

On Embedding Force and Attitude

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Handout

1. Setting the stage

Syntactic constructions encoding illocutionary forces and speaker's attitudes are often taken to be associated with the so-called main clause phenomenon (cf. Haegeman 2012, 2014; Aelbrecht, Haegeman & Nye 2012). As illustrated by the causal *how*-question (1a), there is a strong flavor of denial/unexpectedness, while the instrumental reading is suppressed (presumably by the exclamatory intonation). By contrast, (1b,c) shows that, once the *how*-question is embedded, the denial reading is suppressed instead, and the interpretation is distinctively instrumental:

- (1) a. How could you do this to him?! (denial, #instrumental)
b. I wonder how you could do this to him. (#denial, instrumental)
c. No matter how you could do this to him, (denial, #instrumental)
it is of little importance.

However, there are quite a few exceptions. As pointed out by Krifka (2014), an illocutionary act may be embedded as the argument of a force operator such as a verb of saying or a speech act adverbial. Furthermore, it has been proposed by Baden & Cheng (2015) that Mandarin exclamative clauses can be embedded under a factive predicate.

Interestingly enough, in a robust analytic language like Chinese, which lacks *wh*-movement and subject-AUX inversion, there is a more pronounced "topography" of functional elements along the clausal spine in the left periphery, which can be used to distinguish various layers of syntactic projections in relation to their semantics and pragmatics (cf. Cinque 1999; Cinque & Rizzi 2010; Tsai 2015a,b). The "height of interpretation" can then be established to account for the distribution of certain subordinate clauses in terms of truncation (cf. Haegeman 2012), as imposed by all sorts of compositional factors such as selection, predication and modification.

In this talk, we will look into two peculiar cases of force/attitude embedding, and present a plausible account along the line laid out above. The first study has to do with the non-canonical *wh*-construals in Chinese, in particular, those involving denial and whining forces. The second study investigates

2. The "ill-behaved" *wh*-expressions in Mandarin

2.1. Three types of *how*-construals

Tsai (2008) and Stepanov & Tsai (2008)

A variety of *zenme* 'how' in Mandarin can be teased apart with structural delimiters like modals and topics, as illustrated by the denial exclamation (high HOW, henceforth HHOW) of (2a) and (3a), the causal-denial construal (mid HOW, henceforth MHOW) of (2b) and (3b), and the instrumental question (low HOW, henceforth LHOW) of (2c) and (3c):

(2) a. **zenme** Akiu hui zuo zhe-zhong shi!
 how Akiu will do this-sort thing
 'How would Akiu do such a thing!'
 (≈ It should be impossible for Akiu to do such a thing!)

b. Akiu **zenme** hui zuo zhe-zhong shi?!
 Akiu how will do this-sort thing
 'How come Akiu would do such a thing?'

c. Akiu hui **zenme** zuo zhe-jian shi?!
 Akiu will how do this-Cl thing
 'By what means will Akiu handle this matter?'

(3) a. **zenme** xuesheng neng zhuan zhemeduo qian!
 student how can earn such.amount money
 'How could a student earn such amount of money!'

(≈ It should be impossible for a student to earn such amount of money!)

b. xuesheng **zenme** neng zhuan zhemeduo qian?!
 student how can earn such.amount money
 'How come a student could earn such amount of money?!'

c. xuesheng neng **zenme** zhuan zhemeduo qian?
 student can how earn such.amount money
 'By what means can a student earn such amount of money?'

We may take this observation as a starting point, and put various *how*-construals under the embedding test: The contrast between (4a) and (4b,c) indicates that only a question clause can be selected by a matrix predicate such as *xiangzhidao* 'wonder', where HHOW is consistently blocked. The same point can be made with an adverbial clause headed by *wulun* 'no matter', as illustrated by the contrast between (5a) and (5b,c). It is also instructive to note that the denial flavor is removed from the causal questions (i.e., MHOW) of (4b) and (5b).

(4) a. * ta xiangzhidao [**zenme** xuesheng neng zhuan zhemeduo qian].
 he wonder how student can earn such.amount money
 '*He wonders [how a student could earn such amount of money].'

b. ta xiangzhidao [xuesheng **zenme** neng zhuan zhemeduo qian].
 he wonder student how can earn such.amount money
 'He wonders [how come a student could earn such amount of money].'

c. ta xiangzhidao [xuesheng neng **zenme** zhuan zhemeduo qian].
 he wonder student can how earn such.amount money
 'He wonders [by what means a student can earn such amount of money].'

(5) a. * wulun [**zenme** Akiu hui zuo zhe-zhong shi],
 no.matter how Akiu will do this-sort thing
 na dou yu wo wuguan.
 that all with me no.relation.

'*No matter [how Akiu would do such a thing!],
that has nothing to do with me.'

- b. wulun [Akiu **zenme** hui zuo zhe-zhong shi], ...
no.matter Akiu how will do this-sort thing
'No matter [why Akiu would do such a thing], ...'
- c. wulun [Akiu hui **zenme** zuo zhe-jian shi], ...
no.matter Akiu will how do this-Cl thing
'No matter [by what means Akiu will handle this matter], ...'

More importantly, once we embed these *how*-clauses as the complement of *jingya* 'surprised', LHOW is blocked instead, as in (6):

- (6) *ta hen jingya [xuesheng neng **zenme** zhuan zhemeduo qian].
he very surprised student can how earn such.amount money
'He is surprised at [(the way) how a student can earn such amount of money!].'

HHOW, on the other hand, is preserved in the form of an unexpected state of affairs, as shown below:

- (7) ta hen jingya [**zenme** xuesheng neng zhuan zhemeduo qian].
he very surprised how student can earn such.amount money
'He is surprised at [(the inexpectancy) that a student could earn
such amount of money].'

The most interesting case comes from MHOW, which is exactly the opposite of what we have seen in (4b) and (5b): Namely, it is the causal question that is suppressed in favor of the unexpectedness construal akin to (7), as exemplified by (8):

- (8) ta hen jingya [xuesheng **zenme** neng zhuan zhemeduo qian].
he very surprised student how can earn such.amount money
'He is surprised at [(the inexpectancy) that a student can earn
such amount of money].'

One way to think of this issue is to suggest that there is a hierarchical arrangement of various versions of *zenme* 'how' along the clausal spine, as sketched below (Q: question operator; M: modal):

- (9) [_{ForceP} HHOW ... [_{TopP} Top ... [_{EvaP} MHOW ... [_{IntP} Q ... [_{EpiP} M ... [_{vP} LHOW ...

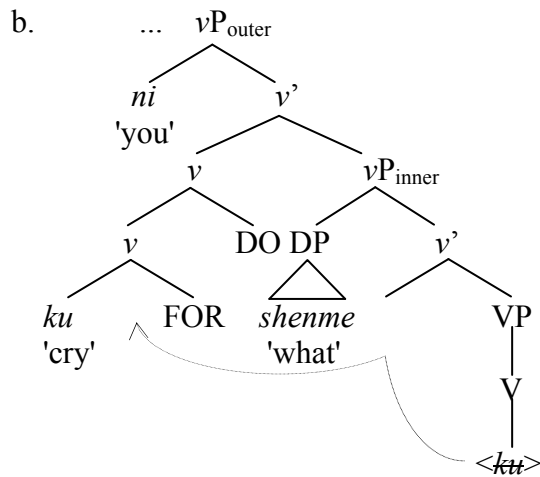
- ▶ HHOW occupies the Spec of ForceP, triggering the denial force.
- ▶ MHOW involves a gray area between the EvaP (associated with unexpectedness) and the IntP (associated with interrogativeness).
- ▶ LHOW merges to the edge of the vP phase, forming the instrumental question with the question operator through unselective binding.

- I. *xiangzhidao* 'wonder' and *wulun* 'no matter' select IntP rather than ForceP, hence blocking the denial construal in (4a) and (5a).
- II. *jingya* 'surprised' selects EvaP rather than ForceP, hence preserving the unexpectedness while suppressing denial and causal construals.

2.2. The mystery of whining questions

Another piece of evidence comes from the so-called whining *what*-question such as (10a). As noted by Tsai (2011, 2020), this construal essentially involves a FOR applicative in disguise with an overriding whining force and exclamatory intonation, as illustrated in (10b).

- (10) a. ni ku shenme?!
 you cry what
 'What the hell are you crying for?!' (whining)



- Where does the whining force come from? How is it encoded in Mandarin?

Yang & Tsai (2019); Tsai (2017)

- (11) a. ni (zai) kan shenme?! [interrogative *wh*]
 you Prg look.at what
 'What are you looking at?!'
- b. ni kan shenme?! [whining *wh*]
 you look.at what
 'What the heck are you looking at?!'

I. Intonation

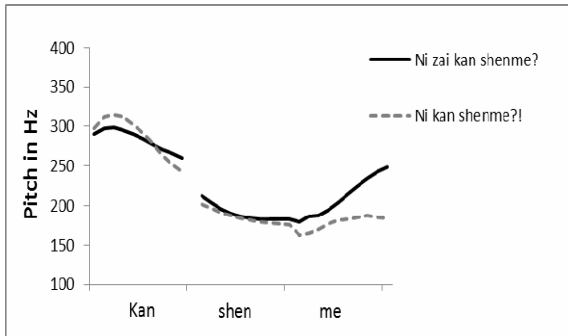


Figure 1. Mean F0 curves of whining *wh* (dotted line) vs. interrogative *wh* (solid line)

II. Duration

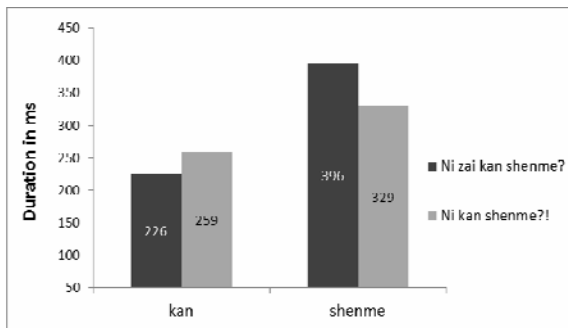


Figure 2. Mean duration of whining *wh* (grey) vs. interrogative *wh* (black)

III. Intensity range

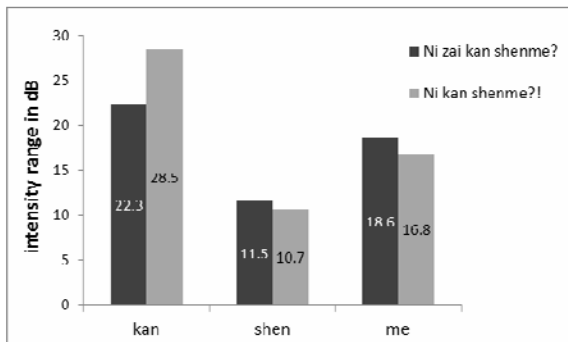


Figure 3. Mean intensity range of whining *wh* (grey) vs. interrogative *wh* (black)

- The experimental study shows that the "force shift" from interrogative to whining has a lot to do with the change of the overall prosodic pattern (i.e., the distinctive intonation associated with clause-typing), as well as the stress shift from the object *wh* (i.e., the locus of nuclear stress) to the inner light verb (i.e., the locus of focus). Most importantly, when the inner light verb is silent, it needs something to carry the prosodic weight assigned to it. This in turn triggers raising-to-FOR as seen in (10b). Verb doubling associated with similar focus effects are also observed in Gungbe (Aboh 2004) and the Kwa languages (Landau 2007).

IV. Whining *wh* may employ verb copying, but interrogative *wh* cannot.

(12) ni [_v **kan**] shenme [_v kan]?! [verb copying of whining *wh*]
 you look.at what look.at
 'What (the hell) are you looking at?!'

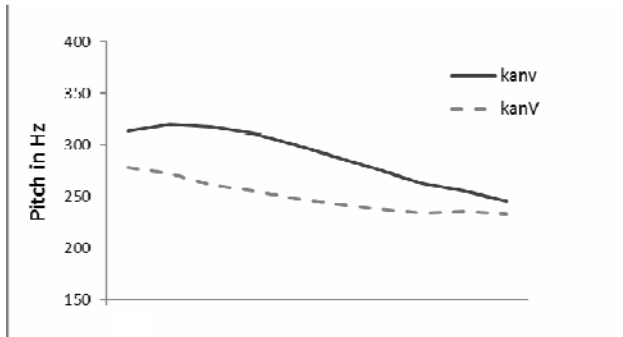


Figure 4. Mean F0 curves of the two verb copies

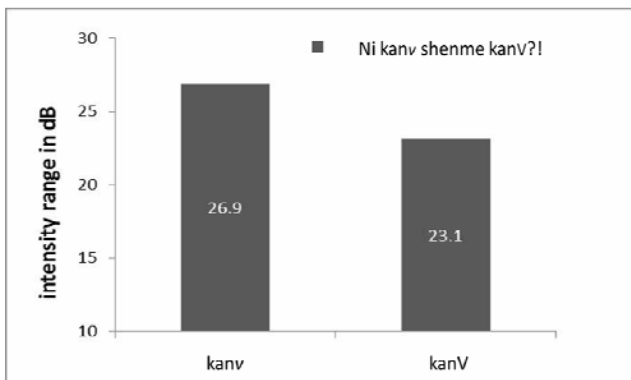


Figure 5. Mean intensity range of the two verb copies

Figure 4 shows that the pitch of the upper verb copy (*kan_v*) is consistently higher than that of the lower one (*kan_V*). Figure 5, on the other hand, shows that the intensity range of *kan_v* is also stronger than that of *kan_V*.

- ▶ Copy Theory (Chomsky 1995):
 At PF, the lower copy of the verb chain in (10b) is subject to deletion.
- ▶ Spelling out both copies violates the LCA (Kayne 1994).
 ⇒ According to Cheng (2007), verb copying applies at failure to reduce a verb chain, as its lower copy has been fused with an aspect marker. In our case, raising to FOR is more in line with the raising to Foc along the line of Hornstein & Nunes (2002) and Nunes (2004): That is, it triggers a morphological fusion between the main verb and the light verb, even if the latter category is silent in Chinese (also cf. Tsai 2014).
- ▶ The above prosodic study thus provides evidence for our claim that the verb copying of (11) is made possible by the focus feature associated with the light verb FOR (as indicated by the prosodic properties of the upper verb copy *kan_v*).

Barry Yang (2015)

The whining force is available only in the root context: Once we embed (10) as the complement clause of *xiangzhidao* 'wonder', only the indirect *for what* question survives, as in (12a), and the whining construal is completely ruled out, as (12b):

- (12) ta xiangzhidao [ni ku shenme].
he wonder you cry what
a. He wonders what you are crying for. (interrogative)
b. # He wonders what the heck you are crying for. (#whining)

► As a matter of fact, once we replace the *what*-applicative in (12) with its verb copying version, the sentence is ruled out completely, as evidenced by (13). This follows naturally as verb copying can only be triggered by the whining construal, which is incompatible with the interrogative complement of *xiangzhidao* 'wonder'.

- (13) * ta xiangzhidao [ni ku shenme ku].
he wonder you cry what cry
'He wonders what the heck you are crying for.'

2.3. Evidence from cross-dialectal comparison

Another piece of evidence comes from Taiwan Southern Min (TSM, a.k.a. Taiwanese), where there are also three tiers of *how*-construals. Just as predicted by our truncation analysis, only LHOW and causal MHOW may survive embedding, either in the interrogative complement position of (14b,c) or in the adverbial position of (15b,c). By contrast, HHOW is ruled out in the same environments, as evidenced by (14a) and (15a).

- (14) a.* I siūnnbehtsaiiánn [**ántsuánn** háksing ētàng thàn tsiah-tsē tsînn].
he wonder how student can earn such-amount money
'*He wonders [how a student could earn such amount of money!].'
(*HHOW)
b. I siūnnbehtsaiiánn [háksing **ántsuánn** ētàng thàn tsiah-tsē tsînn].
he wonder student how can earn such-amount money
'He wonders [how come a student could earn such amount of money!].'
(causal/*denail MHOW)
c. I siūnnbehtsaiiánn [háksing ētàng **ántsuánn** thàn tsiah-tsē tsînn].
he wonder student can how earn such-amount money
'He wonders [by what means a student can earn such amount of money].'
(LHOW)
- (15) a.* Put-kuán [**ántsuánn** Abîng ē tsò tsit-khuán tãitsì], ...
no-matterhow Abîng will do this-sort thing
'*No matter [how Abing would do such a thing!], ...'
(*HHOW)
b. Put-kuán [Abîng **ántsuánn** ē tsò tsit-khuán tãitsì], ...
no-matterAbîng how will do this-sort thing
'No matter [why Abing would do such a thing], ...'
(causal/*denail MHOW)

- c. Put-kuán [Abîng ē ántsuánn tsò tsit-khuán tãitsì], ...
 no-matter Abing will how do this-sort thing
 'No matter [by what means Akiu will handle this matter], ...'
 (LHOW)

► It is also attested in TSM that LHOW is blocked when the *how*-clauses are embedded as the complement of *iguā* 'surprised', as in (16c). By contrast, HHOW and denial MHOW may survive the same construal without trouble, as illustrated by (16a,b) respectively.

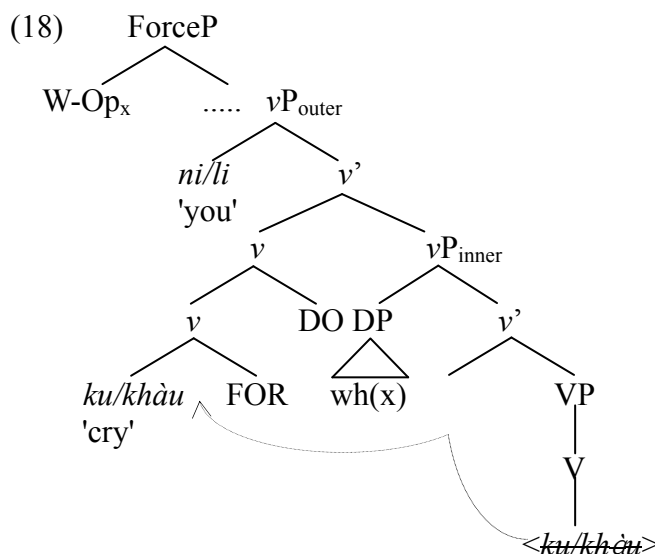
- (16) a. I tsin iguā [án-tsuánn hák-sing ē-tàng thàn tsiah-tsē tsínn].
 he very surprised how student can earn such-amount money
 'He is surprised at [(the inexpectancy) that a student could earn such amount of money].' (HHOW)
- b. I tsin iguā [hák-sing án-tsuánn ē-tàng thàn tsiah-tsē tsínn].
 he very surprised student how can earn such-amount money
 'He is surprised at [(the inexpectancy) that a student could earn such amount of money].' (denial/*causal MHOW)
- c. * I tsin iguā [hák-sing ē-tàng án-tsuánn thàn tsiah-tsē tsínn].
 he very surprised student can how earn such-amount money
 'He is surprised at [(the way) how a student can earn such amount of money!].'
 (*LHOW)

Lau & Tsai (2020)

Interestingly enough, TSM may employ a non-canonical *how*-question to encode the whining force, as shown in (17).

- (17) Lí khàu ántsuánn?!
 you cry how
 'What the heck you are crying for!' (whining)

► A unified cartographic analysis of Mandarin and TSM whining *wh*-construals, both involving unselective binding from a force operator (W-Op) in the left periphery:



- ▶ As correctly predicted from our line of thinking, TSM whining *how* is blocked in the interrogative complement of *siūnnbehtsaiiánn* 'wonder', as in (19a), whereas a typical indirect applicative question is available, in (19b).

- (19) I siūnnbehtsaiiánn [lí khàu ántsuánn].
 he wonder you cry how
 'He wonders what the heck you are crying for.'
- a. He wonders what you are crying for. (interrogative)
 b. # He wonders what the heck you are crying for. (#whining)

3. Yet another "trouble-making" applicative in Chinese

3.1. Attitudinal expletive pronoun in Mandarin

Lau & Tsai (to appear)

A non-referential usage of the third-person singular pronoun *ta* can be found in Mandarin expletive object construction like (20): It carries an exclamatory intonation, and the interpretation is distinctly speaker-oriented and attitudinal. More specifically, the sentence is construed with a touch of ferocity on the speaker's attitude, namely, the intention to carry out the drinking activity to its extreme.

- (20) wo yao he ta (yi) ge tongkuai!
 I want drink 3SG one Cl satisfaction
 'I want to drink to my satisfaction!'

- ▶ There are already a number of proposals in the literature that deals with the expletive-like behavior of the object pronoun *tā* in (23) (cf. Ma 1983; Lin & Zhang 2006, among others). Some defining properties have been sorted out in the literature, as summarized below:

- I. The object expletive *ta* is optional.
- II. The object expletive *ta* follows the main verb closely, and is incompatible with an aspect.
- III. The object expletive *ta* precedes a nominal with a certain quantifier/classifier.

As illustrated in (21), the object expletive *ta* can be omitted, but the extremity/ferocity flavor is lost at the same time.

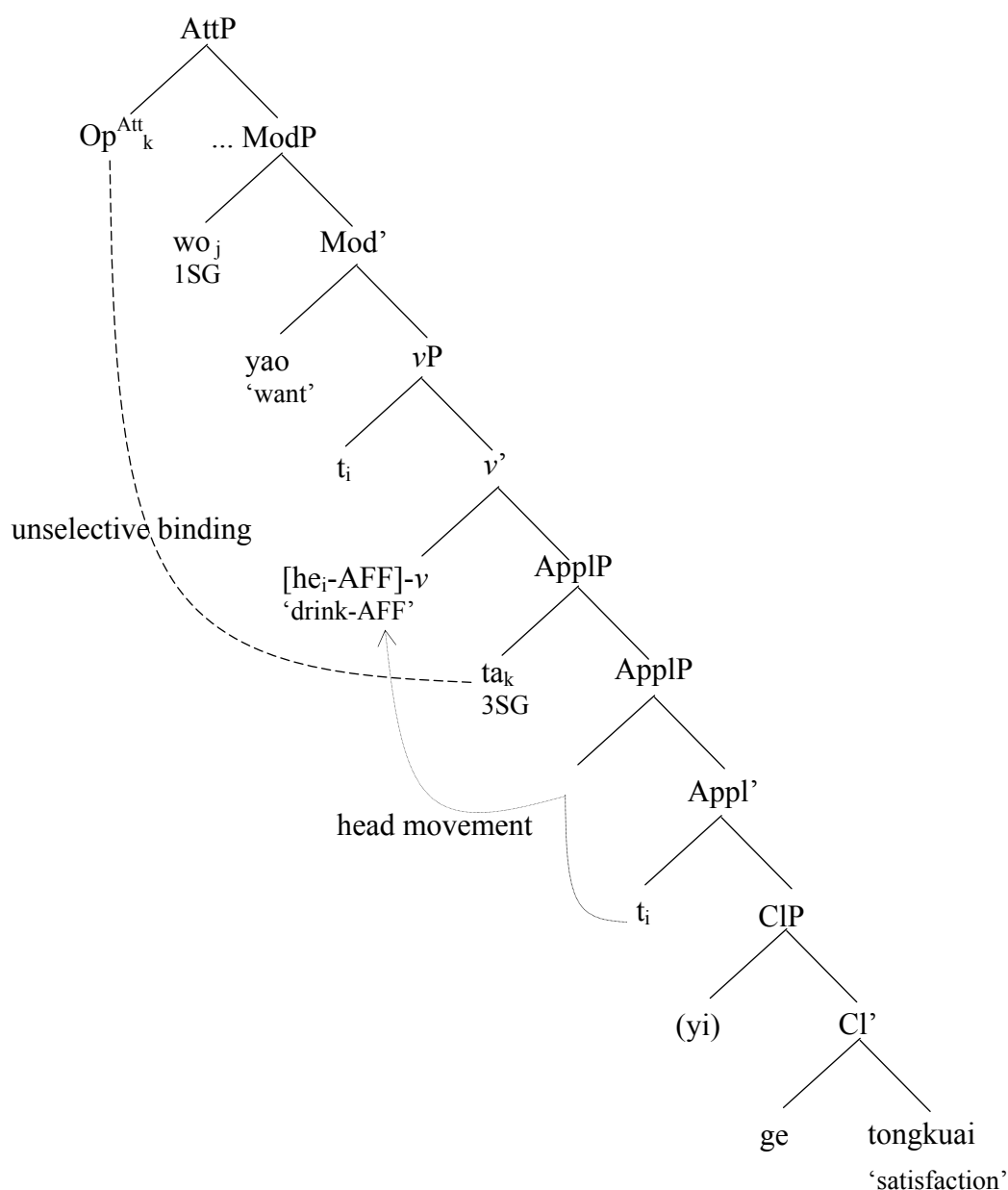
- (21) wo yao he (yi) ge tongkuai.
 I want drink one Cl satisfaction
 'I want to drink to my satisfaction.'

Moreover, with a third person subject, the presence of the attitudinal expletive is actually quite odd:

(22)^{??} Akiu yao he ta (yi) ge tongkuai.
 Akiu want drink 3SG one Cl satisfaction
 'I want to drink to my satisfaction.'

- ▶ While we agree with the previous studies in the non-referential status of the object expletive *tā*, none of the proposals have approached the attitudinal construal shared by Mandarin and TSM in a systematic manner. Its pragmatics has been described as either indifference or emphasis (cf. Iljic 1987; Lei 2012, among other), which does not capture the flavor of extremity/ferocity mentioned above. Therefore, departing from the classic double object analysis (Zhu 1982; Ma 1983; Lü 1985) as well as the cliticization analysis (Lin & Zhang 2006), we would like to offer a cartographic solution to the issue, as sketched in the diagram below:

(23)



Here we essentially combine Tsai's (2018) applicative analysis of the so-called pseudo double object construction like (24) with the object expletive analysis presented above.

(24) wo he-le ta san ping jiu
 I drink-Prf him three Cl wine
 'I drank three bottles of wine on him.'

Under this view, it is an implicit applicative head AFF that introduces the object pronoun *ta* while triggering verb movement. The difference is that *ta* is an affected argument in (24), but an attitudinal expletive in (20). The former is referential, while the latter is semantically bleached, but linked instead to an attitude operator in the left periphery through unselective binding.

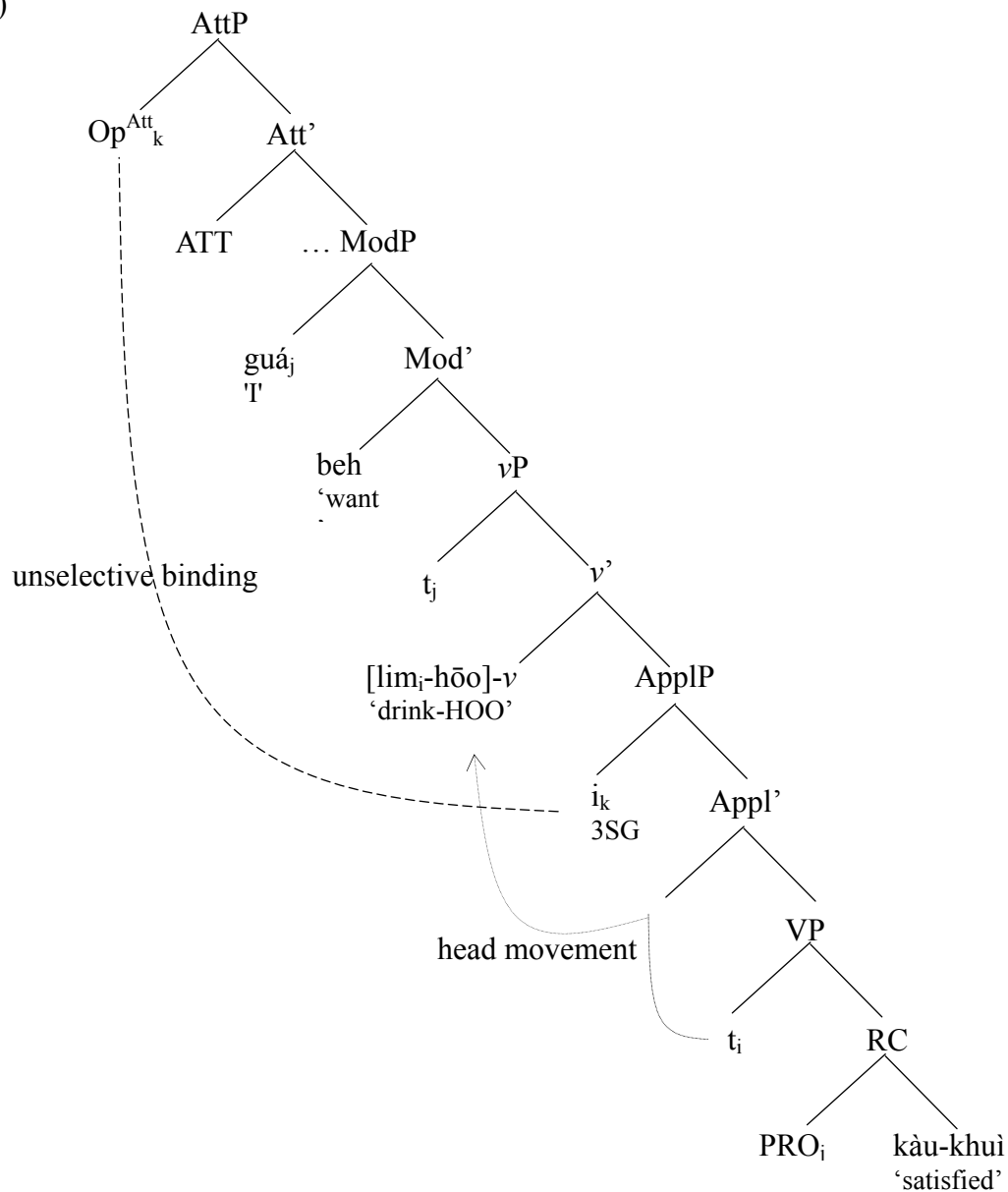
3.2. Cross-linguistic evidence from Taiwan Southern Min

Our applicative analysis receives further support from the corresponding attitudinal expletive construal in Taiwan Southern Min (TSM). As shown in (20), it actually employs a lexical applicative head *hōo* in conjunction with the object expletive *i*, complete with the signature intonation and ferocity attitude:

(25) Guábeh lim **hōo** **i** kàu-khùi!
 I want drink HOO 3SG satisfied
 'I want to drink to my satisfaction!'

- ▶ As sketched in the diagram (26), the attitudinal operator Op^{Att} binds the pronoun in the Spec of ApplP (headed by *hōo*), which in turn licenses the speaker-oriented construal (i.e., an attitude of extremity/ferocity). Within the verbal domain, the main verb *lim* 'drink' picks up the Appl head *hōo* on its way to *v*, hence the illusion that *hoo i* appears postverbally.
- ▶ Crucially, the unselective binding construal triggers the pragmatics that the proposed activity should be carried out to the extreme such that some individual(s) would be affected in some manner. As the pronominal reference of *i* has been bleached, the applicative pronoun may well function as a variable whose value is instead determined by the attitudinal operator.

(26)



3.3. The trick of embedding the ferocity attitude

Along the line of this research, the next logical step is to check the embeddability of the attitudinal applicative construction. Our preliminary study reveals that it is actually possible to place the attitudinal expletive in the clausal complement of subjunctive predicate such as *zancheng* 'approve' in (27) and *jianyi* 'suggest' in (28).

(27) wo zancheng [PRO he ta (yi) ge tongkuai!]
 I approve drink 3SG one Cl satisfaction
 'I approve of [drinking to my/our satisfaction!].'

(28) wo jianyi [PRO he ta (yi) ge tongkuai!]
 I suggest drink 3SG one Cl satisfaction
 'I suggest [drinking to my/our satisfaction!].'

By contrast, the attitudinal applicative construal in question is compatible neither with a matrix predicate such as *jingya* 'surprised' in (29), nor with a matrix predicate such as *xiangzhidao* 'wonder' in (30).

(29)* wo hen jingya [PRO he ta (yi) ge tongkuai!]
 I very surprised drink 3SG one Cl satisfaction
 'I am surprised at [drinking to my/our satisfaction!].'

(30)* wo xiangzhidao [PRO he ta (yi) ge tongkuai!]
 I wonder drink 3SG one Cl satisfaction
 'I wonder about [drinking to my/our satisfaction!].'

Similarly, as one might expect, it is impossible to embed the attitudinal expletive in the clausal complement of typical factive and intensional predicates, as exemplified by (31) and (32) respectively.

(31)* wo jide/zhidao [PRO he ta (yi) ge tongkuai!]
 I remember/know drink 3SG one Cl satisfaction
 'I remember/know [drinking to my/our satisfaction!].'

(32)* wo xiangxin/renwei [PRO he ta (yi) ge tongkuai!]
 I believe/think drink 3SG one Cl satisfaction
 'I believe/think of [drinking to my/our satisfaction!].'

- I. *zancheng* 'approve' and *jianyi* 'suggest' selects AttP rather than ForceP. As a result, they are able to license the attitudinal applicative construal in the non-root context, as in (27) and (28).
- II. *jingya* 'surprised' selects EvaP rather than AttP, hence blocking the attitudinal applicative construal in its complement position, as in (29).
- III. *xiangzhidao* 'wonder' selects IntP rather than ForceP, hence blocking the attitudinal applicative construal in its complement position, as in (30).
- IV. *jide* 'remember' and *zhidao* 'know' selects a factive complement. On the other hand, *xiangxin* 'believe' and *renwei* 'think' selects an indicative complement (presumably MoodP). Consequently, neither types of predicate may host an AttP complement, as evidenced by the deviance of (31) and (32).

4. Concluding Remarks

In sum, the truncation analysis provides a plausible account of the embeddability of denial/whining *wh*-construals and attitudinal applicative construals in Chinese. A further investigation also reveals that the root-subordinate asymmetry is not as clear-cut as it seems, where some prominent feature such as unexpectedness and ferocity is preserved across both contexts. Hopefully this line of research will shed light on the nature of syntax-pragmatics mapping under the cartographic approach.

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