursue an account along the line of conditioned deactivation of PIC (#2). We suggest that PIC can be obviated under certain circumstances. The proposal follows the spirit of the Principle of Minimal Compliance advocated in Richards (1998) and bears a family resemblance to approaches to locality in Rackowski and Richards (2005), Nunes (2008) and Halpert (2019). The central idea is that PIC is obviated by an Agree relation between the matrix verb and the entire CP. Once Agree'd, subsequent movement operations triggered by the same probe can ignore the relevant locality conditions on its Goal. Based on the discussion in section 3, we propose that the requirement of indirect evidence materializes as a syntactic feature [EV]. We assume the following featural setup:

(20) Featural setup

- a. There are two (null) C heads, namely, C and C_[EV].¹⁰
- b. [EV] is an interpretable feature that marks an indirect-evidence-based proposition.
- c. RAVs, but not NRAVs, carry an uninterpretable counterpart [uEV], which agrees with a CP.

Crucially, it is the Agree relation between RAVs and CP in terms of the proposed evidential feature that enables A-movement from within the finite CP.¹¹ The derivational steps are as follows:

¹⁰ We follow Kratzer (2006) in that the highest layer of a clause can host different modal elements, including evidentials. It is possible that the CP is in fact an Evidence Phrase. We leave this issue open.

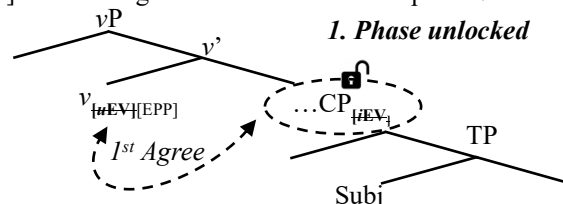
¹¹ There are variations on what counts as the *first* Agree relation. For Rackowski and Richards (2005), c-selection (complementation) between the verb and the CP counts. For Halpert (2019), it does not; it is after *phi*-agreement

(21) Derivational steps

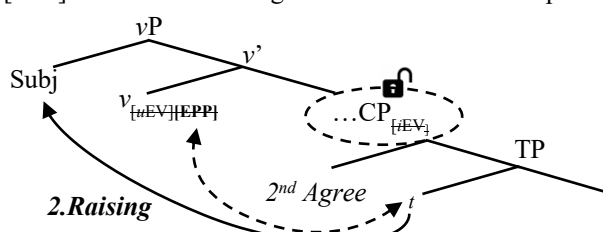
- (i) An RAV *c*-selects and agrees with a CP on [EV] feature.
- (ii) This Agree relation ‘unlocks’ the CP phase.¹²
- (iii) The same Probe probes again for EPP feature and finds its Goal as the embedded subject.
- (iv) The subject moves in one step to Spec *v*P, with no intermediate touchdown in Spec CP.
- (v) The subject is further raised to the matrix Spec TP (as in ordinary raising constructions).

(22) Graphic representation of the proposed derivation of RAV-constructions

- a. [EV]: the first Agree relation between the probe *v* and the CP



- b. [EPP] on *v*: the second Agree relation between the probe *v* and the embedded subject



- c. [EPP] on T: the subject is further raised to Spec TP (not shown).

5. Concluding remarks

This paper explained why hyper-raising constructions in Cantonese (and Vietnamese) is possible by suggesting a phase deactivation approach in which an Agree relation of evidential features on attitude verbs and their complement clauses would ‘unlock’ the CP phase and allow subject raising. The current proposal has two implications. The first is on **the role of lexical semantics in raising pattern**. The proposal attributed some “exceptional” raising behaviors to the lexical semantics of predicates. That is, the [uEV] feature on some attitude verbs provides a way for an embedded subject to escape from the requirement of the PIC, giving rise to A-movement across a CP boundary without stopping at Spec CP (non-successive cyclic hyper-raising, *pace* Fong 2019). While the difference in raising possibilities among verbs is said to be idiosyncratic (see Polinsky 2013), the finding in this paper highlight the role of the lexical property that crosscuts attitude verbs in Cantonese and Vietnamese, which has a syntactic reflex. The second concerns the trigger of **phase unlocking**. This paper reported another feature [EV] whose Agree relation with a phase may ‘unlock’ a phase. This is consistent with Rackowski and Richards’ (2005) claim that Agree relation on Case between *v* and CP explains the pattern of multiple *wh*-movement in Tagalog, and with Halpert’s (2019) proposal that T *phi*-agrees with a CP in Zulu, which then allows an embedded subject to undergo hyper-raising. The idea of phase unlocking provides a way to explain why the PIC appears to be ‘selective’.

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between the matrix verb and the CP that the embedded argument is allowed move out from the CP. Our proposal is similar to the latter, minimally different from it in that the Agree relation is achieved by an evidential feature.

¹² The informal label “unlock” is used as an intuitive analogy of the Principle of Minimal Compliance. Substantially, if a probe unlocks a domain (i.e. the CP), subsequent probing by the same probe are free from locality conditions, namely PIC in our case.

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