Licensing Existential Polarity Wh-Phrases in Mandarin Chinese

Zhiguo Xie
Department of Linguistics
Cornell University, 203 Morrill Hall
Ithaca, NY 14853-4701, USA
zx28@cornell.edu

Abstract

In this paper, I examine two influential treatments of existential polarity wh-phrases (EPWs) in Mandarin Chinese: Li (1992) and Lin (1996, 1998). With some new data, I show that neither of the analyses can account for the distribution of EPWS. I extend Giannakidou’s (non)veridicality for temporal/aspectual operators and show that the extended (non)veridicality can capture the distribution of EPWs.

1 Introduction

Wh-words in Mandarin Chinese have multi-fold interpretations: interrogative words (1a) and universal quantifiers (1b). Examples like (1c) represent an additional kind of use. Wh-words like shei ‘who’ and shenme ‘what’ can be interpreted as non-interrogative existential indefinites meaning ‘somebody’ and ‘something’ respectively. This use of wh-phrases is frequently referred to as existential polarity wh-phrases (EPWs) (e.g. Lin, 1996 1998).

(1)a. Xiaowang shuai sui guo shenme.
Xiaowang fall broken PERF what
‘What has Xiaowang broken?’
b. Xiaowang shei dou bu xiangxin.
Xiaowang who all not trust
Xiaowang does not trust anyone.’
c. Xiaowang xiang chi yidian sheme.
Xiaowang want eat a bit what
‘Xiaowang wants to eat something.’

1.1 EPWs is existential, not universal

By no means does the EPW use of wh-phrases have universal or free choice interpretations: one of the defining properties of EPWs is its existential quantification. We have three pieces of evidence for the existentiality of EPWs.

Cheng (1994) notes that MC universal quantifiers (compared to existential quantifiers) are allowed to co-occur with dou ‘all’ (2a). Dou can also co-occur with free choice items, as suggested by (2b). Being existential in nature, the EPW is not compatible with dou, even when the left-adjacency requirement1 is met, as show in (2c).

(2) a. Xiaowang sheme (dongxi) dou chi
Xiaowang what thing all eat
\[ \exists x \forall y [\text{xiaowang}(x) \land \text{thing}(y) \land \text{eat}(x,y)] \]
b. An shenme jian dou keyi
press what key all OK
‘Pressing any key will do.’
c. Xiaowang xiang qu mai dianr sheme
Xiaowang want go buy a bit what
cai (*dou) lai zuofan.
veggie all come cook
Intended: ‘Xiaowang wants to buy some vegetables to cook.’

Universal quantifiers, but not existential quantifiers, allow modifiers like almost (Horn, 1972). The examples in (3) show that universal quantifiers mei ‘every’ can be modified by jiha ‘dou’, but the EPW shei ‘who’ cannot.

1 *dou can only quantify an NP to its (immediate) left (Wu, 1999).
(3) a. Jihu mei ren dou xue hanyu
   almost every person all study Chinese.
   ‘Almost everyone studies Chinese.’
   b. Ruguo *(jihu) shei lai zhao wo ...
      if almost who come look for me ...
      ‘If someone comes for me,...’

Another piece of evidence that the EPW is existential rather than universal comes from the fact that it is capable of taking an overt existential marker you ‘have, exist’ (4a and 4b), in the same way as a normal existential NP takes an optional you (4c). In contrast, a wh-phrase in its universal use cannot take the existential marker you (5).

(4)a. ruguo (you) shei lai zhao wo, ...
    ‘If someone comes for me,...’
    b. (?| ta xiangxin (you) shei xihuan mali.
       he believe have who likes Mary
       ‘He believes that someone likes Mary.’
    c. (you) yi ge ren zai shang wang.
       have one CL man PERF on I net
       ‘There is someone surfing the Internet.’

(5)a. Shei dou hui zuo zhe dao timu.
    who all can do this CL problem
    ‘Everyone can work out this problem.’
    b. *you shei dou hui zuo zhe-dao timu
       have who DOU can do this-CL problem

1.2 Distribution of EPWs

The environments in which EPWs can appear include negation (6a), yes/no questions (6b), if-clauses (6c), object of A-not-A questions (6d), epistemic adverb (6e), inference le (6f), modal verb (6g), futurity (6h), imperatives (6i), consequent clauses (6j), imperfective (progressive) (zhengzai (6k), imperfective (durative) zhe (6l), perfective le (6m), etc. (6a-j)) are adapted from Lin (1996, 1998). Note that an EPW has a considerably flexible scope relation with respect to other scope bearing elements in the same sentence, but it cannot scope over its licensor (cf. Lin, 2004).

(6) a. Wo mei ma shenme.
    I not buy what
    ‘I bought nothing.’
    b. Shei qifu ni ma?
       who bully you Q
       ‘Did somebody bully you?’

(7) a. Xiao wang kan shenme shu.
    Xiao wang read what book
    Intended: ‘Xiao wang reads some book.’
    Possible: ‘What does Xiao Wang read?
    b. Shei mei mai zhe ben shu.
       who not buy this CL book
       Intended: ‘Someone didn’t buy this book.’
       Possible: ‘Who didn’t buy this book?’
c. *Shei mai-bu-mai zhe ben shu?
   who buy-not-buy this CL book
   Intended: *‘Does somebody buy this book or
   not buy this book?’

d. Shei mai le diann shenme?
   who bought PERF a bit what
   Intended:*‘What did somebody buy?’
   Intended: *‘Who bought something?’
   Intended: *‘Somebody likes something.’
   Possible: ‘Who eats what?’

e. Wo houhui zuo le shenme (shiqing).
   I regret do PERF what (thing)
   Intended: *‘I regret about having done
   something.’

f. Zhangsan chi guo dian shenme dongxi.
   Zhangsan eat PERF a bit what thing
   Intended: *‘Zhangsan has eaten something.’
   Possible: ‘What has Zhangsan eaten?’

The other syntactic, binding requirement states
that the non-interrogative wh-licensor must c-
command the EPW at S-structure. As pointed out
by Lin (1996, 1998), this structural requirement
actually makes a wrong prediction. Compare (10)
and (6c): the surface order does not play a signifi-
cant role in deciding the binding relation between
the EPW and its licensor. So, if the c-commanding
requirement is necessary at all, it should apply to
the LF rather than S-structure. Therefore Li’s pro-
posal is not adequate.

(10) Shei yaoshi qifu ni,...
     who if bully you...
     ‘If somebody bullies you,...’

2.2 Lin 1996, 1998
Lin (1996, 1998) proposes an account called Non-
Entailment-of-Existence Condition on EPWs
(NEEC) as a solution to the question of what
licenses the EPW:

(11) NEEC: The use of an EPW is felicitous if and
     only if the local proposition in which the EPW
     appears does not entail existence of a referent
     satisfying the description of the EPW.

The notion ‘local proposition’ of an EPW is the
proposition whose widest scope operator is the nar-
rowest operator that the EPW is in the scope of.
The notion ‘entail’ is used in a loose sense here,
including logical entailment and presupposition.
The NEEC constraint roughly amounts to saying
that a felicitous use of EPW cannot take a wide
scope, or have existential import, in the local
proposition in which it appears, or, EPWs ‘cannot
be referential or presuppositional’ (Lin 1998: 249).

By way of illustrating what he means by exist-
ence entailment, Lin compares (12a) with (12b)
(Lin, 1996’s 47 and 48 respectively). (12a) entails
the existence of at least one entity that satisfies the
description of a car (that I bought), while (12b)
does not entail that there is such a car.

(12) a. I bought a car.
    b. I didn’t buy a car.

Turning to Chinese EPWs, Lin argues that (13)
(Lin, 1998’s 38a) is excluded because indefinites
in simple affirmative sentences entail the existence
of at least one referent satisfying their description and hence violate the NEEC.

(13) * Shei xihuan Mali
    who like Mary
    'Somebody likes Mary.'

Lin's NEEC predicts (14a) to be unacceptable with EPW interpretation because from this sentence there must be something that Lisi took away and hence violates the NEEC. This prediction, however, is not borne out: an EPW is generally acceptable in a cleft sentence (14a) and other focus sentences (e.g. 14b and 14c) when the right licensing condition is met. All of the three sentences in (14) entail the existence of something that was taken by Lisi.

(14) a. Shi Lisi na zou le shenme,
    be Lisi take go PERF what,
    Zhangsan mei na.
    Zhangsan not take.
    'It was L. that took something, Z. didn’t.'
    b. (?) LISI nazou le shenme, Zhangsan mei na.
    Same as (a)
    c. Zhiyou Lisi na zou le shenme.
    only Lisi take go PERF what,
    'Only Lisi took something.'

Another piece of evidence against the NEEC is the co-occurrence of an EPW and the imperative markers zai (6k), zhe (6l) and the perfective marker le (6m). For instance, with (6m), the book-taking event has already happened and hence factual. This entails that there must be a person whose book was taken -- satisfying the description of the EPW.

(15) are some more examples of EPWs in the environment of the durative marker zhe. The EPW shenme ‘what’ in (15a) entails a referent satisfying the description given in the proposition. The second clause in (15b), where the EPW shenme ‘what’ appears in a similar position as the referent-entailing gouzi ‘hook’ in the first clause, has the interpretation that there was something (though not as specified as a hook) that the old man was pulling towards the outside. In (15c) jiligualu ‘in a noisy manner’, unspecified as it is, denotes the content/manner of shuo ‘talk’, hence the existence of the referent of the EPW.

(15) a. Ta huaili chuai zhe shenme, yi ju
    she chest hold IMPERF what, one CL
    hua ye bu shuo.
    sentence even not say
    ‘She had something in her chest and did not even say a word.’
    b. Laoren ju zhe yizhi gouzi
    old man hold IMPERF one CL hook,
    wang wai bala zhe shenme
    towards outside pull IMPERF what
    ‘The old man was holding a hook and pulling something towards the outside.’
    c. Ta jiligualu di xiang riben jinguan
    he blabblah ADV to Japanese officer
    shuozhe shenme
    say-IMPERF what
    ‘He was saying something to the Japanese officer.’

To sum up, neither Li’s semantic/syntactic requirements nor Lin’s NEEC can account for the whole picture of EPWs. For the NEEC, the main challenge comes from the existence of EPWs in imperfective (zhe, zai, and zhengzai) and perfective le sentences. Lin (1996, 1998) barely discusses the distribution of EPWs in these contexts.

In particular, the EPW shenme ‘what’ in the sentences in (14) are not licensed by focus per se. Compare (14a) with (16). Without the perfective marker le, the sentence is ungrammatical. Therefore focus is not relevant for our discussion.

(16) Shi Lisi xihuan tou shenme.
    be Lisi like steal what
    Intended: *It is Lisi that likes to steal something.

3 (Non)veridicality

Giannakidou (1998, 2002) proposes a theory that the distribution of affective polarity items (API) is sensitive to the (non)veridicality of the context of appearance.

(17) Licensing condition for APIs
An affective polarity items α is licensed in a sentence S iff S provides some expression γ which is nonveridical, and α is in the scope of γ.
Giannakidou defines (non)veridicality for propositional operators, temporal/aspeccal operators as well as quantifiers and determiners. This paper leaves aside the issue of EPWs in relative clauses, of which grammaticalization judgment is rather tricky, so we do not discuss the (non)veridicality for quantifiers and determiners.

Giannakidou’s (non)veridicality for propositional operators (as in (18)) is very similar to Lin’s NEEC. When the local proposition in which the EPW appears does not entail existence of a referent satisfying the description of the EPW, a natural conclusion is that Fp does not entail p and we have non-veridicality. On the other hand, if Fp does not entail p, the reason is most probably that there is no referent that satisfies the description of the EPW. Therefore, in the case of propositional operator, it appears nonveridicality and the NEEC makes very similar prediction.

(18) (Non)veridicality for propositional operators
   i. A propositional operator F is veridical if and only if for Fp to be true at a time t, \( \neg p \) must be true at a (contextually relevant) time \( t' \leq t \).
   ii. A nonveridical operator F is antiveridical if and only if Fp to be true at a time t, \( \neg p \) must be true at a (contextually relevant) time \( t' \leq t \).
   iii. If F is true of an interval t, then F is veridical if and only if for all (contextually relevant) \( t' \subseteq t \), \( p \) is true at \( t' \). Otherwise, F is nonveridical. If for all (contextually relevant) \( t' \subseteq t \), \( \neg p \) is true at \( t' \), then F is antiveridical.

Drawing on data from Greek and Dutch, Giannakidou (2002) and Giannakidou & Zwarts (to appear) analyzes the future and the habitual operators as nonveridical, and PIs are licensed in these contexts (20a-b, Giannakidou 2002’s (22a) and Giannakidou & Zwarts (to appear)’s (8) respectively), and the perfective past and progressive as veridical, and hence PIs are not allowed in these contexts (21a-b, Giannakidou & Zwarts (to appear)’s (32) and (38) respectively).

(20)a. O Janis tha agarasi kanena bukali krai.
   the John will buy a any bottle of wine.
   b. Otan pijene o Pavlos ja ipno,
      when went.imp.3sg the P. for sleep,
      ksefilize sinitos kanena periodhiko.
      browsed.imp.3sg usually any magazine
      ‘When Paul went to bed, he usually
      browsed through a magazine.’

(21) a. *O Pavlos ksefilize kanena periodhiko.
    the P. browsed.perf.3sg any magazine
    ‘Paul browsed through a magazine.’
   b. *O Pavlos ksefilize kanena periodhiko
    the Paul browse.imp.3sg any magazine
    olo to proi,
    all the morning
    ‘Paul is browsing through a magazine all
    morning.’

The PIs under discussion, Chinese EPWs, show cross-linguistic variation from Greek and Dutch. Besides habitual and future, EPWs are as well licensed by progressive zai, progressive (durative) zhe and perfective le. Therefore, as it stands, Giannakidou’s definition of nonveridicality for temporal/aspeccal operators is too restrictive and calls for revision in order to account for the distribution of EPWs in Mandarin Chinese. Moreover, as shown in 7(f), the perfective (experiential) marker gua, whose semantics is very similar to the perfective marker le, cannot license the EPW. This con-
trast adds to the complexity of the problem.

In what respect(s), if any, *guo* differ from *zai*, *zhe* and *le*? The key difference between *guo* and *le* lies in what is called ‘discontinuity effect’ in the literature (Smith, 1991; Klein et al., 2000). Basically this effect of *guo* requires that the resultant state of an eventuality no longer obtains at the reference time of resultant state, while *le* does not have such a requirement. For example, while (22a) implies that the book is still with Zhangsan, (22b) implies that the resultant state of the book’s being with Zhangsan no longer obtains.

(22a) Zhangsan na zou le wo de shu
    Zhangsan take go PERF me POSS book
    ‘Zhangsan took away my book.’

(22b) Zhangsan na zou guo wo de shu
    Zhangsan take go Perf. 1sg POSS book
    ‘Zhangsan once took away my book.’

(22a-b) does not have an overt adverbial phrase. In cases like this, a simplistic way to capture the ‘discontinuity effect’ of *guo* is to say that the whole eventuality, including the resultant state in particular, must precede the reference time of the resultant state (i.e. speech time). On the other hand, the resultant state of *le* sentences can overlap with the speech time.

When there is an overt adverbial phrase as topic time, the reference time for the resultant state is an anaphor-like time variable and get bound by the overt topic time. Let us call this reference time of the resultant state *t_{rst}*. The speech time discussed above is just a special case of *t_{rst}*. For the perfective marker *le*, the time of the resultant state *t* must include, or overlaps with, *t_{rst}*. Therefore, the semantics of *le* has two components: the perfective component says the event time precedes the reference time, and the imperfective component deals with the relationship between the time of resultant state and the reference time of the resultant state. By contrast, the perfective marker *guo* always has *t* precedes *t_{rst}*. Regarding the progressive marker *zai*, the intuition behind progressive is that an event is ongoing relative to a reference time (usually equivalent to the speech time), and in all *w* in the continuation branch of *e* in *w* a resultant state (not necessarily the intended result) follows. Therefore, the progressive *zai* patterns with the perfective/imperfective *le* in that the resultant state is not (totally) to the past of the reference time of the resultant state *t_{rst}*. The Chinese imperfective marker *zhe* occurs only with atelic eventualities (Lin, to appear), which generally do not have a resultant state. I would like to make a novel assumption here that atelic eventualities themselves are a resultant state. In this way, *zhe* patterns with *le* and *zai* with respect to the time of resultant state and the reference time of resultant state: the former either either overlaps with, or to the future of, the latter. What is crucial here is that the resultant state does not fall totally to the past of its reference time.

Given all the above discussion, we may redefine the non-veridicality for temporal aspectual operators as in (23). This definition guarantees the perfective marker *guo* is veridical and hence cannot license EPWs.

(23) (Non)veridicality for temporal/aspectual operators (Mandarin Chinese)

Let *F* be a temporal/aspectual operator.

*F* is veridical if and only if the time of resultant state (*t_1*) of the eventuality of *p* must precede the reference time of resultant state time *t_{rst}*: *t_1* ≤ *t_{rst}*. Otherwise *F* is nonveridical.

4 Conclusions

In this paper, I examined the two influential treatments of EPWs in Mandarin Chinese: Li (1992) and Li (1996, 1998). I showed that neither of the analyses can capture all the relevant data. Then I extended Giannakidou’s (non)veridicality for aspectual/temporal operators and proposed that the distribution of EPWs in Mandarin Chinese is sensitive to the extended non-veridicality. A couple issues calls for further consideration: i. whether and to what extent the semantic verb types affect the distribution of EPWs in particular and PIs in general? ii. whether there is cross-linguistic evidence for the novel (non)veridicality for temporal/aspectual operators as proposed above.

Acknowledgements

I sincerely thank Dorit Abusch, Julie Legate, Mats Rooth, John Whitman and my fellow students at Cornell Linguistics for their comments. I thank Hongyan Dong and Liangye Lu for their native judgment of some of the data used in this paper. All errors are solely my own responsibilities.
References


