

This paper argues that there are at least two types of derivations for Chinese echo answer: one involves V-to-v movement, pro-drop, and VP-deletion and the other involves focus sensitive movement (Holmberg 2014, 2016, Simpson 2014) and IP/TP deletion. We find that the higher aspectual marker *le*₂, encoding a change of state in Chinese (Erlewine 2017; Soh 2009), empirically plays a crucial role in determining the grammaticality of some verb-echo answers. This analysis avoids problems posed by analyses dominated by V-to-C or V-to-C domain (Holmberg 2016, Simpson 2014, Liu 2014). Cross-linguistically, our analysis conforms to Holmberg's view that VEAs may be derived from pro drop and VP ellipsis.

1. Introduction

This paper argues that there are two types of echo answers in Chinese; one involves V-to-v movement (Huang 1994, 1997; Tang 2001), pro-drop, and VP-deletion; the other involves focus movement and TP/IP-deletion. The subject of the first V-type can be optionally pronounced due to the VP-deletion, whereas that of the focus type cannot, owing to the TP/IP-deletion.

Holmberg (2016) proposes that verb echo answer (VEA) to yes-no question is a structure derived from a fully-fledged sentence by dint of verb-raising (V-to-C domain) and deletion (Merchant 2004). Along this line, excluding the possibility of *pro*-form analysis (Huang 1984, 1987; Li 2007, 2014; Aoun and Li 2008), Simpson (2014) argues that affirmative VEA in Chinese is a reduced form of a regular sentence, much similar to VEA in Korean, but dissimilar to Vietnamese and Finnish in disallowing adverbial short answers. Given V-to-C raising, Liu's (2014) deletion is characterized by its capability of repairing offensive traces left behind in the process of verb-extraction out of vP. We find that some empirical and theoretical issues arise from these verb-raising and deletion account. We observe that the higher aspectual marker *le*₂, encoding a change of state in Chinese, plays a crucial role in determining the grammaticality of some verb-echo answers. As for echo answers involving adverbial or adjectival maximal projection, we propose that Simpson's focus sensitive analysis, arguing that the narrowly-focused adverbs can be raised to C-domain prior to TP/IP deletion, can yield an adverbial echo answer.

The organization of this paper is as follows. Section 2 lays out the distribution of echo answers in Chinese. Section 3 analyzes theoretical and empirical challenges of the previous analyses. Section 4 proposes our two-dimension analysis for Chinese echo answers. Section 5 is the conclusion and some comparative views.

2. Distribution of echo answers in Chinese

2.1 The status of *le*

Simpson (2014) and Liu (2014) do not empirically capture the essential properties of echo answers in Chinese. Particularly, they ignore an empirical fact that the existence of the aspect marker *le* affects the grammaticality of VEA in examples involving change of state. In (1-2), the question with *le* can be answered with VEA; the answer becomes ineligible when *le*₂, which expresses a change of state (Soh 2009, Soh and Gao 2006, Erlewine 2017), is omitted

- (1) Q: ta paopu le ma?
 he run LE Q
 'Has he run?'
 A: pao *(le).
 run LE
 'Yes.'
- (2) Q: Zhangsan zuo gongke le ma?
 Zhangsan do homework LE Q
 'Has Zhangsan done his homework?'

A: zuo *(le).
do LE
'Yes.'

Simpson (2014) notices that verb-echo answers are ruled out by the blocking/intervention effect induced by narrowly-focused adverbs, such as manner adverb in (3), location adjunct in (4) and direction adjunct in (5), in the process of V-to-C domain (SpecCP) raising.

- (3) Q: Laoban *yanlide* zebei ta ma?
boss severely scold him Q
'Does his boss scold him severely?'
A: *zebei.
scold
'Yes.'
- (4) Q: zhei-ge chenshan, ni *zai xiaweiyi* mai-de ma?
this-CL shirt you at Hawaii buy-DE Q
'Did you buy this shirt in Hawaii?'
A: *mai-de/le.
buy-DE/-LE
'Yes.'
- (5) Q: ta *cong Beijing* lai ma?
he from Beijing come Q
'Is he coming from Beijing?'
A: *lai.
come
'Yes.'

However, Simpson argues that some adverbs, recognized as a part of "a broad focus containing the verb and its arguments," can escape the intervention effect brought about by the narrowly-focused adverbs as in (6-8).

- (6) Q: ta hen renzhende zuo-le gongke ma?
he very diligently do-LE homework Q
'Did he do the homework very diligently?'
A: zuo-le.
do-LE
'Yes.'
- (7) Q: yishen zixide ka-le bingren ma?
doctor carefully look-LE patient Q
'Did the doctor carefully examine the patient?'
A: kan-le.
look-LE
'Yes.'
- (8) Q: heibanlaoda yongli da-le ta ma?
Gangster:boss severely beat-LE him Q
'Did the gangster-boss severely beat him?'
A: da-le.
beat-LE
'Yes.'

Interestingly, we find that the VEAs in (6)-(8) all end with aspectual marker *le*. Along this vein, when the marker also appears in the yes-no questions in (3)-(5), these unacceptable VEAs become acceptable in (9)-(11).

- (9) Q: Laoban *yanlide* zebei ta le ma?
boss severely scold him LE Q

‘Has his boss scolded him severely?’

A: zebei le.
scold LE
‘Yes.’

(10) Q: zhei-ge chenshan, ni zai xiaweiyi mai le ma?
this-CL shirt you at Hawaii buy LE Q
‘Have you bought this shirt in Hawaii?’

A: mai le.
buy LE
‘Yes.’

(11) Q: ta cong Beijing lai le ma?
he from Beijing come LE Q
‘Has he come from Beijing?’

A: lai le.
come LE
‘Yes.’

In Chinese, the higher aspectual marker *le2*, locating at the end of a sentence, denotes the meaning of the completion of the entire event, whereas the lower one, immediately attaching to a verb, called *le1*, encodes the completion of the action denoted by verbs such as *zebei* ‘scold’, *mai* ‘buy’, or *lai* ‘come’. We observe that it is a higher aspectual marker *le2* rather than *le1* that ends with VEAs in Chinese. This can be seen from the contrast between (9) and (12). When *le1* appears right after the verb, the VEA is awkward. In (13), the obligatoriness of *le2*, in contrast to the optionality of *le1*, indicates that the final *le* after VEA in (13A) is *le2* rather than *le1*. Example (2) displays the same phenomenon.

(12) Q: ?Laoban yanlide zebei le ta ma?
boss severely scold LE him Q
‘Has his boss scolded him severely?’

A: ??zebei le.
scold LE
‘Yes.’

(13) Q: ni chi(-le) fan *(le) ma?
you eat-LE meal LE Q
‘Have you eaten yet?’

A: chi le.
eat LE
‘Yes.’

If the higher aspectual marker hypothesis is correct, then we can infer that in (6)-(8), where, Simpson argues, the adverbs are within the range of the “broad” focus, the lower aspectual marker *le1* is optional and the higher one *le2* is obligatory. After checking with native speakers, (14) is more natural than (6). Further, in (15Q), the verb *song* ‘give’ is not immediately followed by *le1*; however, the correct form of VEA is the one with *le2* as in (15A1) other than the ones with *le1* in (15A2 and 15A3).

(14) Q: ta hen renzhende zuo(-le) gongke le ma?
he very diligently do-LE homework LE Q
‘Did he do the homework very diligently?’

A: zuo le.
do LE
‘Yes.’

(15) Q: Zhangsan song-gei-le1 ta yi-fen-da-li le2 ma?
Zhangsan give-give-LE1 him one-CL-big-gift LE Q
‘Did Zhangsan give him a big gift?’

A1: song le. A2: *song-gei-le1 A3: *gei-le1.
give LE give-give-LE give-LE

‘Yes.’

The aforementioned discussions reveal that *le2* plays a crucial role in judging the acceptability of VEA in Chinese. The VEAs with the broad-focused adverbs, *de facto*, end with *le2*; in addition, the ones ruled by the intervention of the “narrow-focused” adjuncts or adverbs can be attributed to the lack of the attachment of *le2*. In other words, it is *le2* rather than focus that affects the legitimacy of VEAs.

Empirically, it is hard to discriminate Simpson's (2014) broad vs. narrow focus adverbs. It seems that the interpretation is subject to change. For example, in (7), the event of medical examination of patients is expected to be carried out "carefully"; in (8), the event of beating of a discovered informant by a gangster is expected to be "severe". In these cases, hearers tend to be able to understand the yes-no question as a way of asking for confirmation of whether the entire event occurs, not of whether the event may have been carried out in the "adverbial" manner as in (3-5). The expectation interpretation cannot fully fit cases like (6), in which to tell whether the event of his doing homework diligently depends on "context", being subject to change when the context varies. In this sense, this is not a valid diagnostic.

2.2 Adverbial echo short answer in Chinese

Simpson (2014) argues that affirmative VEA in Chinese disallows adverbial short answers, dissimilar to Vietnamese and Finnish. However, we find that the narrow focus adverbs can be echo short answers in Chinese.

In (16), Simpson argues that the verb *tiaowu* ‘dance’ cannot move to the C-domain due to the intervention of the narrowly-focused frequency adverb *changchang* ‘often’. With no adverb, when the yes-no question inquires whether Zhangsan dances or have danced, the VEAs are legitimate. However, we observe that the frequency adverb can serve as an VEA in (16A), used to confirm the truth value of the high frequency of the “given” dancing event. Interestingly, no blocking effect occurs. Manner adverb echo answer is allowed in (17), confirming the truth value of the severe manner of the given event, the boss’s scolding of him. The major difference between them lies in one facet: *Le2* can appear in (17Q) and end the VEA in (17A), whereas *le2* cannot co-occur with *changchang* ‘often’, causing a semantic conflict.

- (16) Q: Zhangsan changchang tiaowu (*le) ma?
 Zhangsan often dance LE Q
 'Does Zhangsan often dance?'
- A: *taiowu/ changchang
 dance often
- (17) Q: Laoban hen yanli zebei ta le ma?
 boss very severe scold him LE Q
 A: *zebei/ hen yanli.
 scold very severe
 'Yes.'

3. Previous analyses

Typologically, Holmberg (2016) claims that languages can be divided into two types: languages employing verb-echo answer (e.g., Chinese (Cantonese), Japanese, Finnish, etc.) vs. languages not employing verb-echo answer (English, Italian, Spanish, etc.). Holmberg argues that VEA is derived from a full clause by V-to-C domain raising and deletion. The major evidence comes from the inflection (past tense –i-) of VEA, which is identical with that of the verb in the yes-no question. Besides, she excludes the possibility of *pro*-form analysis (Huang 1984, 1987; Li 2007, 2014; Aoun and Li 2008), because the third person pronoun in Finnish cannot be dropped, contrary to the fact that the VEA is not attached with any third person pronoun (Jussi) in (18). However, Holmberg does not exclude the possibility that VEAs may result from *pro* drop and VP ellipsis in languages, such as Tunisian Arabic, Syrian Arabic, and Georgian.

- (18) Q: Luki-ko Jussi sen kirjan? [Finnish]
 read-Q Jussi that book
 'Do Jussi read that book?'

A: Luki.
read
'Yes.'

To derive (18A), Holmberg (2016) claims that the verb copies to Pol and merges with [+Pol]; the complex *luki* 'read'-[+Pol] raises higher to SpecFocP and the PolP undergoes deletion.

(19) [_{FocP} luki+[+ Pol] Foc [_{PolP} ~~Jussi~~ ~~luki~~+[+ Pol] [_{T/MP} ~~T/M~~ [_{VP} ~~<Jussi>~~ ~~<luki>~~ ~~sen kirjan~~]]]]]
read Jussi read Jussi read that book

Holmberg (2014, 2016) also notices that NP echo answer with narrow focus in Finnish can undergo focus movement to C-domain, followed by PolP deletion.

In line with Holmberg's VEA analysis, Simpson (2014) argues that focus-sensitive verb can be raised to C-domain prior to IP/TP deletion in Chinese. This can explain why VEA in Chinese can encode the meaning of adverbs/adjuncts as in (6-8), which base-generated analyses such as the subject pro drop analysis, the operator-variable object analysis (Huang 1984, 1987, etc.), and the true empty category analysis (Li 2007, 2014, Aoun and Li 2008) fails to capture. In addition, the focus-sensitive analysis can explain why the narrowly-focused adverbs block verb-raising in (3-5) and the broad-focus adverbs don't in (6-8). Typologically, focus-sensitive analysis displays some parametric variation. Simpson argues that [+affirmative]-feature may be combined with a full range of elements in Finnish, with elements other than PP and DP in Vietnamese, and with just verbs in Chinese and Korean. The feature allows these focused-elements to be attracted to the left periphery, serving as the locus of affirmation and negation in answers to yes-no questions.

Given verb-raising and deletion analysis, Liu (2014) recognizes that verb cannot raise out of vP (Huang 1994, 1997); thus he proposes that the offensive traces left by V-to-C or Modal-to-C movement can be repaired by TP-ellipsis (Merchant 2004).

The major problem of Simpson's and Liu's analyses lies in the failure of dealing with the obligatory *le2* in some VEAs as in (1) and (2). Supposed that verb-raising can merge *le1* and *le2* on the way to C-domain (C or SpecCP), some problems arise. First, it is hard to discriminate optional *le1* from obligatory *le2*. Second, V-to-C raising yields some offensive head traces. No strong evidence has been provided to prove that ASPP-deletion can repair these violations. Besides, Chinese allows adverbial echo answer, which counters Simpson's observation.

4. Our proposal

Our proposal is that Chinese echo answers can be classified into two types: (i) V-to-v, pro-drop, VP-deletion type and (ii) focus movement and IP/TP-deletion. The former is based on Erlewine's (2017) *le2* analysis and V-to-v movement in Chinese (Huang 1994, 1997; Tang 2001) and the latter on Holmberg's and Simpson's focus sensitive analyses.

Erlewine (2017) states that *le2* in (20b) encodes a change of state (or unexpected assertion) (Soh 2009, Soh and Gao 2006), in contrast to (20a).

- (20) a. Tamen daoda-le shan-ding.
they reach-LE mountain-top
'They reached the top of the mountain.'
- b. Tamen daoda-le shan-ding le.
they reach-LE mountain-top LE
'They reached the top of the mountain, (which they hadn't done before, contrary to what one may expect).'

With evidence from the scopal interaction of *le2* with negation, modals, quantificational subjects, and alternative question disjunction, he argues that it is a low sentential final particle (SFP), locating between TP and vP (cf. Shen 2004), aligning with the edge of the lower phase and heading a SFPP on the right in (21A1). Adopting this analysis, we argue that the verb *pao* 'run' in (21A1) undergoes V-to-v movement and then VP ellipsis is implemented. Thanks to the V-to-v movement and VP deletion, the subject of the VEA is in fact a

null pronominal, which can optionally be pronounced as in (21A2). In this sense, VEA in Chinese is a reduced structure [pro V le2].

- (21) Q: ta paopu le ma?
 he run LE Q
 ‘Has he run?’
 A1: [CP [IP pro [SFPP [VP pao_i [~~VP~~ ~~t_i~~ ~~bu~~]]] le2]].
 run step LE
 A2: ta pao le2.
 he run LE.

The advantages of this V-to-v analysis are three-folded. First, it adheres to the widely-recognized V-to-v movement in Chinese. Second, the derivation of VEA ending with *le2* can be captured. Third, it can explain the VEA containing adverbs/adjuncts. In (22A1), the *le2*, encoding a change of state, takes scope over the entire sentence, forcing the scope of the adverb *yanlide* ‘severely’ to be limited within the VP domain. The verb *zebei* ‘scold’ undergoes V-to-v movement, crossing the adverb with narrow scope, leaving offensive traces. Then, VP deletion, licensed by v, is implemented, erasing the offensive traces (Merchant 2004), generating the reduced structure [pro V le2]. The empty subject pro, referring to the subject *laoban* ‘boss’, can optionally be pronounced as *ta* ‘he’ in (22A2).

- (22) Q: Laoban yanlide zebeitā le ma?
 boss severely scoldhim LE Q
 ‘Has his boss scolded him severely?’
 A1: [CP [IP pro [SFPP [VP zebei_i [~~VP~~ ~~yanlide~~ [~~VP~~ ~~*t_i~~ ~~ta~~]]] le2]].
 scold severely him LE
 A2: ta zebei le2.
 he scold LE

The second type of the echo answers in Chinese, adverbial short answers, can be analyzed by Holmberg’s and Simpson’s focus sensitive analysis. (23Q) does not denote a change of state (*le2*). Given focus-sensitive analysis, the narrowly-focused frequency adverbs *changchang* ‘often’ can be raised to SpecCP prior to IP/TP deletion, generating an adverbial echo answer, similar to Vietnamese and Finnish. The entire IP including subject is deleted. Therefore, this analysis successfully predicts that *changchang* ‘often’ is a legitimate adverbial short answer in (23A1) and the subject cannot be pronounced along with the adverbial echo answer in (23A2). In contrast to (22A1), the narrowly-focused adverb *hen yanli* ‘severely’ in (24A1) can be raised to SpecCP and the remnant IP/TP undergoes deletion. The phrasal adverbial with *hen* ‘very’ indicates that the focus movement is a kind of XP movement rather than X movement. That is why the adverb A’-move to SpecCP, differing from V-to-v type. Likewise, we predict that the subject has been deleted, so it cannot be pronounced in (24A2), different from the cases of V-to-v types in (21) and (22).

- (23) Q: Zhangsan changchang tiaowu (*le) ma?
 Zhangsan often dance LE Q
 ‘Does Zhangsan often dance?’
 A1: [CP changchang_i [~~IP~~ ~~Zhangsan~~ [~~VP~~ ~~t_i~~ [~~VP~~ ~~tiaowu~~]]]]].
 often Zhangsan dance
 A2: *ta changchang.
 he often
 (24) Q: Laoban hen yanli zebei tā le ma?
 boss very severe scold him LE Q
 A1: [CP hen yanli_i [~~IP~~ ~~laoban~~ [~~SFPP~~ [~~VP~~ ~~zebei~~ [~~VP~~ ~~t_i~~ [~~VP~~ ~~t_j~~ ~~ta~~]]] ~~le2~~]]]].
 very severe boss scold him LE
 A2: *he hen yanli.
 he very severe

5. Conclusion and some comparative views

We conclude that there are at least two types of derivations for Chinese echo answer: one involves V-to-v movement, pro-drop, and VP-deletion and the other involves focus movement and IP/TP deletion. We evade problems posed by analyses dominated by V-to-C or V-to-C domain. Cross-linguistically, our analysis corresponds to Holmberg's view that VEAs may be derived from pro drop and VP ellipsis in languages such as Chinese, Tunisian Arabic, Syrian Arabic, and Georgian. Our analysis, deviating from Simpson's (2014) view, concludes that Chinese is closer to Vietnamese and Finnish in allowing adverbial short answers. Holmberg (2016) claims that Japanese is a language employing verb-echo answer. Analytically, Sato (2018) argues that Japanese VEA, similar to Finnish VEA, undergoes V-T-C movement and TP ellipsis; hence, no subject *pro* drop in front of VEA is allowed. This line of thought differs from our proposal for Chinese verb echo answers.

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