D-4 Verb echo answer *u* in Taiwanese Southern Min

Ting-Chi Wei
National Kaohsiung Normal University

This paper studies the derivation of verb echo answer (VEA) *u* in Taiwanese Southern Min (TSM) with a focus on the spectrum of *u*, a kind of verbal or aspectual element, varying with functions like existential, possessive, aspectual, stative, middle, and frequency *u*, and with positions like pre-verbal, post-verbal and post-object *u*. We argue that VEA *u* in TSM can be captured by *pro* subject along with two types of operation: (i) verbal or scalar *u* undergoing V-to-*v* movement and VP deletion or (ii) aspectual (measure) *u* base-generated at Asp, licensing *v*P deletion. This view captures phenomena including optionality of the subject, adverb-inclusive reading, and multiple VEAs and avoids problems posed by V-to-C movement (Holmberg 2016, Simpson 2015) in Chinese.
Keyword(s): Taiwanese, syntax, verb echo answer, V-to-v movement, pro-drop, VP-deletion

1. Introduction

The ellipsis of Taiwan Southern Min (TSM) is an issue that has long been ignored in the literature, mainly because TSM, a Chinese dialect, resembles another dominant dialect, Mandarin, in syntactic structures and sentence patterns. There are abundant studies focusing on Mandarin ellipsis but only few researches on ellipsis in TSM (Saitor and Kuo 2010, Wu 2016), not to mention crucial issues related to verb echo answer (VEA) in TSM. With this, this paper attempts to build up the paradigm of the VEA *u* to yes-no questions. We believe that the research on the spectrum of *u* would shed light on the pattern and derivation of VEAs other than *u*.

The verbal *u* varies with functions such as existential, possessive, aspectual, stative, middle, and frequency *u*, with positions such as pre-verbal, post-verbal and post-object *u*. We argue that the derivations of VEA u in TSM can be captured by postulation of subject *pro* along with two types of mechanism: (i) verbal or scalar *u* undergoing V-to-*v* movement and VP deletion, or (ii) aspectual (measure) *u* base-generated at Asp, licensing *v*P deletion. This analysis explains the optionality of the subject, the generation of adverb-inclusive reading, and the validity of multiple VEAs. Besides, theoretically, the V-to-*v* movement is adopted (Huang 1994, 1997; Tang 2001) to avoid empirical and theoretical problems posed by the V-to-C (domain) analysis (Holmberg 2016; Simpson 2015 for VEA in Chinese), which does not exist in Chinese. Typologically, this analysis adheres to Holmberg's (2016) view that VEAs in certain languages, such as Tunisian Arabic, Syrian Arabic, Georgian, and Chinese, may result from *pro*-drop and VP ellipsis.

The organization of this paper is as follows. Section 2 lays out the distribution of verb echo answer *u* in TSM. Section 3 surveys crucial issues in the literature and analyzes their theoretical and empirical challenges. Section 4 proposes our analysis of verb echo answer *u* in TSM. Section 5 concludes.

2. Distribution of verb echo answer *u* in TSM

This section lays out the paradigm of the verb echo answer *u* in TSM. There are at least three types of *u* in the spectrum: (i) verbal, pre-verbal, post-verbal *u*, (ii) *u* involving scalar and degree meaning, and (iii) post-object *u*.

First, in (1)-(3), the existential *u*, possessive *u*, and aspectual *u* can serve as VEAs to confirm the proposition of the yes-no questions. The negative *bo*, a combination of negative *m* and *u*, is used to negate a proposition. Specifically, in (1A), the existential verb *u* is echoed to confirm the proposition 'there is a letter on the table,' whereas its negative form *bo* is to negate the proposition. Similar behaviors occur with the VEAs to yes-no questions in (2A) and (3A), the possessive VEA *u* and the aspectual VEA *u*, respectively. The subject *i* 'he' can optionally appear in (2B) and (3B). In (1B), the subject *toh-a ting* 'the top of the table' can optionally be present. Besides, a subject-object asymmetry arises. Unlike subject, object cannot be echoed after the verb as in (1C), (2C), and (3C). However, multiple VEA is allowed in (3C) with *u*-V remnant.

(1) Q: Toh-a   ting u   tsit-tiunn phue   bo?   (Existential)
       table   top   have one-CL   letter   Q
       '(lit.) Is there a letter on the table?'
    A: u/bo.   B: toh-a ting   u/bo.
       have/not.have   Table top   have/not.have
       'Yes, there is./No, there isn't.'   'Yes, there is./No, there isn't.'
    C: *u/bo   tsit-tiunn   phue.
       have/not.have   one-CL   letter
       'Yes, there is./No, there isn't.'

(2) Q: i   u   tsit-pah   khoo   bo?   (Possessive)
       he   have one-CL   dollar Q
       'Does he have one hundred dollars?'

```
A:   u/bo.                          B:   i      u/bo.
     have/not.have                       he     have/not.have
     'Yes, he does./No, he doesn't.'     'Yes, he does./No, he doesn't.'
C:   *u/bo            tsit-pah    khoo.
     have/not.have    one-CL      dollar
     'Yes, he does./No, he doesn't.'
```

```
(3)  Q:   i      u      thak  hit-pun tsheh      bo?                          (Aspectual)
          he     have  read   one-CL book       Q
          'Has he read that book?'
     A:   u/bo.                          B:   i      u/bo.
          have/not.have                       he     have/not.have
          'Yes, he has./No, he hasn't.'       'Yes, he has./No, he hasn't.'
     C:   u/bo             thak        (*hit-pun   tsheh).                     (Multiple VEA)
          have/not.have    read        one-CL      book
          'Yes, he has./No, he hasn't.'
```

Moreover, the adverb-inclusive reading appears in the possessive (4) and aspectual (5).

```
(4)  Q:   i      ke-kiam          u      tsit-pah   khoo bo?      A:   u/bo.          (Adverb-inclusive)
          he     more-or-less     have one-CL       dollar Q           have/not.have
          'Does he have one hundred dollars, more or less?'            'Yes, he does./No, he doesn't.'
```

```
(5)  Q:   i      u      jin-tsin     thak  hit-pun tsheh       bo?      A:   u/bo.          (Adverb-inclusive)
          he     have seriously read    that-CL book        Q             have/not.have
          'Has he seriously read books?'                                  'Yes, he has./No, he hasn't.'
```

The spectrum of *u* goes from the verbal and pre-verbal positions to the post-verbal positon. Neither the post-verbal *u* nor the verb *thak* 'read' in (6A) can serve as a VEA alone; only the complex V-*u* is allowed. Under the subject-object asymmetry, the subject can be overt or covert, while the overt object is prohibited in (6B).

```
(6)  Q:   i      thak  u         tsheh       bo?                          (Post-verbal)
          he     read have        book        Q
          '(lit.) Is he (not) good at reading?'
     A:   (i)    *thak/*u/   thak u/bo.         B:   *thak u/bo            tsheh.
          he     read have   read have/not.have      read  have/not.have    book
          'Yes, he is./No, he isn't.'
```

Second, when *u* is followed by an adjectival element, the degree or measure denotation emerges from the complex *u-A*. The behaviors of degree *u* as a VEA differ, depending on whether the degree/scalar modifier *khah* 'more' appear. The stative *u* in front of the adjective *ian-tau* 'handsome' in (7) can strand as VEA. The measure *u* preceding the verb *tshing* 'wear' is analyzed as a middle verb (Lien 2010), whereas the *u* in (9) denotes frequency (Liu 2020, 2022). The *u* after the degree modifier *khah* 'more' cannot stand alone as VEA in (8-9); only *khah-u* is allowed. The trait is similar to the post-verbal *u* in (6).

```
(7)  Q:   i      u      ian-tau      bo?              A:   (i)    u/bo.                 (Stative)
          he     have handsome      Q                     he     have/not.have
          'Is he handsome?'                                'Yes, he is./No, he isn't.'
```

```
(8)  Q:   Tsit-nia sann     khah u         tshing     bo?  A:   *khah/      *u/*bo      /      khah u/bo.  (Middle)
          this-CL clothing more have       wear       Q         more        have/not.have     more have/not.have
          'Are the clothes more durable?'                       'Yes, they are./No, they aren't.'
```

```
(9)  Q:   i      tsuekin      kha         u      tshing     tsit-khuan sann    bo?                          (Frequency)
          he     recently     more        have wear         this-cl clothing   Q
          'Has he recently worn this kind of clothing more frequently?'
     A:   *khah/      *u/*bo      /      khah      u/bo.
          more        have/not.have     more      have/not.have
          'Yes, he has./No, he hasn't.'
```

Third, the spectrum of *u* even extends to the post-object position in (10), denoting an open proposition 'whether he respects me or not'. (10A) shows that the post-object *u* can strand as a short answer, but the overt subject is prohibited, dissimilar to the rest of the examples above.

(10) Q: i   khuann   gua   u   bo?   A: (*i) u/bo.   (Post-object)
       he   consider me   have Q   he   have/not.have
       '(lit.) Does he consider me to be worthy of respect?'   'Yes, he does./No, he doesn't.'

In brief, the verbal element *u* can functions as a VEA, which spectrum covers three groups: (i) verbal (existential and possessive), pre-verbal (aspectual), and post-verbal, (ii) *u* involving scalar and degree meaning (stative, middle, and frequency), and (iii) post-object. The short answer *u* induces adverb-inclusive reading in (4-5), optionally tolerates multiple VEA in the case of aspectual *u* in (3C), but requires complex V-*u* and *khah-u* when following a verb or a degree modifier.

3. Literature review
3.1 Holmberg's two analyses on VEA

This section briefly reviews Holmberg's (2001, 2007, 2016) two views on VEA. One is the V-to-C movement analysis, and the other is the *pro*-drop and VP ellipsis analysis. Holmberg concludes that some languages employ VEAs (e.g., Chinese (Cantonese), Japanese, Finnish, etc.), whereas others do not (e.g., English, Italian, Spanish, etc.).

Holmberg argues that a VEA comes from a full clause by V-to-C (domain) raising and deletion. This is evidenced by the inflection (past tense –i-) of VEAs in Finnish, as shown in (11A), identical to the inflection of the verb in (11Q).

(11) Q: Ost-i-ø   -ko Jussi sen kirjan?   A: Ost-i-ø.   [Finnish]
       buy-PST-3SG   Q   Jussi that book   buy-PST-3SG
       'Did Jussi buy that book?'   'Yes.'

Holmberg excludes the possibility of the *pro*-form analysis in the subject position (Huang 1984, 1987), because third person pronouns in Finnish cannot be dropped, contrary to the fact that the VEA is not attached with any third person pronoun, referring to *Jussi* in (11).

However, Holmberg does not completely exclude the possibility that VEAs may result from *pro*-drop and VP ellipsis in languages such as Tunisian Arabic, Syrian Arabic, Georgian, and Chinese. Holmberg (2016) argues that VEAs are possibly derived by subject *pro*-drop and verb-stranding verb phrase ellipsis. The VP ellipsis, existing in Chinese and other languages (Huang 1991, Hoji 1998, Goldberg 2005, etc.), can undergo V-movement to I or *v* and followed by ellipsis of VP (or *v*P), leaving the moved verb stranded. The deletion domain depends on the position of the licensing head, yielding VEAs which tolerate covert/overt subjects.

Accordingly, Holmberg (2016:62-63) concludes that VEAs in Mandarin are derived by *pro*-drop and VP-ellipsis. The conclusion is supported by a common form of question employing the clause-final particle *ma* in (12), which applied to a proposition with a low negation. Meanwhile, Mandarin is a language with truth-based answering system, which uses positive particle to "agree" the proposition of the question and negative particle to "disagree" (Kuno 1973, Jones 1999). The answer in (12A) implies that there is a missing *v*P containing a negation, inherited from the question, combined with a positive-marked Pol head and an empty subject pronoun, giving rise to the affirmation of the negation reading. The negative answer (12B) has a negation preceding the auxiliary, assigning negative value to the head Pol. The elided *v*P containing a negation is applied to the sentential –Pol, yielding the double negation reading (positive).

(12) Q: Lao Cheng   keyi bu   qu   ma?   [Mandarin]
       Lao Cheng   can   not go   Q
       'Is Lao Cheng allowed not to go.'
     A: [$_{PolP}$ +Pol [pro   keyi [$_{vP}$...] a]].   B: [$_{PolP}$ -Pol [pro bu   keyi [$_{vP}$...] oh]].
                       can   PRT   not   can   PRT
       'Yes (he is allowed not to go).'   'No he isn't allowed not to go.' (= He must go.)

3.2 The non-existence of V-to-C movement in Chinese languages

The V-to-C (domain) analysis is challenged by the general view that the verb in Chinese might be raised merely as high as *v* (domain) via V-to-*v* movement in Chinese (Huang 1994, 1997; Tang 2001). In other words, it is impossible to raise a verb to C. Simpson (2015), following Holmberg's idea, argues that VEAs in Chinese like their counterparts in Finnish undergo V-to-C (domain) movement and deletion. However, thus far, no empirical and theoretical evidence has been provided to support the claim that V-to-C movement exists in Chinese dialects. Simpson (2015) uses intervention effect to prove that V-to-C movement exists in Mandarin by arguing that narrowly-focused adverbs or adjuncts would block verb movement to the C-domain in (13) in line with Holmberg's analysis on languages such as VEA in Finnish.

(13) Q: Zhangsan *changchang*   tiaowu   ma?   A: *tiaowu$_i$ [$_{XP}$ Zhangsan *changchang* t$_i$]
       Zhangsan often   dance   Q |_____x_____|
       'Does Zhangsan often dance?'   'Yes (he dances often).'

Feasible as it sounds, narrow focus movement is a kind of A'-movement, whose landing site is an XP, whereas verb

movement is an X head movement. The intervenor XP and the verb X differ in the size of projection, posing a problem to the intervention account (cf. Rizzi 1990). The verb movement cannot reach as high as C in these Chinese dialects.

4. Our proposal

Analytically, Holmberg (2016) and Wu (2016) argue that answer to yes-no question in TSM belongs to the truth-based answering system, in contrast to the polarity-based answering system in English. It means that the polarity (PolP) of the answering particle in TSM determines the truth value of the answer to the proposition of the yes-no question, just like Mandarin.

4.1 The structure of PolP

The function of VEA is to confirm or negate the propositions of the yes-no question. Thus, the positive or negative polarity plays a crucial role in confirming or negating the true value of a proposition. We propose that PolP, a polarity projection, is located in the left periphery, higher than the one postulated by López (1994, 1995) and López and Winkler (2000), which is roughly at FocP and responsible for contrastive focus. Our PolP is close to the one embraced by Holmberg (2016), roughly in the CP domain. Under the split CP hypothesis (Rizzi 1997, 2004; Cinque 1999, etc.), we assume that PolP in the left periphery of a VEA is to determine the true value of the proposition of a yes-no question within the truth-based answer system as in (14).

(14) A: $[_{PolP}$ [+/-Pol] $[_{CP}$ $[_{TP}$ pro $[_{vP}$ u/bo$_i$ $\overline{[_{vP} t_i \dots]}]]]].
                            |_____|

4.2 Existential, possessive, and aspectual *u*

In analyzing VEA *u* in TSM, we argue that the subject can be an overt pronoun or a covert *pro*; the existential *u* in (15), possessive *u* in (16) undergo V-to-*v* movement prior to VP deletion. Aspectual verb *u*, also an extension of verbal projection in TSM, is base-generated at Asp, which licenses *v*P deletion in (17). In particular, the deletion domains in (16) and (17) contain an adverb each, giving forth an adverb-inclusive reading. This proves that the elided part is a fully-fledged structure. It is worthy to note that modifiers such as manner adverbs are considered as adverbial predicates, as argued by Lin, et al. (2018), mainly because it can be negated and can form question-answer pair.

(15) Q: Toh-a   ting   u   tsit-tiunn   phue   bo?   (Existential)
            table   top   have   one-CL   letter   Q
            '(lit.) Is there a letter on the table?'
      A: $[_{PolP}$ [+Pol] $[_{CP}$ $[_{TP}$ pro $[_{vP}$ u$_i$ $\overline{[_{vP} t_i \quad \text{tsit pah} \quad \text{khoo}}]]]]].
                                             have   one-CL   letter
            'Yes, there is.'

(16) Q: i   ke-kiam   u   tsit-pah   khoo   bo?   (Possessive+adverb-inclusive)
            he   more-or-less   have   one-CL   dollar   Q
            'Does he have one hundred dollars, more or less?'
      A: $[_{PolP}$ [+Pol] $[_{CP}$ $[_{TP}$ pro $[_{vP}$ u$_i$ $\overline{[_{vP} \quad \text{ke kiam} \quad [_{vP} t_i \text{ tsit pah} \quad \text{khoo}}]]]]]].
                                             have   more-or-less   one-CL   dollar
            'Yes, he does.'

(17) Q: i   u   jin-tsin   thak   hit-pun tsheh   bo?   (Aspectual+adverb-inclusive)
            he   have   seriously   read   that-CL book   Q
            'Has he seriously read that book?'
      A: $[_{PolP}$ [+Pol] $[_{CP}$ $[_{TP}$ pro $[_{AspP}$ u $\overline{[_{vP} \quad \text{jin tsin} \quad [_{vP} \text{thak hit pun} \quad \text{tsheh}}]]]]]].
                                             have   seriously   read that-CL   book
            'Yes, he has.'

In brief, existential *u* and possessive *u* is a verbal element, undergoing V-to-*v* movement and licensing VP-deletion. Aspectual u is base-generated at Asp, directly licensing *v*P deletion.

4.3 Multiple VEAs

We argue that VEAs in TSM tolerate one, two, or more verbal echo answers like Mandarin, Thai and Finnish. Regarding the formation of the multiple VEA to (17Q), the VEA without echoing the adverb *jin-tsin* 'seriously' is not acceptable as in (18A), differing from (3C), which does not contain any adverb in the yes-no question. We find that the multiple VEA is legitimate only when the adverb is echoed along with *u* 'have' and *thak* 'read', articulated as (18B).

This means that the adverb in (18B) cannot be structurally elided in forming the multiple VEA.

(18) A: *u   thak.   B: (i) u   jin-tsin   thak   (Multiple VEA)
        have   read   he   have   seriously   read
        'Yes, he has.'   'Yes, he has.'

Our proposal is that multiple VEA can be derived in two ways. For the multiple VEA not containing any adverb like (3C), the verb *thak* 'read' undergoes V-to-*v* movement prior to VP-deletion in (19A), yielding the complex *u thak* 'have read'. For the multiple VEA containing an adverb like (18B), it is the verb *thak* 'read', not the adverbial predicate, that raises to *v*. Thus, the focus-sensitive-like adverb is not within the domain of the lower VP deletion as in (20). The sequence *u jin-tsin* 'have seriously' is not acceptable, because the adverbial predicate is not a legitimate licensor for VP-ellipsis.

(19) Q: i   u   thak hit-pun   tsheh   bo?   (Aspectual)
        he   have read one-CL   book   Q
        'Has he read that book?'
     A: [PolP [+Pol] [CP [TP pro [AspP u [vP   thak$_i$ [VP t$_i$ hit-pun tsheh]]]]]].
                                            have   read   that-CL book
        'Yes, he has.'

(20) [PolP [+Pol] [CP [TP pro [AspP u [vP   jin-tsin   [vP   thak$_i$ [VP   t$_i$ hit-pun tsheh]]]]]]].
                                          have   seriously   read   that-CL book

4.4 Post-verbal *u*

As to the post-verbal *u*, since neither *thak* nor *u* can independently serve as the answer to the question in (21Q) and (6Q) for two reasons. First, if the verb *thak* 'read' is raised to *v*, the remnant *u tsheh* 'have book' is not the intended meaning. Second, if *u* 'have' is moved to *v* alone, it would cross the verb, resulting in the intervention effect. Therefore, we argue that *thak-u* 'read-have' is a morphological phrase, consisting of a main verb *thak* 'read' and its complement *u* 'have'. Both form a verbal compound V-C, which is raised to *v* before VP-ellipsis in (21A). A piece of evidence comes from the fact that the V-C compound cannot precede a definite object but a generic one, dissimilar to (17Q). In general, TSM prefers to move the definite object of V-C compound to a position behind the subject in (22).

(21) Q: i   *thak u*   tsheh   bo?   A: [PolP[+Pol] [CP [TP pro [vP thak-u$_i$ [VP t$_i$ tsheh]]]]].   (Post-verbal)
        he   read have book   Q   read have   book
        '(lit.) Is he (not) good at reading?'   'Yes, he is.'

(22) i   *hit-pun tsheh   thak   u*   (*hit-pun   tsheh).
     he   that-CL book   read have   that-CL   book
     '(lit.) He can understand that book.'

4.5 Measure *u*

The measure *u*, denoting degree/scalar meaning, has two subtypes: One involves scalar/degree *u* or middle *u*, undergoing V-to-to movement and VP deletion. The other involves a base-generated aspectual measure *u*, which licenses *v*P deletion.

According to Liu (2020, 2022), the scalar *u* is a verbal element, preceding the stative verb *ian-tau* 'handsome' in (23Q), a degree complement. In (23A), *u* moves to *v* before VP-deletion. The subject *pro* can be overtly articulated.

(23) Q: i   u   ian-tau   bo?   A: [PolP [+Pol] [CP [TP pro [vP u$_i$ [VP t$_i$ [DegP ian-tau]]]]]].   (Stative)
        he   have handsome Q   have   handsome
        'Is he handsome?'   'Yes, he is.'

Lien (2010) argues that middle *u* in (24) is a required convertor, converting an activity verb into a stative predicate denoting a scalar property (Lien 2010). Liu (2020) holds an opposite view, arguing that it is not a middle verb for reasons such as the diverse thematic roles of its subject, which should not occur with middle verb, etc. In (24), neither *khah* 'more' nor *u* can license the deletion alone, mainly because the modifier *khah* is not a legitimate licensor of ellipsis and the scalar *u* cannot raise across the modifier given the minimality effect. Thus, we propose that *u* is a verbal element, merging with the degree *khah* 'more' and together raising to *v* prior to the DegP deletion.

(24) Q: Tsit-nia sann   khah u   tshing   bo?   (Middle)
        this-CL clothing more have   wear   Q
        'Are the clothes more durable?'
     A: [PolP [+Pol] [CP [TP pro [vP [khah-u$_i$]$_j$ [DegP t$_j$ [VP t$_i$ tshing]]]]]].
                                      more-have   wear

'Yes, they are.'

Apparently, the aspectual (measure) verb *u* in (25) resembles the "middle" *u* in merging with a verb to form a *u*-V compound; however, there are at least two differences between them. First, according to Liu (2020), the valency change of the verb does not occur to the aspectual (measure) verb *u* in (25), but to the middle *u* in (24). Second, the aspectual element *le* can follow the aspectual measure *u* in (25A) but not the middle *u* in (24A). Given this, the frequency denotation in (9), repeated in (25), can be analyzed as below. We assume that the aspectual measure *u* is base-generated at Asp, licensing *v*P-ellipsis.

(25) Q: i tsuekin khah u(-le) tshing tsit-khuan sann bo? (Frequency)
he recently more have-ASP wear this-CL clothing Q
'Has he recently worn this kind of clothing more frequently?'

A: [PolP [+Pol] [CP [TP pro [DegP khah [AspP u(-le) [vP ~~tshing~~ [VP ~~t~~ᵢ ~~tsit khuan sann~~]]]]].
more have-ASP wear this-CL clothing
'Yes, he has.'

Thus, the contrast of the verbal scalar *u* and aspectual measure *u* is reminiscent of that of existential/possessive *u* and aspectual *u*, as shown in the following hierarchy in (26). In the paradigm, the verbal and scalar *u* undergoes V-to-*v* movement and VP deletion, whereas the aspectual (measure) *u* is base-generated at Asp, licensing *v*P deletion.

(26) aspectual (measure) *u* > verbal/scalar *u* > predicate

4.6 Post-object *u*: A verb echo answer in disguise

Apparently, the post-object *u* can serve as a VEA; in fact, the *u* is an overt realization of answering particle, [+Pol] under the truth-based answering system. The expression *khuann gua u* is not a productive fixed expression. We propose that the possessive *u* actually is the predicate of a small clause (SC) in (27), being predicated of the subject, *gua* 'I'. The object of the possessive *u* 'have; own' is omitted and can be interpreted in different ways, such as money, fame, status, etc. The entire sentence denotes 'he considers me to be worthy of respect probably due to my wealth, fame, status, etc.'

We argue that the *u* in (27A) is an answering particle, not a VEA as the remnant of the deletion, because neither the matrix subject *i* 'he' nor the embedded subject *gua* 'I' can appear in front of *u*, drastically different from the rest of the *u* in this paper. In line with Holmberg & Wu (2016) and Wu (2016), we propose that the positive polarity feature [+Pol] is spelled out as the answering particle *u* at FocP, which applies to the inner [+Pol] under the truth-based system. The entire answer in (27B) undergoes PolP-deletion, yielding the answering particle *u*.

(27) Q: i khuann [SC gua u ø] bo? A: (*i/ *gua) u.
he consider me have Q he I have
'(lit.) Does he consider me to be worthy of respect?' 'Yes, he does.'

B: [FocP [u+Pol] [Foc' Foc ~~[PolP [+Pol] i khuann [SC gua u ø]]]]~~.
Yes he consider me have

4.7 Advantages of our analysis

The advantages of this analysis are five-fold: First, our analysis adheres to the widely-recognized V-to-*v* movement in Chinese languages (Huang 1994, 1997; Tang 2001), avoiding the problems posed by the V-to-C movement. Second, the derivations of VEA *u* in TSM can be captured either (i) by verbal or scalar u undergoing V-to-*v* movement and VP deletion or (ii) by aspectual (measure) *u* base-generated at Asp, licensing *v*P deletion. Third, the subject *pro* analysis can capture the fact that the overt/covert subject can appear in front of the VEAs and can be used as a diagnostic to detect if *u* is a VEA or an answering particle. Fourth, the polarity of a VEA is faithfully represented by the truth value of PolP. Fifth, our analysis can plausibly explain the occurrence of adverb-inclusive reading and of multiple VEAs in TSM. Sixth, along this vein, we predict that the VEA other than verbal *u* in (28A) is derived via *pro*-drop, V-to-*v* movement, and VP deletion as in (28A').

(28) Q: i tsiah png ah bue? A: (i) tsiah *(ah). (Verb + PRT)
he eat rice ASP Q.NEG he eat ASP 'Yes, he has.'
'Has he eaten yet?' A': [PolP [+Pol] [CP [TP pro [vP tsiahᵢ [VP ~~tᵢ png~~]]ah]].

5. Conclusion

To conclude, typologically, this analysis adheres to Holmberg's (2016) view that VEAs in certain languages, such as Tunisian Arabic, Syrian Arabic, Georgian, and Chinese, may result from *pro*-drop and VP ellipsis. The existence of overt and covert subject constitutes one of the diagnostics to detect whether a short answer is a VEA or an answering particle. Besides, in line with Holmberg (2016), Wei's (2022) analysis on VEAs in Mandarin also supports the *pro*-drop,

V-to-*v* movement, and VP deletion. In other words, the typological pattern of VEA as a whole is not affected by the fact that the verbal system in TSM is more analytic than that in Mandarin (Cheng 1997, Huang 2014). Even so, the dialectal difference gives rise to the unique property of analyticity with respect to pre-verbal aspectual *u*, verbal *u*, and post-verbal complement *u* in TSM, which lacks in Mandarin. These factors result in a base-generated aspectual *u*, licensing *v*P-deletion and a V-*u* compound in the derivational processes of VEA in TSM.

References

Cheng, Robert L. 1997. *Taiwanese and Mandarin structures and their developmental trends in Taiwan III: Temporal and Spatial relations, questions, and negatives in Taiwanese and Mandarin*. Taipei: Yuan-Liou Publishing Co., Ltd.

Cinque, Guglielmo. 1999. *Adverbs and functional heads*. Oxford & New York: Oxford University Press.

Goldberg, Lotus M. 2005. *Verb-stranding VP ellipsis: A cross-linguistic study*. McGill: McGill University dissertation.

Hoji, Hajime. 1998. Null Object and Sloppy Identity in Japanese. *Linguistic Inquiry* 29.1: 127-152.

Holmberg, A. 2001. The syntax of yes and no in Finnish. *Studia Linguistica* 55: 141-74.

Holmberg, A. 2007. Null subjects and polarity focus. *Studia Linguistica* 61.3: 212-36.

Holmberg, A. 2016. *The syntax of yes and no*. Oxford: Oxford University Press.

Holmberg, A. and M.-J. Wu. 2016. How to say no in English and Chinese. Ms.

Huang, C.-T. James. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15: 531–574.

Huang, C.-T. James. 1987. Remarks on empty categories in Chinese. *Linguistic Inquiry* 18: 321–337.

Huang, C.-T. James. 1991. Modularity and Chinese A-not-A questions. In Carol Georgopoulos & Roberta Ishihara (eds.), *Interdisciplinary approaches to linguistics: Essays in honor of Yuki Kuroda*, 305–332. Dordrecht: Kluwer Academic Publishers.

Huang, C.-T. James. 1994. Verb movement and some syntax-semantics mismatches in Chinese. In J.-K. Paul Li, Chu-Ren Huang & C.-C. Jane Tang (eds.), *Chinese languages and linguistics* 2, 587–613. Taipei: Academia Sinica.

Huang, C.-T. James. 1997. On lexical structure and syntactic projection. In Feng-Fu Tsao & H. Samuel Wang (eds.), *Chinese languages and linguistics* 3, 45–89. Taipei: Academia Sinica.

Huang, C.-T. J. 2014. On syntactic analyticity and parametric theory. In Yen-hui Audrey Li, Andrew Simpson, and Wei-Tien Dylan Tsai (eds.), *Chinese Syntax in a Cross-Linguistic Perspective*, 1-48. Oxford University Press.

Jones, B. M. 1999. *The Welsh answering system*. [*Trends in Linguistics, Studies, and Monographs 120*]. Berlin: Mouton de Gruyter.

Kuno, Susumu. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.

Lien, Chinfa. 2003. Exploring Multiple Functions of Choe3 做 and its Interaction with Constructional Meanings in Taiwanese Southern Min. *Language and Linguistics* 4.1: 85-104.

Lin, Jonah T.-H, Jia-Chi Yu & Tzu-Ling Chen. 2018. "Modifiers" as verbs: The case of Mandarin. *Studia Linguistica* 72.3: 625–661.

Liu, Luther Chen-Sheng. 2020. A morpheme introducing degrees and its impact on argument structure: The Taiwanese Southern Min u. *Glossa: a journal of general linguistics* 5(1): X 1-40.

Liu, Luther Chen-Sheng. 2022. The possessive morphosyntactic strategy of gradable predication in Taiwanese Southern Min and the measure function. *Journal of East Asian Linguistics* 31:179–220

López, Luis. 1994. The syntactic licensing of VP-ellipsis: A comparative study of Spanish and English. In Michael L. Mazzola (ed.), *Issues and theory in Romance linguistics: Selected papers from the Linguistic Symposium on Romance Languages XXIII April 1–4 1993*, 333–354. Washington, D.C.: Georgetown University Press.

López, Luis. 1995. *Polarity and predicate pnaphora*. Ithaca, NY: Cornell University dissertation.

López, Luis & Susanne Winkler. 2000. Focus and topic in VP-anaphora constructions. *Linguistics* 38.4: 623–664.

Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, MA: MIT Press

Rizzi, Luigi. 1997. The fine structure of the left periphery. In Liliane Haegeman (ed.), *Elements of grammar*, 281–337. Dordrecht: Kluwer.

Rizzi, Luigi. 2004. Locality and left periphery. In Belletti Adriana (ed.), *Structures and beyond*, vol. 3, *The cartography of syntactic structures*, 104–131. Oxford: Oxford University Press.

Sailor, Craig & Grace Kuo. 2010. Taiwanese VP Ellipsis and the Progressive Prohibition. Paper presented at the joint meeting of IACL-18 and NACCL-22. Harvard University.

Simpson, Andrew. 2015. Verbal answers to yes/no questions, focus, and ellipsis. In Yen-hui Audrey Li, Andrew Simpson & W.-T. Dylan Tsai (eds.), *Chinese syntax in a cross-linguistic perspective*, 300–333. Oxford: Oxford University Press.

Tang, Sze-Wing. 2001. The (non-)existence of gapping in Chinese and its implications for the theory of gapping. *Journal of East Asian Linguistics* 10. 201–224.

Wei, Ting-Chi. 2022. Echo answers in Chinese. *Studies in Chinese Linguistics*. 43.2: 73-121.

Wu, M.-J. 2016. The syntax of polar questions and their answers in Taiwanese. Ph.D. Diss., Newcastle University.