Inanimate *ziji* and Condition A in Mandarin

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1. Introduction

The distribution of many anaphors, including Mandarin *ziji*, is complicated by their sensitivity to logophoricity: such anaphors do not obey Condition A of Binding Theory (Chomsky 1986, Charnavel and Sportiche 2016, a.o.) when they occur in clauses expressing the perspective of their antecedent (Sells 1987, Huang and Liu 2001, Charnavel 2017a, a.o.). It is therefore necessary to disentangle logophoric from non-logophoric instances of anaphors to determine their binding properties.

One strategy for that is to examine inanimate anaphors, as inanimates, which lack a mental state, cannot be logophoric (Charnavel and Sportiche 2016). But this strategy seems inapplicable to Mandarin *ziji*, which is standardly claimed to be obligatorily animate (Tang 1989, a.o.).

The goal of this paper is to question this standard claim and to show, on the basis of experimental evidence, that Mandarin *ziji* can in fact be inanimate. The distribution of inanimate *ziji* thus allows us to reexamine the binding domain of *ziji* controlling for the logophoricity confound, as well as some of its purported binding properties such as subcommand and subject orientation. The results of the experiment confirm the standard definition of the binding domain of *ziji* (with some complication in the case of subjects of embedded clauses) and reveal that subcommand is an artifact of logophoricity while subject orientation is independent from it.

2. Background and issues: The binding properties of *ziji*

2.1. Long distance binding or logophoric exemption?

Anaphors such as English *himself* are canonically considered to be subject to locality conditions defined by Condition A (Chomsky 1986, Charnavel and Sportiche 2016, a.o.). But it has been crosslinguistically observed that some instances of anaphors escape this requirement (so-called ‘long distance’, ‘free’, ‘exempt’ or ‘logophoric’ anaphors): this is the case of English *himself* (Pollard and Sag 1992, Reinhart and Reuland 1993, a.o.) as in (1) or Icelandic *sig* (Thráinsson 1976, Maling 1984, a.o.) as in (2), among many others, which are not locally c-commanded by their antecedent.

(1) a. In her opinion, physicists like herself are rare. (adapted from Kuno 1987)  
   b. Bill said that the rain had damaged pictures of himself. (adapted from Pollard and Sag 1992)

(2) Jón segir að María elski sig.  
John says that Mary loves_SUBJ REFL. 'John says that Mary loves him.' (from Thráinsson 1976)
The same holds for the Mandarin anaphor *ziji*: as shown in (3), *ziji* need not be locally bound.

(3) Zhangsan, renwei Lisi hai-le *ziji*.
    Zhangsan think Lisi hurt-ASP self
‘Zhangsan thought that Lisi hurt him.’
    (from Huang and Tang 1991)

One first type of hypothesis that was proposed to account for data like (3) (and (2)) (Pica 1987, Cole et al. 2006, Reuland 2006a-b, a.o.) builds on the morphological variation among anaphors: long distance binding was claimed to be a property of simplex, subject-oriented anaphors like Icelandic *sig* or Mandarin *ziji*. This hypothesis implies that the size of the binding domain correlates with the morphological complexity of anaphors, and that different types of binding domains must be postulated (Manzini and Wexler 1987, a.o.): while the domain of complex anaphors like *himself* is (roughly) the smallest clause containing the anaphor, the domain of simplex anaphors can be the tensed clause (for *sig*) or even the whole sentence (for *ziji*).

This type of hypothesis does not only go against ideals of parsimony, it also turns out to be incorrect, at least for Mandarin *ziji* (probably more generally, see Charnavel and Sportiche 2017), as shown by Huang and Liu 2001, among others. First, it is not the case that *ziji* has to be bound as shown in (4), where *ziji* does not even have an antecedent in the sentence.

(4) Zhe-ge xiangfa chule *ziji* zhiyou san-ge ren zancheng.
    this-CL idea besides REFL only three_CL people agree
‘As for this idea, besides myself, only three other people agree.’
    (Huang & Liu 2001)

Second, *ziji* can only be long distance bound under certain discourse conditions related to perspective. The antecedent of *ziji* is a perspective center in examples like (4) (the speaker) and (3) (the attitude holder, i.e. subject of the attitude verb *renwei* ‘think’). The contrast between (5)a and (5)b (observed by Huang and Liu 2001) further demonstrates that *ziji* must be perspectival: *ziji* can be long distance bound by *Zhangsan* only in (5)a where *Zhangsan* is the perspective center of the relative clause containing *ziji*, not in (5)b where *Zhangsan* is not a subject of consciousness at the time of the event described by that clause.

    *Zhangsan* praised_ASP often criticize REFL DE those persons
‘*Zhangsan* praised those people who criticize him a lot.’
    b. ?? *Zhangsan*, kuajiang-le houlai sha si *ziji* de naxie ren.
    *Zhangsan* praised_ASP later kill die REFL DE those persons
‘*Zhangsan* praised those people who later killed him.’
    (Huang & Liu 2001)

Thus, *ziji* is not subject to long distance binding, but to logophoric exemption: *ziji* is exempt from the locality conditions imposed by Condition A when it is logophoric, i.e. when it occurs in a clause expressing the perspective of its antecedent (cf. Clements 1975, Sells 1987, Charnavel 2017a, a.o.). Like many other anaphors, *ziji* therefore exhibits two behaviors (Charnavel and Sportiche 2016): it behaves either like a plain anaphor subject to Condition A (in which case it need not be logophoric), or like an exempt anaphor subject to logophoric conditions (in which case it need not be locally bound).

2.2. Distinguishing between plain and exempt *ziji*: The inanimacy strategy

Given that plain and exempt *ziji* are morphologically identical, this raises the issue of how to distinguish between instances of plain *ziji* and instances of exempt *ziji*. Indeed, the definition of Condition A is not known a priori (so it would be circular to be based on its standard definition to

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1 At least superficially: see Charnavel 2017a for a unified analysis of plain and exempt anaphors, where it is argued that exempt anaphors are in fact locally bound by silent logophoric operators (cf. Koopman and Sportiche 1989, Anand 2006, a.o.).
identify instances of plain ziji), and the definition of logophoricity is imprecise and controversial (the definition of logophoric center is too vague in the literature to serve as a basis for identifying instances of exempt ziji).

One strategy that has been adopted to circumvent this issue is to use the distribution of the complex anaphor ta-ziji as a baseline for Condition A in Mandarin: on the basis of examples like (6), ta-ziji is usually considered to be an anaphor strictly obeying Condition A, unlike ziji.

(6) Zhangsan, renwei Lisi hai-le {ziji_t / ta-ziji_t}
Zhangsan think Lisi hurt-ASP REFL REFL
‘Zhangsan thought that Lisi_t hurt {him/himself_t}.’ (Huang and Tang 1991)

But examples such as (7), where ta-ziji is bound from outside its clause, question this assumption (cf. Pan 1998, Dillon et al. 2015).

(7) Zhangsan, shuo naben shu fang zai ta-ziji de jiali.
Zhangsan say that-CL book put at REFL DE home
‘Zhangsan said that book was put at his home.’ (Pan 1998)

As ta-ziji cannot in fact serve as a safe baseline for Condition A, we here adopt the inanimacy strategy instead (first proposed by Charnavel and Sportiche 2016 for French anaphors) based on the following reasoning: even if the notion of logophoricity remains unclear, one generalization that crucially holds is that inanimates cannot be logophoric, since logophoric centers need a mental state to take perspective. This implies that inanimate ziji cannot be exempt, so that Condition A in Mandarin can be determined on the basis of its distribution.

This approach however faces an obvious challenge: ziji is standardly considered to be obligatorily animate (Tang 1989, Xue et al. 1994, Huang and Liu 2001) because of examples like (8).

(8) *Huoi ximie le ziji.
fire extinguish ASP REFL
‘[The fire], extinguished itself.’ (Tang 1989)

But it is also usually claimed that even if ziji cannot be inanimate as an anaphor, it can be inanimate when used as an intensifier as in (9), and this dual behavior is unexpected. Moreover, natural examples such as (10) involving an inanimate ziji can easily be found (e.g. on the internet).

(9) Huo ziji ximie le.
fire INT extinguish ASP
‘The fire went out of itself.’ (Tang 1989)

(10) [Zhe ke xingxing]i you ziji de weixing.
this CL planet have REFL DE satellite
‘[This planet], has its own satellites.’

To settle the question, we therefore undertook to further investigate the acceptability of inanimate ziji based on a systematically controlled questionnaire.

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3 It is also possible to distinguish exempt ziji from plain ziji by controlling for de se readings and blocking effects (Huang and Liu 2001, Anand 2006, a.o.): only exempt ziji has to be read de se and exhibits blocking effects, i.e. is not licensed when a first or second person pronoun intervenes. But the subtlety of these tests makes it difficult to systematically examine the binding properties of ziji.

4 Only mental perspective can indeed create logophoric domains (clauses in which logophoric elements can occur), as it has content (expressible by clauses). In particular, spatial perspective cannot create logophoric conditions and inanimate spatial reference points are not logophoric (see Charnavel 2017b [this volume]).
3. Our experimental study of inanimate ziji

3.1. Goals

Our survey had two main goals. The first, empirical goal was to test the acceptability of inanimate ziji. The second, analytical goal was conditional on the positive results of the first one: in case ziji can be inanimate in principle, we wanted to determine its distribution to reexamine the binding properties of ziji (binding domain, subject orientation, subcommand) independently of logophoricity.

3.2. Participants and procedure

Fifty-six native speakers of Mandarin were asked to perform grammaticality judgment tasks online (on Qualtrics) on 48 randomly ordered sentence items based on a Likert scale from 1 (unnatural) to 6 (natural). The sentences were divided into two lists so that each participant only had to judge 24 sentences and did not see two near-identical sentences (to avoid repetition effects, cf. examples (i)-(ii) of fn. 5). The questionnaire started with a consent followed by instructions explaining the notion of naturalness based on some practice examples. At the end, some questions were asked about the linguistic background of participants (esp. about their native language(s) and any other language(s) they may speak).

3.3. Stimuli

All sentences contained the inanimate anaphor ziji and its intended antecedent in various positions. Specifically, we manipulated the distance and the structural relation between the anaphor and its antecedent by varying both the position of the antecedent (matrix subject, within matrix subject, matrix object) and the position of the anaphor ((within) matrix object, (within) embedded subject, (within) embedded object) as shown in Table 1. Moreover, we distinguished between real inanimates and near animates such as company or supermarket, which refer to groups of people.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Conditions</th>
<th>Antecedent</th>
<th>Anaphor</th>
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<tbody>
<tr>
<td><strong>Tests</strong></td>
<td><strong>Configuration</strong></td>
<td><strong>Antecedent</strong></td>
<td><strong>Anaphor</strong></td>
</tr>
</tbody>
</table>
| **Local binding** | [Subj Ant] V [Obj ziji] | subject | object of same clause
| | [Subj Ant] V [Obj… ziji…] | subject | within object of same clause |
| **Subcommand** | [Subj… Ant…] V [Obj… ziji…] | within subject | (within) object of same clause |
| **Object binder** | Subj V [Obj Ant] [… ziji…] | object | (within) object of same clause |
| **Long distance binding** | [Subj Ant] V [DP…N… [Obj… ziji…]] | subject | (within) object of DP with subject |
| | [Subj Ant] V [TP [Subj… ziji…] V…] | matrix subject | (within) object of complement clause |
| | [Subj Ant] V [TP Subj V [Obj… ziji…]] | matrix subject | (within) object of complement clause |
| | [Subj Ant] V [Adj CP [Subj… ziji…] V…] | matrix subject | (within) subject of adjunct clause |
| | [Subj Ant] V [Adj CP Subj V [Obj… ziji…]] | matrix subject | (within) object of adjunct clause |

5 We further distinguished between objects of resultative verbs, non-resultative verbs and BA-constructions:

(i) Zhe ba po ju ju duan le ziji
   this CL worn-out saw saw broke ASP REFL
   ‘This worn-out saw sawd itself into pieces.’

(ii) Zhe ba po ju ba ziji ju duan le
    this CL worn-out saw BA REFL saw broke ASP
   ‘This worn-out saw saved itself into pieces.’

(iii) Lazhu ranshao le ziji, zhaoliang le bieren.
    candle burn ASP REFL lighten ASP others
    ‘The candles burn themselves and lighten others.’
4. Results and theoretical consequences

4.1. Acceptability of inanimate 

The first result of the survey is to demonstrate that *ziji* can in fact be inanimate, contrary to what is standardly claimed (Tang 1989, a.o.). In the condition of local binding, sentences indeed received high scores as shown in Table 2 and illustrated in (11)-(12).\(^6\)

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local binding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Subj Ant] V [Obj <em>ziji</em>]</td>
<td>4.24</td>
<td>1.91</td>
</tr>
<tr>
<td>[Subj Ant] V [Obj … <em>ziji</em> …]</td>
<td>4.69</td>
<td>1.69</td>
</tr>
</tbody>
</table>

(11) [Zhe ge shengwu xitong], neng zhichi *ziji*, de nengliang gongji.  
‘This CL biological system can support REFL DE energy supply’  
[5.12]

(12) [Zhe ke shu de shuguan], tai chen, ya wan le *ziji*.  
‘The crown of this tree is too heavy. It bent itself.’  
[4.90]

4.2. Binding domain

The second result of the questionnaire is to confirm (for the most part) the Chomskian (1986) definition of the binding domain as the smallest XP containing the anaphor and a subject distinct from it.\(^7\)

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
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<tbody>
<tr>
<td>Long distance binding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. [Subj Ant] V [DP … N … [Obj … <em>ziji</em> …]]</td>
<td>3.31</td>
<td>1.99</td>
</tr>
<tr>
<td>2. [Subj Ant] V [TP [Subj … <em>ziji</em> …] V …]</td>
<td>3.94</td>
<td>1.98</td>
</tr>
<tr>
<td>3. [Subj Ant] V [TP Subj V [Obj … <em>ziji</em> …]]</td>
<td>2.08</td>
<td>1.51</td>
</tr>
<tr>
<td>4. [Subj Ant] V [Adj CP [Subj … <em>ziji</em> …] V …]</td>
<td>3.50</td>
<td>2.03</td>
</tr>
<tr>
<td>5. [Subj Ant] V [Adj CP Subj V [Obj … <em>ziji</em> …]]</td>
<td>2.22</td>
<td>1.58</td>
</tr>
</tbody>
</table>

First, there is a significant difference in score (p<0.001)\(^8\) between sentences like (11)-(12) (local binding condition) and sentences like (13) where *ziji* is (within) the object of a XP (DP, complement or adjunct clause) with subject (underlined in (13)) and is bound from outside that XP (conditions 1, 3, 5 of long distance binding).\(^9\)

\(^6\) The reason why sentences like (8) (Tang 1989) are unacceptable is probably because the construction is rather middle or unaccusative than reflexive, and unlike itself, *ziji* cannot have a middle or unaccusative use. Moreover, note that sentences with inanimate *ziji* as an object such as (iv) below were rated lower than sentences with *ziji* as possessor of the object such as (11). This may be due to the fact that constructions with *ziji* as a direct object compete with constructions involving the preverb *zi* (e.g. *zi-ran ‘self-burn’*).

(iv) [Zhe tai diannao], sanre buhao, shaohuai le *ziji*.  
‘This CL computer radiate NEG-well, burn-broken ASP REFL’  
[3.46]

\(^7\) We do not consider the possibility that the distribution of *ziji* could be accounted for by predicate-based theories (Pollard and Sag 1992, Reinhard and Reuland 1993, a.o.), because uncontroversial examples like (3) immediately show that this type of theory is too strong. According to predicate-based theories, anaphors must be bound by their coargments, but in (3), *ziji* can be anteceded by the matrix subject even if it is the object of the embedded clause.

\(^8\) The p-values reported throughout the paper have been calculated using the Wilcoxon rank sum test. This choice results from the fact that the responses are on a scale and do not follow a normal distribution, which violates the assumptions for a t-test.

\(^9\) This difference only obtained with real inanimates: near animates like company or party behave like animates and are therefore not incorporated in the results of the survey.
Second, there is no significant difference in score (p=0.18) between sentences like (11) (local binding condition) and sentences like (14) involving \textit{ziji} (within the) subject of a complement clause (condition 2 of long distance binding).

This shows that the matrix subject (the intended antecedent) is contained in the binding domain of \textit{ziji} when \textit{ziji} is (within) the subject of the embedded clause,\footnote{Huang and Liu (2001) observe that \textit{ziji} exhibits mixed properties when it is (within) the subject of an embedded clause: like an exempt anaphor, it must be read de se, but like a plain anaphor, it is not subject to blocking effects. More precisely, the binding domain of \textit{themselves} must be extended to the matrix sentence in this theory because there is no subject accessible to the anaphor according to the i-within-i filter. Another fact undermining the hypothesis that Chomsky's 1986 theory could explain the Mandarin facts is that adjunct clauses differ from complement clauses in this respect: when \textit{ziji} is (within) the subject of an adjunct clause as in (v), it is degraded as compared to locally bound \textit{ziji} (p<0.001).} but not when it is (within) its object. In fact, sentences like (14) were rated significantly higher than sentences like (13) (p<0.001).

This appears to support Chomsky's (1986) definition of Condition A. According to it, the binding domain must contain a potential binder for the anaphor, which accounts for the acceptability of (15).\footnote{Another fact undermining the hypothesis that Chomsky's 1986 theory could explain the Mandarin facts is that adjunct clauses differ from complement clauses in this respect: when \textit{ziji} is (within) the subject of an adjunct clause as in (v), it is degraded as compared to locally bound \textit{ziji} (p<0.001).}

But the generalization on which this account is based has been questioned by Charnavel and Sportiche (2016).\footnote{Another difference is that Mandarin anaphors, unlike English/French anaphors, can be the subject of tensed clauses as illustrated in (vi) vs. (vii). This is independent of logophoricity and has been explained by the Anaphor Agreement Effect (Rizzi 1990, Woolford 1999): nominative anaphors are only grammatical in languages without agreement.} They observe (based on the distribution of French anaphors) that sentences like (15) are only acceptable if the anaphor is animate, which suggests that \textit{themselves} is not a plain anaphor in (15), but an exempt anaphor. Consequently, they claim that the binding domain of (French) anaphors can be no bigger than a tensed clause, which leads them to propose a phase-based definition of Condition A (the binding domain for Condition A is the Spell-Out domain of a phase).

The acceptability of inanimate \textit{ziji} in the subject of embedded clauses thus raises an issue, as it reveals an empirical difference between English and French on the one hand (anaphors in subjects of tensed clauses can only be exempt), and Mandarin on the other hand (these anaphors can be plain).\footnote{Another difference is that Mandarin anaphors, unlike English/French anaphors, can be the subject of tensed clauses as illustrated in (vi) vs. (vii). This is independent of logophoricity and has been explained by the Anaphor Agreement Effect (Rizzi 1990, Woolford 1999): nominative anaphors are only grammatical in languages without agreement.}

To solve this issue without resorting to parametrization of binding domains, one possibility is to assume that subjects do not occupy the same position in English/French and in Mandarin, so that...
Mandarin subjects are higher than TP and are thus outside the Spell-Out domain. Specifically, it could be the case that Mandarin subjects appear in a Topic position. This can be tested by examining instances of overtly topicalized anaphors as in (16), which involves the complex anaphor ta-ziji.

(16) Zhangsan, shuo, ta-ziji, Lisi chang piping.  
Zhangsan say REFL Lisi often criticize  
‘Zhangsan said that himself, Lisi often criticized.’ (Huang & Tang 1991)

But given that it is not clear, as we have seen above (see example (7)), that ta-ziji is a plain anaphor, a better test to be done in future surveys would be to examine topicalized inanimate ziji as in (17).

(17) ?[Zhe zhang shouju], xianshi ziji de shuju, youren gaidong guo.  
this CL receipt show REFL DE record someone change ASP  
‘[This receipt] shows that its record, somebody changed.’

4.3. Subject orientation

The third result of the survey is to show that subject orientation is independent of logophoricity.

<table>
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<tr>
<th>Table 4</th>
<th>Condition</th>
<th>Average</th>
<th>Standard deviation</th>
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<tbody>
<tr>
<td>Object binder</td>
<td>Subj V [verbs] [anterior] [ziji...]</td>
<td>1.78</td>
<td>1.16</td>
</tr>
</tbody>
</table>

Like other anaphors such as Icelandic sig, Mandarin ziji is standardly considered to require a subject as antecedent on the basis of examples like (18).

(18) Zhangsan, yijing tongzhi Lisi ziji de fenshu le.  
Zhangsan already inform Lisi REFL DE grade ASP  
‘Zhangsan already told Lisi his grade.’ (Huang et al. 2009)

Subject orientation cannot be part of Condition A (at least if we want to preserve a crosslinguistically uniform Condition A), since many anaphors such as English himself can be bound by objects. It could be reasonable to suppose that subject orientation is in fact an artifact of logophoricity: all examples mentioned in the literature involve animate ziji and the antecedents are usually subjects of attitude verbs (e.g. tongzhi ‘inform’ in (18), renwei ‘think’ in (3) and (6), shuo ‘say’ in (v) fn. 13) that make ziji logophoric, while objects are usually not perspective centers and thus cannot make ziji logophoric.

The distribution of inanimate ziji however demonstrates that subject orientation is independent of logophoricity and is a property of plain ziji. As shown in Table 4 above and illustrated in (19) below, inanimate ziji cannot be anteceded by an object. The object binder condition is rated significantly lower than the local binding condition (p<0.001) where the binder of ziji is a subject.

(19) *Zhangsan cuo ba wenzhangi fagei le ziji de zuozhe.  
Zhangsan mistake BA article send ASP REFL DE author  
‘Zhangsan sent [the article] to its own author by mistake.’ [2.12]  

14 If this test fails, it could simply be because Topic is not the relevant position (it is not high enough). Another possible test in that case could be to reexamine the cases with inanimate ziji as embedded subject and add an overtly topicalized object above it, which would force ziji to be in a lower position. Unacceptability would be expected in that case.

15 The control sentence with the pronoun ta instead of ziji is acceptable to most speakers.

16 We chose to make the subject animate to avoid ambiguity and make sure that the only possible option for the participants of the survey was to interpret ziji as anteceded by the object. But note that the same judgment would hold with an inanimate subject:

(viii) Zhe ge bianji xitong zongshi ba wenzhangi fagei le ziji de zuozhe.  
this CL editing system always BA article send ASP REFL DE author  
‘This editing system always sends [the article], to its own author.’
One hypothesis explaining subject orientation is to assume covert movement of the anaphor to a high position where the only possible (higher) antecedent is the subject. In particular, *ziji* can be assumed to covertly attach to the verb to form a reflexive verb, just like reflexive clitics overtly do in Romance (Lebeaux 1983, a.o.).

It has been argued (see Cole et al. 2006 and references therein) that this analysis could be extended to account for instances of long distance *ziji* by assuming long distance movement of *ziji* to the TP layer. But besides the issues mentioned in Section 2.1, this analysis faces the following fatal problem: it predicts that long distance *ziji* cannot occur in syntactic islands, contrary to facts (Cole et al. 2006). Instead, we suppose that the movement of *ziji* to a high clausal position (and thus subject orientation) is only local, and exempt *ziji* is bound by a silent logophoric operator (see fn. 2), which occurs in the high TP layer (Charnavel 2017a). Given that the operator can be in a relation of coreference with the superficial antecedent of *ziji*, this predicts that exempt *ziji* is not subject oriented in principle: its superficial antecedent can be in any position as long as it meets logophoric conditions. In fact, example (20) below and the examples involving apparent subcommand in the next Section 4.4 show that the antecedent of exempt *ziji* does not have to be the subject of a (full) clause, and example (4), where exempt *ziji* does not have an antecedent in its sentence, confirms this (cf. Huang and Liu 2001; fn. 31).

(20) Ziji, de xiaohai mei de jiang de xiaoxi shi Lisi hen shangxin.  
  REFL DE child NEG get prize DE news make Lisi very sad  
  ‘The news that his child didn’t win the prize made Lisi very sad.’  (Huang & Liu 2001)

4.4. Subcommand

Finally, the results of our study reveal that subcommand, unlike subject orientation, is an artifact of logophoricity.

<table>
<thead>
<tr>
<th>Subcommand</th>
<th>Condition</th>
<th>Average</th>
<th>Standard deviation</th>
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<tbody>
<tr>
<td>[subj … Ant…] V [obj… <em>ziji</em>…]</td>
<td>3.35</td>
<td>1.92</td>
<td></td>
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</tbody>
</table>

It is standardly claimed that *ziji* does not have to be in a strict c-commanding relation with its antecedent to obey Condition A: *ziji* can also be subcommanded by its antecedent (Tang 1989, Huang and Liu 2001, a.o.). As illustrated in (21), this means that its antecedent (Zhangsan) can be the specifier of a larger DP that c-commmands the anaphor if that DP is inanimate (jiao’ao ‘pride’).

(21) [Zhangsan, de jiao’ao] hai-le *ziji*.
Zhangsan DE pride hurt-ASP REFL  
‘Zhangsan’s arrogance harmed him.’

As this property seems to be idiosyncratic to Mandarin, it is worthwhile to wonder whether it is not illusory. One possibility is that subcommand is in fact an artifact of logophoricity. Indeed, subcommand is usually observed in examples involving mental, inanimate nouns (such as jiao’ao ‘pride’ in (21)) that can create logophoric conditions. Similar cases do occur in other languages as shown in (22): Icelandic *sig* can be anteceded by *John* even if *John* does not c-command *sig*, because the presence of the noun skoðun ‘opinion’ makes *sig* logophoric, i.e. the clause containing *sig* expresses the perspective of its antecedent *John*.

(22) Skoðun Jóns, er [að sig, vanti hæfileika].  
opinion John’s is that REFL lacks-SUBJ talents  
‘John’s opinion is that he lacks talents.’  (Maling 1984)

17 The proponents of this approach usually argue that *ziji* undergoes head movement to T in a cyclic manner (T-to-T movement).
18 This has been experimentally shown to be borne out for the Cantonese anaphor *jihgei*, which can take a non-subject antecedent in logophoric environments (Chan 2017).
The question is thus to know whether *ziji* is plain or exempt in examples like (21). If it is plain, we predict that inanimate *ziji* can be subcommanded; if it is exempt, only animate *ziji* can be licensed in such configurations under logophoric conditions, and subcommand is only an illusion.

The results of the survey reported in Table 5 show that the latter prediction is borne out. Inanimate *ziji* in subcommand configurations like (23) is significantly degraded (p<0.001) as compared to inanimate *ziji* in local binding conditions like (11)-(12). This supports the hypothesis that subcommand is an artifact of logophoricity.

(23) *[Zhe ke shu], de guoshi ya wan le *ziji.*
   this CL tree DE fruit press bent ASP REFL
   ‘The fruits of [this tree], bent iti.’ [3.20]

This hypothesis is corroborated by the fact that animate *ziji* can only be subcommanded by its antecedent if the inanimate noun containing the subcommander creates logophoric conditions, as suggested by the contrast between (24) and (25) provided by Huang and Liu (2001): while the noun *shibai* ‘failure’ does not make it possible for the clause containing *ziji* to express the perspective of its antecedent Zhangsan, the noun *baogao* ‘report’ does, given that a report has a content.

(24) *Zhangsan de shibai biaoshi tamen dui *ziji mei xinxin.
   Zhangsan DE failure indicate they to REFL NEG confidence
   ‘Zhangsan’s failure indicates that they have no confidence in himi.’

(25) Zhangsan de baogao biaoshi tamen dui *ziji mei xinxin.
   Zhangsan DE report indicate they to REFL NEG confidence
   ‘Zhangsan’s report indicates that they have no confidence in himi.’

Crucially, this also holds in local conditions as shown by the contrast reported by several native speakers between (21) and (26).

(26) ??Zhangsan de che bi *ziji de zixingche gui.
   Zhangsan DE car than REFL DE bike expensive.
   ‘Zhangsan’s car is more expensive than his bike.’

As neither the noun *che* ‘car’ nor the VP are mental, the clause containing *ziji* does not have to express Zhangsan’s perspective and *ziji* is therefore degraded as predicted by the logophoricity hypothesis. A more systematic investigation of this type of cases should confirm whether subcommand indeed always boils down to logophoric exemption.

5. Conclusion

In sum, our survey on inanimate *ziji* makes empirical, methodological and theoretical points. Empirically, we show that contrary to what is standardly claimed, *ziji* can in fact be inanimate. Methodologically, this provides us with a tool for distinguishing between plain and exempt, logophoric *ziji* in a theory-neutral way. This has several theoretical consequences: in particular, the distribution of inanimate *ziji* supports a Chomskian definition of Condition A and reveals that subcommand is an artifact of logophoricity, while subject orientation is independent of it.

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19 A further question is why subcommanded *ziji* seems to be less degraded than *ziji* bound by an object in the survey, even if both are significantly worse than locally c-commanded *ziji*. This could be due to the fact that in subcommand conditions, an animate DP is available in the sentence (the subject, see fn. 16) that could act as a competitor.
References


