Presupposition licenses limited ellipsis: evidence from the non-verbal wh-question in Mandarin[*]

Chaoyi Chen
Rutgers University

1 Introduction

Limited ellipsis is a kind of ellipsis with no linguistic antecedent. According to Merchant (2004; 2013), limited ellipsis targets an expletive, deictic, or demonstrative subject including *there/it*, *he/she/it*, *this/these/that/those* and an appropriate form of the verb *be*. These targets could be elided when an appropriate discourse context is given where the speaker can make a deictic gesture, and where the existence predicate can be taken for granted. For example, in (1), the subject *it* and the existence verb *is* could be both elided when the speaker points to the object *it* refers to, as the object is salient and the existence verb *is* could be taken for granted in this situation.

(1) <It's> On the stoop. (Merchant 2010: (40a))

As a discourse context could be realized in other ways other than gestures, one may expect that other discourse-context-related elements can also license limited ellipsis. This study is an attempt to explore the possibility of presupposition licensing limited ellipsis. In particular, this study examines the non-verbal *wh*-question in Mandarin (hereafter NVWQ) as a case of the limited ellipsis of the existence predicate V_{BE}, and argues the D-linked presupposition of *what*-N phrases in NVWQ could function similarly as an "appropriate discourse context" to license the ellipsis of the existence predicate V_{BE}.

The rest of this paper is organized as follows. Section 2 introduces the NVWQ in Mandarin and summaries three noticeable properties of NVWQ. Section 3 argues that the NVWQ in question does not fall into either the category of small clauses or that of gapped sentences although their verbs are missing on the surface form. Section 4 proposes a limited-ellipsis analysis with the assumption that the *what*-N phrase in NVWQ is D-linked. Section 5 explains how this limited-ellipsis analysis predicts and accounts for the three properties of NVWQ. Section 6 discusses how the present analysis sheds light on the embedding puzzle of limited ellipsis. Section 7 concludes.

2 Basics: the NVWQ in Mandarin

The NVWQ in Mandarin is one kind of a question where its subject is directly followed by a *what*-N(oun) phrase (a *wh*-word *shenme* 'what' + a general noun)

and no verb is present.[1] Descriptively, this NVWQ asks what type of noun the subject is or has. For instance, in (2) and (3), the subjects *Zhangsan* and *Lisi* immediately precede the *what*-N(oun) phrases *shenme shenfen* 'what identity' and *shenme xiangfa* 'what opinion', and the information concerning Zhangsan's identity and Lisi's opinion are consulted.

(2) Zhangsan shenme shenfen
     Zhangsan what   identity

     'What identity is Zhangsan?'

(3) Lisi shenme xiangfa
     Lisi what   opinion

     'What opinion does Lisi have?'

The NVWQ in question has three noticeable properties. Firstly, the absent verb can be retrieved and are limited to the copular verb *shi* 'be' and the verb *you* 'have' as shown in (4) and (5). Substantive verbs, such as *chi* 'eat' and *chuan* 'wear', are not permitted in NVWQ as in (6) and (7).

(4) Zhangsan shi shenme shenfen
     Zhangsan BE what   identity

     'What identity is Zhangsan?'

(5) Lisi you   shenme xiangfa
     Lisi HAVE what   opinion

     'What opinion does Lisi have?'

(6) Zhangsan *(chi) shenme shiwu
     Zhangsan eat   what   food

     'What food does Zhangsan eat?'

(7) Lisi *(chuan) shenme yifu
     Lisi wear   what   clothes

     'What clothes does Lisi wear?'

Secondly, the verb *shi* 'be' and the verb *you* 'have' can freely alternate with each other in NVWQ with its meaning unchanged. For example, the retrieved verb in (4) and (5) could be replaced by *you* 'have' and *shi* 'be' respectively.

(8) Zhangsan shi/you   shenme shenfen
     Zhangsan BE/HAVE what   identity

     'What identity is Zhangsan?'

(9) Lisi you/shi   shenme xiangfa
     Lisi HAVE/BE what   opinion

     'What opinion does Lisi have?'

---

[1]Mandarin is a *wh-in-situ* language so the *wh*-word does not usually move to the front of sentence.

Thirdly, in contrast with *what*+N phrases, bare *wh*-words are not allowed in NVWQ. The examples are given in (10)[2] and (11).

(10)   * Zhangsan shui
         Zhangsan who
         'Who is Zhangsan?'

(11)   * Suoni shenme
         Sony what
         'What is Sony?'

Only when the copular verb *shi* 'be' is inserted are these sentences saved as in (12) and (13).

(12)   Zhangsan shi shui
         Zhangsan BE who
         'Who is Zhangsan?'

(13)   Suoni shi shenme
         Sony BE what
         'What is Sony?'

3   NVWQ is neither a small clause nor a gapped clause

Based on a casual inspection of the surface form of NVWQ, it is tempting to categorize the NVWQ in Mandarin as either a small clause or a gapped clause. However, the syntactic behaviors of NVWQ show that it is neither of them. Rather, NVWQ syntactically patterns with BE-verbed full clauses.

3.1   NVWQ is not a small clause

The first piece of evidence for NVWQ patterning with a BE-verbed full clause rather than a small clause is that NVWQ can take the past-tense final particle *-laizhe* in (14), which is impossible for a small clause in (15)[3] (Tang 2001) but perfect with its counterpart BE-verbed full clause in (16) .

(14)   Zhangsan shenme shenfen laizhe
         Zhangsan what   identity PRT
         'What identity was Zhangsan?'

(15)   ?? Zhangsan zhongguoren laizhe
          Zhangsan Chinese   PRT
          'Zhangsan was Chinese.'

(16)   Zhangsan shi zhongguoren laizhe
         Zhangsan BE Chinese   PRT
         'Zhangsan was Chinese.'

---

[2](10) is improved if a question final particle *-ya* is added.

[3]Abbreviations used in this paper: CL: classifier; PRF: perfect aspect; PRT: sentence-final particle.

Secondly, a NVWQ is akin to a BE-verbed full clause in being compatible with the modal adverb *dagai* 'probably' as in (17) and (18). In contrast, *dagai* is not compatible for the small clause in (19).

(17)   Zhangsan dagai   shenme identity
       Zhangsan probably what   shenfen
       'What identity is Zhangsan probably?'

(18)   Zhangsan dagai   shi shenme identity
       Zhangsan probably BE what   shenfen
       'What identity is Zhangsan probably?'

(19)   * jintian dagai   xingqiri
         today probably Sunday
         'Today is probably Sunday.'

Thirdly, both NVWQs and BE-verbed clauses can co-occur with the sentential negation marker *mei* 'not' or *bu* 'not' as in (20) and (21); in contrast, small clauses are not compatible with any sentential negation markers as shown in (22).

(20)   Zhangsan mei shenme shenfen
         Zhangsan not what   identity
         'What identity doesn't Zhangsan have?'

(21)   Zhangsan bu shi shenme shenfen
         Zhangsan not BE what   identity
         'What identity isn't Zhangsan?'

(22)   * jintian bu/mei xingqiri
         today   not   Sunday
         'Today is not Sunday.'

These three arguments show that a NVWQ as well as a full BE-verbed clause is compatible with more syntactic elements than a small clause. It could be naturally explained by their differences in syntactic structures. Since these syntactic elements including the tense-related particle *-laizhe*, the epistemic modal adverb *-dagai*, and sentential negation markers are hieratically higher than *v*P, they could only be possible to be hosted in a full clause with a full-fledged clause structure rather than a truncated small clause.

3.2   NVWQ is not a gapped clause

Having been shown that the NVWQ is a full clause, one may wonder whether NVWQ is a gapped clause or not. This subsection argues that a NVWQ is similar to a BE-verbed clause and different from a gapped clause with respect to antecedents, verbs and embeddedness.

Firstly, both a NVWQ and a BE-verbed clause can occur without an antecedent. For example, as shown in (23) and (24), both a NVWQ and a BE-verbed clause can occur without an identical predicate salient in the context. On the contrary, an antecedent making the predicate occurring in a gapped clause salient is necessary

for traditional gapped sentences in Mandarin as in (25). The predicate *chi* 'eat' cannot be elided without an antecedent like *Zhangsan ate three apples*, which makes the predicate *eat* salient.

(23) (Lisi shenme shenfen) Zhangsan shenme shenfen
       Lisi what   identity Zhangsan what   identity
       '(What identity is Lisi and) what identity is Zhangsan?'

(24) (Lisi shenme shenfen) Zhangsan shi shenme shenfen
       Lisi what   identity Zhangsan BE what   identity
       '(What identity is Lisi and) what identity is Zhangsan?'

(25) *(Zhangsan chi-le   san-ge-pingguo), Lisi (chi-le) si-ge-juzi
       Zhangsan   eat-PRF three-CL-apple   Lisi eat-PRF four-CL-orange
       'Zhangsan ate three apples and Lisi ate four oranges'   (Li 1988:41)

Furthermore, the verbs in gapping constructions could be any verbs as long as it is made salient by the antecedent. For example, the verb *chi* 'eat' could be elided in the gapped clause in (25) whereas the verbs in NVWQ can only be *shi* 'be' and *you* 'have' as discussed in Section 2.

One more difference between NVWQ/BE-verbed clauses and gapped clauses is that a NVWQ/BE-verbed clause can appear in subordinate constructions as in (26) and (27) while a gapped clause cannot as in (28). Note that the embedding rogative verb *wonder* is replaced with a responsive verb *know* to be compatible with the declarative clause.

(26)   wo xiang-zhidao Zhangsan shenme shenfen
          I   wonder   Zhangsan what   identity
          'I wonder what identity Zhangsan is.'

(27)   wo xiang-zhidao Zhangsan shi shenme shenfen
          I   wonder   Zhangsan BE what   identity
          'I wonder what identity Zhangsan is.'

(28)   * wo zhidao Lisi si-ge-juzi
          I   know   Lisi 4-CL-orange
          'I know Lisi has eaten four oranges.'

All of evidence shows that NVWQ is neither a small clause nor a gapped clause but behaves like a BE-verbed clause. Accordingly, one may expect the analysis of NVWQ to be the one which (i) assumes that NVWQ contains a verbal category V_{BE}; (ii) explains the verbal ellipsis by some mechanism other than gapping. In the following, I would argue that the limited-ellipsis analysis is one of this kind of analysis.

4   A limited-ellipsis analysis

I propose that the NVWQ in Mandarin is a case of the limited ellipsis of existence predicate V_{BE}. The limited ellipsis of NVWQ is licensed by the D-linked presup-

position of its *what*-N phrase (Pesetsky 1987; den Dikken and Giannakidou 2002; among others).

The evidence of the *what*-N phrase in NVWQ being D-linked is that the NVWQ is infelicitous in an out-of-the-blue context. For example, a felicitous context for the NVWQ in (29) is the one where a set of identities are salient to both the speaker and the hearer, and NVWQ requires the hearer to give an answer of which identity Zhangsan is. A typical context for (29) is a Mafia game where each participant has the knowledge of possible identities that could appear in the game including seers, protectors and masons and one aim of the players is to identify other players' identities. The question in (29) is felicitous when one player attempts to figure out what identity Zhangsan, one of the players, is.

(29)   Zhangsan shenme shenfen
       Zhangsan what   identity
       'What identity is Zhangsan?'

Similarly, a felicitous context for the NVWQ in (30) is the one where a set of opinions are salient to both the speaker and the hearer. For example, people are discussing if they are to go hiking tomorrow, and two alternatives are salient: go hiking or not. The NVWQ in (30) is proposed to ask for Lisi's opinion concerning this issue, i.e, go hiking or not.

(30)   Lisi shenme xiangfa
       Lisi what   opinion
       'What opinion does Lisi have?'

In contrast, a general *wh*-question in Mandarin could be perfectly asked out of the blue as in (31) and (32).

(31)   Lisi shi shui
       Lisi BE who
       'Who is Lisi ?'
(32)   Suoni shi shenme
       Lisi   BE what
       'What is Sony?'

Given the contrast between NVWQs and general *wh*-questions in their licensing contexts, following Pan (2014), I argue that *what*-N phrases in Mandarin are D-linked while bare *wh*-words are not.[4]

Following den Dikken and Giannakidou (2002)'s analysis of (non-)D-linked words, I further suggest that (i) *what*-N phrases in Mandarin are both existential/indefinite and presuppositional; (ii) bare *wh*-words in Mandarin are only existential/indefinite, **not presuppositional**.

The semantic denotation of (2) is given in (33). In addition to the ordinary denotation of *wh*-questions as a set of propositions as the answers to the question

---

[4]Note that Mandarin *what*-N phrase is different from its English counterpart, which is not D-linked.

as in (33b), (2) has an extra presupposition as in (33a), which presupposes the existence of a set of entities with the property N (a set of identities in this case) in the domain D of the previous context.

(33)   Zhangsan shenme shenfen? 'What identity is Zhangsan?'
       ⟦Zhangsan shenme shenfen⟧(w) =

   a.   **presupposes:** that there exists a set of identities
        $X \subseteq D : \exists X \, \text{identity}(X)(w)$

   b.   **denotes:**
        $\lambda p. \exists x \in X[p(w) \land \text{identity}(x)(w) \land p = \lambda w(\text{be}(x)(\text{Zhangsan})(w))]$

Compared to *what*-N phrases, bare *wh*-words are not D-linked and thus are existential but not presuppositional. Thus, a general *wh*-question like the one in (34) has only an ordinary question denotation and lacks a presupposition shown in (33a).

(34)   Suoni shi shenme? 'What is Sony?'
       ⟦Suoni shi shenme⟧(w) =
       denotes:
       $\lambda p. \exists x \in X[p(w) \land \text{thing}(x)(w) \land p = \lambda w(\text{be}(x)(\text{Sony})(w))]$
                                                              (Not presuppositional)

Building on the contrast shown in (33) and (34) above, I further argue that the additional presupposition NVWQ makes a difference in licensing the limited ellipsis of V_{BE}. In particular, this D-linked presupposition entails the meaning of the existence predicate V_{BE}, thus it functions similarly to an appropriate discourse context, providing given information licensing the ellipsis of existence predicate V_{BE}.

As for the syntactical implementation, I propose that the derivation proceeds in line with the pseudo-gapping analyses of Aelbrecht (2010) and Gengel (2007).[5] The syntactic derivation is shown in (35). The [E]-feature is assumed to be on the licensing head Voice and triggers a deletion of its complement (vP) at PF (the boxed part); the subject and the *what*-N phrase move out of vP to the specs of TP and the sentence-internal FocP respectively so that they are not elided at PF.

(35)   [$_{TP}$ subj [$_{FocP}$ what identity$_i$ [$_{VoiceP}$ Voice[E] [$_{vP}$ V_{BE} [$_{PredP}$ t$_{subj}$ [$_{Pred}$ t$_i$]]]]]]

5   Explaining three properties of NVWQ

Specifying *what*-N phrase as D-linked and its presupposition entailing the meaning of V_{BE}, the current analysis makes predictions on what are eligible licensors and licensees of the limited ellipsis in question. Specifically, this analysis predicts **(i)** what type of phrases cannot license the limited ellipsis; **(ii)** what other elements can also be elided by the limited ellipsis. These predictions turn out be borne out and explain the three properties of NVWQ discussed in Section 2.

---

[5]As one anonymous reviewer points out, this pseudo-gapping analysis is stipulative and does not have a morphosyntactic correlate. More work should be done to justify this analysis.

5.1   Predicting licensors: non-D-linked phrases cannot license the limited ellipsis of V_{BE}.

According to the present analysis, NVWQs and general *wh*-questions differ in their presuppositions (NVWQs have an extra D-linked presupposition while general *wh*-questions don't), and the limited ellipsis of V_{BE} is licensed by the D-linked presupposition of *what*-N phrase. Pushed one-step further, the present analysis predicts that V_{BE} cannot be elided if the D-linked presupposition is absent.

As mentioned before, general *wh*-questions with bare *wh*-words are observed to not able to elide V_{BE} and necessarily requires an overt BE verb as discussed in (12) and (13). The present analysis correctly predicts this fact. Without a D-linked presupposition entailing the existence meaning, the limited ellipsis of V_{BE} is not licensed in general *wh*-questions and the distinction between NVWQ and general *wh*-questions is thus explained.

5.2   Predicting licensees: other variants of V_{BE} can also be elided.

It is widely held that the verb HAVE is the verb BE plus something else (Adger and Ramchand, 2003; Baker, 2003; Myler, 2018; a.o.). Following this tradition, in line with Myler (2018), I suggest that HAVE is an allomorph of V_{BE} in the fashion of distributed morphology (Halle and Marantz 1993; Embick and Noyer 2007; Arregi and Nevins 2012; Bobaljik 2017) and propose two lexical insertion rules: HAVE is the V_{BE} in the environment where a transitive Voice head is present (36a) and V_{BE} is realized as BE elsewhere (36b).

(36)   a. $V_{BE} \Leftrightarrow$ *you* 'have'/ Voice$_{\{D\}}$ ___

       b. $V_{BE} \Leftrightarrow$ *shi* 'be'

This allomorph account of HAVE and BE together with the limited-ellipsis analysis of V_{BE} explains: (i) why limited verbs are allowed in NVWQ, i.e, HAVE and BE; (ii) why they can alternate with each other.

The reason why HAVE and BE could be the licensees whereas other substantive verbs could not is that the existence meaning of HAVE and BE can be entailed by the presupposition of *what*-N phrase while other verbs cannot. Recall that the presupposition of *what*-N phrase requires that there exists a set of entities with the property N in the domain D of the previous context. This existence meaning in turn entails the meaning of an existence predicate. Assuming HAVE and BE are two allomorphs of V_{BE}, they share the core semantics of V_{BE}, which could be entailed by the D-linked existence presupposition. In contrast, this existence presupposition cannot entail other verbs whose meaning is much richer than the existence predicate V_{BE}. As shown in (6) and (7), substantive verbs such as *eat* and *wear* cannot be elided and thus are ruled out in NVWQ.

The free alternation between HAVE and BE is due to that the vocabulary insertion conditions for these two lexical items are both possible to be met in NVWQs. With the assumption that the merge of Voice head is optional, two syntactic environments, one with a Voice head and one without, are both likely to occur for the spell-out of V_{BE}, thus *shi* and *you* are both possible to appear. As a result, the free alternation between *shi* and *you* emerges.

In summary, the present analysis exploits the independently motivated notion D-linked presupposition to characterize the NVWQ in Mandarin and correctly predicts what elements could be licensors and what elements could be licensees: (i) only the *wh*-phrase having a D-linked presupposition can be a licensor for the ellipsis of V_{BE}, deriving the contrast between *what*-N phrases and bare *wh*-words; (ii) only the verbs has the meaning that could be entailed by the D-linked presupposition of *what*-N phrase can undergoes the limited ellipsis, deriving the contrast between BE/HAVE and substantive verbs and the free alternation between HAVE and BE.

6 Extension: the embedding puzzle

It has been a long-standing puzzle that the sentence undergoing limited ellipsis cannot be embedded. The sentence *On the troop!* in (1), as a fragment answers, is a classical example of limited ellipsis and it is unable to be embedded as in (37).

(37)   No one thinks that *(it's) on the stoop!

Nevertheless, surprisingly, the NVWQ in Mandarin, analyzed as one case of limited ellipsis in this paper, is able to be embedded as in (38), where the NVWQ *Zhangsan shenme shenfen* is embedded under the rogative verb *xiangzhidao* 'wonder'.

(38)   wo xiangzhidao Zhangsan shenme shenfen
        I   wonder   Zhangsan what   identity
        'I wonder what identity Zhangsan is.'

This contrast raises several questions: what makes a difference between (37) and (38), if they are both assumed to undergo limited ellipsis? The unembeddedness is either a universal property of limited ellipsis or limited to a subset of cases of limited ellipsis?

For these questions, this paper argues that whether the limited-ellipsis sentence could be embedded or not depends on the mechanism implementing limited ellipsis. If the given information responsible for the limited ellipsis is accessible to the embedded clause, then embedding is possible; otherwise, embedding is not possible. Consequently, unembeddedness is not a prevalent property of limited ellipsis.

As for a fragment answer, its limited ellipsis is licensed by a deictic gesture and the deictic gesture in the current world cannot license the limited ellipsis happening in an embedded proposition which is evaluated to a different set of possible worlds. As in (37), the embedded fragment proposition *On the troop!* is presupposed to be true with respect to all the subject's belief-worlds, not to the actual world. Thus, a deictic gesture in the actual world to which the matrix clause proposition is evaluated is not accessible (or local) to license the limited ellipsis in the embedded clause.

Differently, the limited ellipsis of V_{BE} in NVWQ is licensed by the presupposition of the *what*-N phrase in the embedded clause. Following the main-streamed analysis of the presupposition in embedded clauses (e.g., Heim 1983; 1992; among others), the set of subject-belief worlds is the one where the presupposition of the embedded clause is satisfied (otherwise, it is undefined). Therefore, in NVWQ, the

set of subject-belief worlds to which the embedded proposition is evaluated is the one entailing the existence meaning of V_{BE}. What is important here is that these subject-belief worlds are local (accessible to) to the limited ellipsis in the embedded clause. It predicts that as long as the *what*-N phrase appears in the embedded clause, the V_{BE} limited ellipsis in the same clause is possible. This is exactly the case of embedded NVWQs.

7   Conclusion

This paper investigates a kind of non-verbal *wh*-question in Mandarin. I propose a limited-ellipsis analysis for the missing V_{BE} in this kind of question, and argue that the presupposition of *what*-N phrases can function like an appropriate context to license the limited ellipsis of V_{BE}.

NVWQ has three properties: (i) its elided verb is limited to BE and HAVE; (ii) BE and HAVE can freely alternate with each other; (iii) *what*-N phrase can license the ellipsis of V_{BE} while bare *wh*-words cannot. A limited-ellipsis analysis correctly predicts eligible licensors and licensees and in turn explains three properties of NVWQ: (i) Assuming that *what*-N phrase has a presupposition that there exists a set of entities with the property N in the domain D of the previous context, the meaning of V_{BE} is entailed by the presupposition and thus can be elided, in contrast the meanings of other substantive verbs cannot be entailed thus they are not able to be elided; (ii) The analysis of HAVE and BE being the allomorphs of V_{BE} explains the free alternation between HAVE and BE in NVWQ where both of vocabulary insertion conditions are possible to be met in NVWQ; (iii) That bare *wh*-words are not presuppositional accounts for that the limited ellipsis of V_{BE} is not available in ordinary *wh*-questions. Besides, the present analysis also sheds light on the embedding puzzle of limited ellipsis. Deictic gestures and presuppositions behave differently in allowing the limited-elided sentences to be embedded. This contrast indicates that the unembeddedness is not a universal properties of limited-elided sentences, and whether embedding is possible or not depends on how the limited ellipsis is licensed.

References

Adger, D., & G. Ramchand. 2003. Predication and equation. *Linguistic Inquiry* 34.325–359.

Aelbrecht, L. *The Syntactic Licensing of Ellipsis*. Amsterdam: John Benjamins.

Arregi, K., & A. Nevins. 2012. *Morphotactics: Basque Auxiliaries and the Structure of Spellout*. Dordrecht: Springer.

Baker, M. C. 2003. *Lexical Categories: Verbs, Nouns and Adjectives*, volume 102. Cambridge University Press.

Bobaljik, J. D. 2017. Distributed morphology. In *Oxford Research Encyclopedia of Linguistics*, ed. by M. Arnoff. Oxford: Oxford University Press.

Dikken, M. d., & A. Giannakidou. 2002. From hell to polarity: "aggressively non-d-linked" wh-phrases as polarity items. *Linguistic Inquiry* 33.31–61.

Embick, D., & R. Noyer. Distributed morphology and the syntax/morphology interface. In *The Oxford Handbook of Linguistic Interfaces*, ed. by G. Ramchand & C. Reis, 289–324. Oxford: Oxford University Press.

Gengel, K. 2007. *Focus and Ellipsis: A Generative Analysis of Pseudogapping and Other Elliptical Structures*. University of Stuttgart dissertation.

Halle, M., & A. Marantz. 1993. Distributed morphology and the pieces of inflection. In *The View From Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, ed. by K. Hale & S. J. Keyser, 111–176. Cambridge, MA: MIT Press.

Heim, I. 1983. On the projection problem for presuppositions. In *Proceedings of WCCFL 2*, ed. by M. Barlow, D. P. Flickinger, & M. T. Wescoat, 114–125. Stanford University Press.

Heim, I. 1992. Presupposition projection and the semantics of attitude verbs. *Journal of Semantics* 9.183–221.

Merchant, J. 2004. Fragments and ellipsis. *Linguistics and Philosophy* 27.661–738.

Merchant, J. 2010. Three types of ellipsis. In *Context-Dependence, Perspective and Relativity*, ed. by F. Recanati, I. Stojanovic, & N. Villanueva, 141–192. Berlin: Walter de Gruyter.

Myler, N. 2018. Complex copula systems as suppletive allomorphy. *Glossa: a journal of general linguistics* 3.

Pan, V. J. 2014. Wh-ex-situ in Mandarin Chinese: mapping between information structure and split CP. *Linguistic Analysis* 39.371–413.

Pesetsky, D. 1987. Wh-in-situ: movement and unselective binding. In *The Representation of (In)definiteness*, ed. by E. J. Reuland & A. G. B. ter Meulen, 98–129. Cambridge, MA: MIT Press.

Tang, S.-W. 2001. Economy principles and Chinese verbless sentences. *Modern Foreign Languages* 25.1–13.