

Research Article

Title: **Beyond Empty Categories** **空语类之外**

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Beyond Empty Categories

Summary:

Natural languages often have elements with meaning but not sound, restricted in their distribution and interpretation. Grammar captures some of such restrictions by distinguishing different types of empty categories (ECs, i.e., NP-trace, variable, empty pronoun), each of which is subject to interpretive and licensing rules. Chinese is prominent in the presence of empty elements. The restrictions on interpreting empty elements in Chinese were the topics of a vast literature in the last several decades. This work reviews the major proposals and shows that an important subject/object asymmetry in interpretive possibilities has not been properly recognized, which underlies many of the descriptive problems challenging the available accounts. It will be demonstrated that the problems can be solved if we allow the existence of a true empty position (TEP) --- an empty element that cannot be any of the known ECs. It is truly empty and contains no features except the categorial ones, which can be obtained from the linguistic contexts. Its existence is forced because grammar prohibits ECs to occur in a certain position but the position is necessary to fulfill subcategorization requirements. It is a last resort strategy. This provides important clues to understanding the different behavior of empty nominals in Chinese and Japanese --- Chinese seems to exhibit an asymmetry in the interpretive possibilities of empty subjects and objects much more strictly than Japanese. The difference is traced to structures: Chinese projects nominal expressions in argument positions as DPs and Japanese, as NPs.

語言常出現的有義無音成分的分佈和可能釋義有很多限制。空語類理論就是描述這類的限制。空語類理論區分不同的空語類,每種都受制于語法規則及辨識條件。漢語具顯著的有義無音現象,是數十年來極多文獻的重要課題。本文主要討論這些文獻面對的問題,并提出基本解決方法在於漢語還是得區分不同的空語類,但特性是有些空位置為了滿足次語類要求必須存在,但語法限制和空語類的辨識條件把可能的空語類選擇都排除。由於沒有任何空語類可以出現在這種空位置上,我們必須承認“真空位置”的存在。真空位置是一種最後策略:當沒有任何空語類可以使用時,真空位置才存在。這分析有助於我們了解為什麼漢語和日語的空成分有不同行為---漢語必須採用真空位置的最後策略,但日語不必,因此也沒有採用。我們把漢語和日語的區別歸因於這兩個語言名詞短語結構的差異:漢語是 DP, 日語是 NP。

Keywords: empty pronouns, true empty position, subcategorization, Chinese/Japanese nominal structures, DP/NP

关键词: 空代词, 真空位, 次語類要求, 漢語/日語名詞短語結構, 限定詞短語

Language is a system pairing sound and meaning.¹ However, this pairing is not always perfect. Cross-linguistically, it is quite common to find instances of sound without meaning or meaning without sound. Central to this work is the latter, which can be illustrated by (i) empty categories (traces) that are derived by movement, such as relativization, *wh*-question formation, and passivization, (ii) empty pronouns, and (iii) non-nominal empty elements in the “ellipsis” or “deletion” structures (VP-deletion, Gapping, Sluicing, Stripping, among others). What is particularly interesting about these invisible and inaudible parts is that they must be interpreted and their interpretations are not random. The options are restricted --- a behavior suggestive of the relevance of rules. Thus, studying empty elements --- meaningful but inaudible, invisible elements --- provides an important vehicle for understanding speakers’ linguistic competence. Indeed, it has been an amazing achievement in the study of grammar that empty categories have been shown to obey certain general principles (such as the Empty Category Principle, Control, and Binding, in the framework of Government and Binding (Chomsky 1981)) and that different types of empty elements have been distinguished, each of which exhibits distinct properties and is subject to different constraints.

Unfortunately, not all missing elements can fit squarely in the typology of empty categories described in the grammar. There have been many attempts in the last several decades to provide an adequate description of what can be left un-pronounced and to define the rules governing how the missing parts should be interpreted. Many interesting debates have also arisen concerning what the role of empty elements is in the organization of grammar. The renewed interest in elliptical structures and new developments in grammatical theories further raises many important questions. For instance, there have been efforts to derive all co-indexation relations via movement operations (Hornstein 2001, Kayne 2002, 2005), including those cases not traditionally associated with movement. Hornstein (2001) takes pronouns as grammatical formatives that are inserted because of operations related to movement (more precisely, failure of movement). This line of research, if successful, would make the notion of empty category in the grammar completely dispensable. All empty categories could be regarded as copies of lexical items in the numeration, becoming empty after copies are deleted or replaced by grammatical formatives.

In the decades-long literature on empty elements, Mandarin Chinese has been an important object of investigation to provide an understanding of the relevant typologies. Chinese has been claimed to be a topic-prominent language, in contrast to English, claimed to be a subject-prominent language (Li and Thompson, 1976, 1981). Whereas English has been described as a syntax-oriented language, Chinese has been labeled as a discourse-oriented language (Tsao 1979). An important property highlighted by these characterizations is that what are clear from the context do not have to be uttered. However, the precise characterizations were not seriously pursued. Huang (1982) represents the first systematic and rigorous effort to define empty categories in Chinese, which not only contributed significantly to the understanding of empty elements in Chinese but also helped define more clearly the conditions governing the distribution and interpretation of empty categories in the grammar for natural languages (Universal Grammar). The work also initiated a decades-long discussion on empty categories in this language, because of the complexity of the data involved. Various interesting proposals have been made to accommodate counterexamples to the previous analyses, each offering insights into the relevant issues. Despite the immense works on this topic, there has not yet been a consensus on what an adequate analysis should be. The great contributions and insights from a vast literature have not been able to provide satisfactory analyses to bring all the relevant issues together and answer them in a coherent manner.

This work is part of a project towards providing a coherent analysis of the possibilities and interpretations of nominal empty categories, as well as the non-nominal empty parts of elliptical constructions. In this limited space, we will re-visit the issues of how to define and interpret empty categories in argument positions and focus on the question of whether Chinese needs to distinguish different types of empty categories. The debate can be illustrated by the proposal of Huang (1982, 1984, 1987, 1991) versus the counter-proposal by Xu (1986), preceded by Xu and Langedoen (1985). The former distinguishes different types of empty categories, each of which displays distinct rule-governed behavior. The latter claims that Chinese only has one type of empty category --- a Free Empty Category, whose interpretation is provided by contextual information. Sorting out the details of this controversy will lead us to establish clearer empirical generalizations, which in turn will force us to recognize the existence of an additional, even emptier, empty element, in addition to the recognized inventory of empty categories --- a true empty category (TEP). A TEP is an empty position devoid of any material, coming into existence only to fulfill subcategorization requirements. In such an empty position, no empty categories extant in the languages are available. In other words, a true empty position is a last resort strategy to satisfy subcategorization requirements. The recognition of such a true empty position will not only provide an opportunity to unify the analyses for nominal empty elements in argument-drop sentences and non-nominal empty elements in other elliptical structures; it will also help us understand why the so-called empty pronouns may behave differently in different languages. We will attempt to demonstrate this briefly with the comparison between Chinese and Japanese in their distribution and interpretation of empty subjects and objects. Their differences will be linked to a probable structural contrast between these two languages: Chinese projects functional categories in nominal expressions, resulting in a DP; whereas Japanese nominals are NPs.

1. Types of empty categories

As briefly indicated, an important debate in the literature on empty categories is whether or not all empty categories behave alike and, therefore, no distinction needs to be made between them. If distinctions must be made, it has great significance with regard to linguistic competence by revealing the sophistication about the learner's initial knowledge. The possibility of discerning different types of emptiness makes sense only if there are systematic grammatical rules at work. The pioneering work in the field of Chinese linguistics which demonstrates the need to identify different types of empty categories is Huang 1982. Working within the framework of Government and Binding, Huang argues that Chinese, just as stated in the general theory of empty categories, should recognize at least three types of empty categories: NP-traces,² variables and empty pronouns. The last one includes *pro* and *PRO*. In the framework of Government and Binding (Chomsky 1981), the distinction between *pro* and *PRO* is related to the issue of Case or the notion of government. The difference is not the central theme of this work, we will disregard the contrast between the two and use the term empty pronouns or the abbreviation *Pro* to refer to both *pro* and *PRO*. NP-traces, a by-product of NP movement, also will not play a role in this work because the constructions of interest here do not involve NP movement. Thus, the empty categories in question will be variables and empty pronouns.

Worthy of note is the status of variables in the latest development of grammatical theories. A typical variable is the trace derived by the movement of a phrase to an A'-position. In the current Minimalist Program (Chomsky 1995a, for instance), movement involves the operations of Copy and Merge. A lexical item from the Numeration is merged with another one and the process continues to form sets of phrase markers. An item that has been merged can be copied for further merger. Such Copy and Merge operations create more than one copy of the same lexical item. To spell out the structure established via series of Copy and Merge operations, the lower copy (copies) generally must be deleted, resulting in an empty category --- a variable in the case of A'-movement. In this sense, a variable is a copy before Spell out --- referred to as a copy in the syntactical structure for convenience. This amounts to saying that it is possible to recognize *Pro* as the only empty category in the grammar of languages. In the spirit of the proposals within the Government and Binding framework, a *Pro* is specified in the Lexicon of particular languages, with its morpho-syntactic properties specified.

1.1. Variable vs. *Pro*

Variables and the A'-relation that they form with their antecedents in Chinese can be established by topicalization or relativization. Pertinent to our discussion is the locality condition on these processes: they exhibit island effects. The observation was first made in Huang (1982) and followed by many other works, a few examples of which are Li 1985, 1990, Shi 1992, Ning 1993, Qu 1994, Shyu 1995, Tsai 1994. Such a locality condition can be demonstrated by the following cases involving extraction from within a relative clause or an adjunct clause --- the Complex NP Island and the Adjunct Island.

- (1) Lisi₁, [wo hen xihuan [[*(ta₁) chang ge] de] shengyin]].
Lisi I very like he sing song DE voice
'Lisi, I like the voice with which (he₁) sings.'
- (2) Lisi, zhe-jian shi [gen *(ta₁) mei lai] mei you guanxi.
Lisi this-CL matter with he not come not have relation
'Lisi, this matter has nothing to do with [his] not having come.'

Another case is the Left Branch Condition, shown below.

- (3) Zhangsan₁, wo kanjian-le [(ta₁) baba].
Zhangsan I see-PERF he father
'Zhangsan, I saw (his) father.'

Languages have various resources at their disposal to overcome island effects. As illustrated above, these sentences require the use of an overt pronoun in place of the empty category, if island violations are to be

overcome. This can be understood as island conditions applying to movement. When an overt pronoun appears, the relevant structures are not derived by movement; therefore, the island conditions are not relevant.³

Importantly, the various island conditions do not seem to be observed consistently. Huang (1982) discussed some systematic island violations, such as the ones below.

(4) Zhangsan₁, [[e₁ baba] hen youqian].
 Zhangsan father very rich
 ‘Zhangsan₁, [his₁] father is rich.’

(5) Zhangsan₁, [[e₁ xihuan de shu] hen duo].
 Zhangsan like DE book very plenty
 ‘Zhangsan₁, the books [he₁] likes are many.’

These examples contain islands on the left-most branch of the subject of the respective matrix clauses so that no phrase intervenes between the topicalized phrase and the empty category within the island.

Why are island violations possible in these cases? To answer this question, two logical options are available: either the island conditions are not valid or the locality conditions are valid and the island violations seen in the cases above are only apparent. Huang observed that it is not true that island violations are always allowed; therefore, he pursued the latter option. Important support for this approach is the unacceptability of sentences like those below, which minimally contrast with (4) and (5) in where the NP or the relative clause containing the gap appears deeper in the sentence with respect to the topic:

(6) *Zhangsan₁, wo xihuan [[e₁ baba]]
 Zhangsan I like father
 ‘Zhangsan₁, I like [his₁] father.’

(7) *Zhangsan₁, wo kan-guo [[e₁ xihuan de shu]].
 Zhangsan I see-GUO like DE book
 ‘Zhangsan₁, I like the books [he₁] likes.’

The unacceptability of these sentences is straightforwardly captured by island conditions on movement, just as for (1)-(2). (6) violates the left-branch condition and (7), the complex NP island condition. Because of the island effects exhibited in these sentences, a consistent way of analyzing the relevant data would be that the acceptability of (4)-(5) should be due to some other factors. Huang argues that the exceptional acceptability is due to the possibility of an empty pronoun occurring in the relevant positions. The empty pronoun *Pro* must be subject to an identification requirement --- the Generalized Control Rule (GCR). This rule states that an empty pronoun is identified by the closest c-commanding NP. The “e” in (4) and (5) is properly identified, because the topic in (4) and (5) are the closest c-commanding NPs to the empty category. Therefore, these examples are only apparent island violations: in reality *Pro* resumes the empty position coindexed with the topic. On the other hand, taking the “e” in (6) and (7) to be a *Pro* does not help overcome the island violation. This is because the GCR requires the “e” in these cases to be identified with the matrix subject, which is closer to the “e” than the displaced topic. Therefore, *Pro* cannot function as an empty resumptive pronoun in these examples. Further support for such a proposal comes from sentences like the one below, which do not involve islands:

(8) *Zhangsan₁ yiwei Lisi bu renshi e₁.
 Zhangsan thought Lisi not know
 ‘Zhangsan₁ thought Lisi did not know him₁.’

According to Huang, the empty category in (8) cannot be a variable; otherwise, the coindexation between Zhangsan and “e” would violate Binding Principle C (a variable must be free, and therefore cannot be coindexed with any argument). It cannot be a *Pro*, either. Were it a *Pro*, it would have to be coindexed with

the subject of the embedded clause in accordance with the GCR. This indexing would be ruled out by a disjointness requirement on all pronouns: a pronoun must be disjoint from the subject of its clause (Binding Principle B). Therefore, an empty category in the position illustrated above could not be grammatical under any scenario.

However, sentences like the following ones complicate the adoption of an account of escaping island violations via the possibility of a *Pro*.

- (9) Zhangsan₁, [[e renshi e de] ren] henduo.
 Zhangsan know DE person many
 a. ‘Zhangsan₁, [the people₂ [that he₁ knows e₂]] are many.’
 b. ‘Zhangsan₁, [the people₂ [that e₂ know him₁]] are many.’

- (10) zhe-ben shu₁, [[Lisi kan e₁] zui heshi].
 this-CL book Lisi read most appropriate
 ‘This book, for Lisi to read [it] is most appropriate.’

The possibility of (9b), which involves a relative clause, and (10), which has a sentential subject, indicates that an object contained within an island can pass over a subject contained within the island and get coindexed with a topic in the sentence initial position. This appears to violate the GCR.

1.2. Moving an empty category

The fact that the empty object can be coindexed with the topic in (10) is not expected because the subject of the clause, not the topic outside the clause, is the closest c-commanding NP. To accommodate such exceptions, Huang suggests that topicalization of the object has applied first within the embedded clause, resulting in a *Pro* occurring in the peripheral position of the sentential subject. This can be schematically represented below:

- (11) Topic₁, [Clause [Island Pro₁ . . . t₁] . . .]
 ----- GCR ----- --- Move ---

The existence of such a movement process inside an island was shown to be supported by a correlation between the possibility of an internal topicalization and the coindexing of the object with an antecedent outside the island.

There are cases where internal topicalization is not available, as Huang notes, citing a personal communication of Jane Tang.

- (12) *wo bu xihuan [Zhangsan, Lisi piping de taidu].
 I not like Zhangsan Lisi criticize DE _attitude
 ‘I don't like the attitude with which Zhangsan, Lisi criticized.’

- (13) *wo zhidao [Zhangsan, Lisi kanjian de difang].
 I know Zhangsan Lisi see DE _place
 ‘I know the place where Zhangsan, Lisi saw.’

Correspondingly, an empty object in these contexts cannot be coindexed with a topic across an island:

- (14) a. *Zhangsan₁, [[Lisi piping e₁ de taidu] hen bu-hao].
 Zhangsan Lisi criticize DE attitude very not-good
 ‘Zhangsan, the attitude with which Lisi criticized is very bad.’

- b. *Zhangsan₁, [[Lisi kanjian e₁ de difang] li zheli hen jin].
 Zhangsan Lisi see DE place to here very near
 ‘Zhangsan, the place where Lisi saw is very near here.’

Such an analysis leads to the following conclusion: distinct empty categories exist, each of which has uniquely identifiable properties. Variables cannot be separated from their antecedents by island boundaries. A *Pro* is not allowed in the object position and should be identified by the closest c-commanding NP. Apparent exceptions are the result of moving an empty category to a peripheral position, as in (11).

1.3. Discourse/Pragmatics

Huang’s analysis has generated many responses and much controversy because of the complexity of the data. Questions have been raised in regard to the adequacy of the empirical generalizations accommodated by this analysis. Indeed, Huang (1984, 1987) recognizes the existence of such potential counterexamples as those below (the following examples are from Xu 1986)

- (15) haizi₁ yiwei mama yao zeguai e₁ le.
 child think mother will reprimand LE
 ‘The child₁ thinks (his₁) mother is going to reprimand (him₁).’
- (16) xiaotou₁ yiwei mei ren kanjian e₁.
 thief think no man see
 ‘The thief₁ thought nobody saw (him₁).’
- (17) Xiaoming₁ ta₁ yiwei mama yao zeguai e₁ le.
 Xiaoming he think mother will blame LE
 ‘Xiaoming₁, he₁ thinks (his) mother will blame (him₁).’

These examples have an empty category in the object position of the lower clause coindexed with the matrix subject. Recall that, according to Huang’s analysis, an object cannot be a *Pro*. The option left is a variable. However, if the object were a variable in these cases, Binding Principle C would be violated because the object would be A-bound by the subject. To accommodate such exceptions, Huang (1987) resorts to pragmatics/discourse factors as an explanation. He suggests that such counter-examples can be instances of pragmatics applying at a later level and what is not permitted by syntax at a certain level is allowed at a later level where discourse or pragmatics is relevant. According to Huang (1987, 332) “...treating the null object as a variable, the reading according to which the EC is A-bound is not available at the grammatical level where Principle C applies. However, at a discourse level pragmatic and contextual factors may allow an interpretation according to which coreference becomes possible.”

1.4. Remaining issues

The analysis described above indicates that empty categories within islands must be empty pronouns if they are to be coindexed with an antecedent outside the island. Moreover, because of the conflicting requirements on empty pronouns, a *Pro* cannot occur in an object position. Exceptions are found in cases such as (9)-(10) and (15)-(17). These exceptions were accommodated by two provisions: one is to allow an empty category in the object position to move to the peripheral position of the clause (movement obeying island conditions) and the other is to resort to discourse/pragmatics.

However, the addition of these two mechanisms requires clarifications. For instance, the possibility of moving a *Pro* to the peripheral position needs to be restricted. Otherwise, all the objects can be a *Pro* and have similar references as the subject in the same clause, which is against the facts that have been put forward to support the claim that an object cannot be a *Pro*. Moreover, we will demonstrate shortly that there is an important subject/object asymmetry in regard to interpretive possibilities.

That discourse/pragmatics may rescue unacceptable sentences like (15)-(17) also faces challenges. The saving effect must be constrained in some manner. Otherwise, we should not expect any sentence to be ruled out, because a co-reference relation is generally possible. Take the following examples for instance. We should not expect (18b) and (19b) to be unacceptable, contrary to fact. After all, these sentences should be possible in the contexts provided by (18a) and (19a), which strongly favor the interpretation indicated (but not allowed by the strict application of the GCR):

- (18) a. Li xiaojie₁ hen xihuan Zhangsan ba? ni yinggai hen gaoping!
 Li Miss very like Zhangsan Par. you should very happy
 ‘Miss Li really likes Zhangsan, right? You should be very happy!’
- b. *shishishang, wo yinwei [e₁ bu xihuan Zhangsan] you diar shiwang.
 actually I because not like Zhangsan have slight disappointment
 ‘In fact, I am somewhat disappointed because (Miss Li) does not like Zhangsan.’
- (19) a. Zhangsan fuze suoyou de anpai. ta yinggai rang Lisi₁ neng cong zher kanjian ni.
 Zhangsan take.charge all DE arrangement he should let Lisi able from here see you
 ‘Zhangsan is responsible for all arrangements. He should be able to let Lisi see you from here.’
- b. bu dui. *Zhangsan dui [e₁ mei kanjian wo₃] meiyou zeren
 not right Zhangsan to not see I not-have responsibility
 ‘No. Zhangsan does not have responsibilities on (the fact that) (Lisi) didn’t see me.’

Even though the GCR correctly rules out (18b) and (19b), the adoption of pragmatics/discourse should rescue these sentences. Indeed, none of the unacceptable sentences we have seen so far should be unacceptable, because some appropriate discourse context is always available. To solve this problem, one may try to tease out the contexts where discourse/pragmatics can rescue certain unacceptable sentences. However, even if such restrictions can be satisfactorily formulated, it is not clear that invoking discourse/pragmatics solves the problem with the patterns it was designed for. Consider the claim that the acceptability of sentences like (15)-(17) is due to some discourse/pragmatic factors which become relevant after Syntax (which does not allow them). This means that the reading is facilitated by essentially non-syntactic considerations. That is, the coindexation relevant to empty categories in these patterns should denote coreference rather than binding relations, which would mean that the relevant coindexed phrases must be referential terms. Only referential terms can enter into coindexation relations. Non-referential expressions such as quantificational phrases (QPs) should not be possible in such patterns. However, this prediction is not borne out. Consider the following sentences which involve non-referential NPs. They cannot be followed by a sentence where co-reference plays a role; that is, one where a pronoun is coindexed with a relevant QP from the preceding sentence:

- (20) nage/meige/meiyou yige xiaotou_i (dou) yiwei jingcha zhua-bu-dao e_i? *ta_i dagai juede yunqi hen hao.
 which/every/not-have one thief all think police catch-not-arrive he probably feel fortune very good
 ‘Which/every/no thief thinks the police will not catch (him) *He probably feels lucky.’

These examples demonstrate that non-referential QPs cannot be co-referential with a pronoun. Therefore, if the coindexation of empty categories with their antecedents arose via coreference as opposed to binding, empty categories could never be coindexed with non-referential QPs. Importantly, there is no difference in acceptability between the following sentences containing QPs and those in (15)-(17).

- (21) a. shei₁/nage xiaotou₁ yiwei mama yao zeguai e₁ le?
 who/ which thief think mother will reprimand
 ‘Who₁/Which thief thinks (his₁) mother is going to reprimand (him₁)?’
- b. meige haizi₁ dou yiwei mama hui zeguai e₁
 every child all think mother will reprimand

‘Every child₁ thinks (his₁) mother is going to reprimand (him₁).’

c. meiyou yige haizi₁ yiwei mama hui zeguai e₁
not-have one child think mother will reprimand
‘No child₁ thinks (his₁) mother is going to reprimand (him₁).’

(22) a. nage xiaotou₁ yiwei jingcha zhua-bu-dao e₁?
which thief think police catch-not-arrive
‘Which thief₁ thinks the police will not catch (him₁)?’

b. meige xiaotou₁ dou yiwei jingcha zhua-bu-dao e₁
every thief all think police catch-not-arrive
‘Every thief thinks the police will not catch (him).’

c. meiyou yige xiaotou₁ yiwei jingcha zhua-bu-dao e₁
not-have one thief think police catch-not-arrive
‘No thief₁ thinks the police will not catch (him₁).’

Were the coindexing possibilities in (15)-(17) the result of co-reference permitted by some discourse/pragmatic factors, it is not clear why QPs, typically known for their inability to enter co-reference relations as illustrated in (20), can also be coindexed with an object empty category as in (21)-(22).

1.5. Alternative accounts

The difficulties with the account based on the GCR described above have inspired many revisions. Various proposals have been made to re-formulate the GCR, such as Qu (1994). Xu (1986) takes the revision further and completely abandons the notion of a *Pro*. He suggests that Chinese has a Free Empty Category (FEC), which is emptier than a *Pro* in the sense that it is not specified for pronominal or anaphoric features. An empty category in Chinese in any position is a Free Empty Category and is not subject to any principled interpretive rules.⁴ It is interpreted according to discourse/pragmatics. Unfortunately, such a proposal is too weak to accommodate the data we have seen so far. All the unacceptable sentences mentioned above should be acceptable under this account. Moreover, it misses an important subject/object asymmetry in interpretive possibilities, which we turn to next.

2. Subject/object asymmetry

Recall that the interpretive possibilities of an empty category in object position are greater than allowed for by the GCR. Exceptions were accommodated by (i) proposing movement of an empty pronoun to a peripheral position, as shown in (11) or (ii) by allowing discourse/pragmatics to rescue an unacceptable sentence. Unfortunately, these two measures make inaccurate predictions and do not serve the function they were proposed for, as demonstrated in section 1.4.

On the other hand, the GCR does capture very nicely the restricted interpretation of empty pronouns in the subject position. Because the subject position in non-island contexts may be a *Pro* or a variable, we will focus on the subject position within an island, where a variable possibility is ruled out by island conditions. A *Pro* is possible in such a position provided it adheres to the GCR. The following patterns of empty categories in island contexts are captured by the GCR straightforwardly. (23) indicate that, within an adjunct island, an empty category in subject position is ungrammatical unless it is co-indexed with the subject of the higher clause (the closest c-commanding NP outside of the island). The same is true with (24).

(23) wo₁ yinwei [e_{1/*2} bu xihuan Zhangsan] you diar shiwang/bu-hao-yisi.
I because not like Zhangsan have slight disappointment/embarrassment
‘I am somewhat disappointed/embarrassed because e does not like Zhangsan.’

- (24) Zhangsan₁ dui [e₁/*₂ mei kanjian wo] meiyou zeren
 Zhangsan to not see me not-have responsibility
 ‘Zhangsan does not have responsibilities for (the fact that) e didn’t see me.’

Considering the data discussed so far, we may reach the following generalization: an empty subject inside an island is well-behaved with respect to the GCR, but not an empty object. A subject can be coindexed with the closest c-commanding NP outside the island in accordance with the GCR. It cannot be a variable when the topic is not the closest c-commanding NP. By contrast, the interpretive possibilities of empty objects are much broader. An object can be coindexed with a phrase that is beyond the closest c-commanding NP and in fact, due to Principle B of the Binding theory, it must be if the closest c-commanding NP is in the same clause. The following instances further illustrate the subject/object asymmetry:

- (25) zhe zhong laoshi hen hao, wo hai mei kan-guo [[e bu xihuan e de] xuesheng]
 this kind teacher very good I never not see-GUO not like DE student
 a. ‘This kind of teacher₂ is very good. I have not seen students₁ who e₁ do not like (him₂).’
 b. *‘This kind of teacher₂ is very good. I have not seen students₁ who (he₂) does not like e₁.’

- (26) Zhangsan hen heshan, wo zhao-bu-dao yige [[e bu xihuan e de] ren].
 Zhangsan very friendly I seek-not-find one not like DE person
 a. ‘Zhangsan₁ is very friendly. I cannot find a person that e does not like (him₁).’
 b. *‘Zhangsan₁ is very friendly; I cannot find a person that (he₁) does not like e.’

Moreover, although in sentences like (14a-b) an object empty category within an island could not refer to a topic across a c-commanding subject, this type of sentences is not always unacceptable. In appropriate contexts, the object can be coindexed with a topic outside the island:

- (27) ta suiran hen keqi, keshi ye hen ai mianzi. ruguo
 he though very polite but also very love face if
 [[nimen piping e de taidu] bu-hao], ta shi bu hui ting de.
 you criticize DE attitude not-good he be not will listen DE]

‘Even though he is polite; he minds “face” matters. If your attitude is not good criticizing (him), he will not listen.’

- (28) zhege guairen budan cunzai erqie wo kanjian-guo
 this strange-man not only exist but-also I see-GUO
 [[wo kanjian e₁ de difang] li zheli hen jin], zoulu jiu dao le.
 I see DE place separate here very near walk then arrive LE

‘The strange person exists and I have seen (him). The place where I saw (him) is near here. (You can) get there on foot.’

The facts above demonstrated that, even though an empty object can be interpreted with an element outside the island, the subject of the relative clause cannot. This contrast is quite clear. Such an asymmetry is unexpected under an approach that does not define empty categories clearly and relies solely on pragmatics to assign interpretations.

3. A True Empty Position

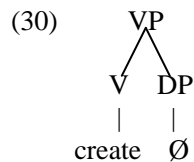
Why is there such a subject/object asymmetry? We suggest that this follows from the strict application of the GCR and a last resort strategy of allowing a position to be present syntactically but not filled with any lexical

material. Recall that, according to the GCR the general disjointness constraint on pronouns (Binding Principle B), a *Pro* is possible in a subject position but not in an object position. An object *Pro* is ruled out by the conflicting requirements of the GCR and Binding Principle B. When a *Pro* is in an object position, the subject of the same clause is the NP that the GCR requires the *Pro* to be coindexed with and the NP that Binding Principle B requires the *Pro* to be disjoint from. Recall also that an object within an island cannot be a variable because of the locality conditions on relativization or topicalization. This amounts to saying that there is not a single member from the inventory of empty categories that can fill such an object position. Then, what is an empty object in the cases we have seen so far? We propose that such an empty object is truly empty (see Li 2005).

As noted, there is nothing from the known inventory of empty categories that can occupy the object position in an island. It cannot be a variable or an empty pronoun. However, in order for a linguistic structure to be grammatical, the morpho-syntactic requirements of lexical items must be satisfied. For instance, a transitive verb subcategorized for an object requires the presence of a complement. The presence of an object is forced by subcategorization requirements. In other words, we propose the following conditions governing the distribution of true empty positions.

- (29) Subcategorization Requirements on True Empty Positions (TEP):
- a. If a head subcategorizes for an E, E must be present in the syntactic structure.
 - b. An E exists only in subcategorized positions.

These conditions state that a true empty position is present only to satisfy the subcategorization requirement of a head. A transitive verb requires an object. When no lexical items appear overtly after a transitive verb, an empty object must be present. The subcategorization requirement is fulfilled by the presence of a syntactic position (or a node in the tree structure). Nothing other than the subcategorized element is present. To illustrate, in the following structure where the V, ‘create’, is subcategorized for a nominal object --- labeled as DP, the DP must be present even when no lexical item is available to occupy the DP position.



The ‘Ø’ in this structure is simply an indication that there is a position but no lexical item occupies the position. It is truly empty. It does not have any specific properties or any features except the categorial features inherited from the dominating DP.

Such a true empty position (TEP) must be interpreted. We suggest that the interpretative requirement is met by copying at LF the materials from a linguistic antecedent or the discourse/pragmatic context, if a linguistic antecedent is not available in the sentence.

A TEP, then, is like Xu’s free empty category in allowing a wider range of interpretations. However, a TEP differs from an FEC in the sense that the latter is a member of the inventory of empty categories, just like other empty categories such as an empty pronoun. Xu’s proposal was to add one more type to the inventory of empty categories. What we propose here is that nothing from the inventory of empty categories can legitimately occupy the position; therefore, nothing, not even an empty category, occupies the position. This amounts to saying that empty categories are real items, like other lexical items, each of which has its own morpho-syntactic specifications. As briefly mentioned in the beginning of section 1, all empty categories are either copies of lexical items (variables) or merged in a set of phrase markers as an empty category with specific morpho-syntactic properties (*Pro*). A TEP differs from these known empty categories in the sense that it is not a copy of the lexical items in the numeration. Neither is it listed as an empty category in the Lexicon. It is simply an empty position in the phrase structures. It is present only to fulfill the subcategorization

requirement of a head. In contrast to Xu's FEC, which is simply an item within the inventory of empty categories, a TEP is a last-resort option: it exists only because there is no item from the Lexicon of a language to fill a position. When interpretation takes place, lexical materials are copied into this position from the antecedent. That is, in contrast to Xu's FEC, which is an empty category from the beginning of the derivation to the end product, a TEP is an empty position syntactically but is fully represented at LF as required by interpretation.⁵

Further note that the interpretation of a TEP seems to follow some kind of discourse prominence principle. Recall that sentence (8), repeated here, is not quite acceptable as indexed.

- (8) *Zhangsan₁ yiwei Lisi bu renshi e₁.
 Zhangsan thought Lisi not know
 'Zhangsan₁ thought Lisi did not know him₁.'

We claimed that the object is a TEP in this case. Why is it that such a TEP cannot take the matrix subject as its antecedent in this particular case? We would like to suggest that a TEP always takes the most prominent entity in the discourse as its antecedent. In a discourse, a topic is normally the most prominent. Therefore, a TEP generally is anteceded by a topic, which is why (8) strongly prefers for the empty object to be coindexed with a topic in the discourse. Parallel structures also provide prominent antecedents, as in the following example:

- (31) Min yao zhao gongren lai bangmang qing fangzi;
 Min want find worker come help clean house

Han yao zhao ___ lai bangmang xiuli chezi.
 Han want find come help fix car

'Min wants to find workers to come help clean the house; Han wants to find ___ to come help fix cars.'

Moreover, if the association of the empty object in the embedded clause with the matrix subject is forced by contexts, the coindexation is still possible, in contrast to the unacceptability of (8). Those in (15)-(17) are examples of this type. Generally speaking, thieves do not want to be seen by policemen. The one who scolds a child is generally the mother. In regard to (8), even if we use the same verb, we might still use different noun phrases to create a favorable context and make the meaning of the sentence clearer. An empty object in the embedded clause can still take the matrix subject as its antecedent:

- (32) xiaotou₁ yiwei jingcha bu renshi e₁ (suoyi gan qu gen jingcha shuohua).
 thief thought policemen not know so dare go with policemen talk
 'The thief thought the policemen did not know (so he dared to go talk with the policemen.)'

- (33) xiaotou₁ [yinwei jingcha zhao-bu-dao [e₂ yuanyi kangan e₁ de]] ren₂
 thief because policeman seek-not-find willing supervise DE person

deyi-di zou le.
 proud-ly leave LE

'The thief₁ left proudly because the policemen were not able to find people who were willing to supervise (him₁).'

Such examples also show that a TEP cannot be a variable (as a result of topicalization, for instance). Accordingly, a TEP is a TEP, not like a variable or a *Pro*.

The claim that the object of a verb can be truly empty, a TEP, has further support and interesting implications. For instance, it can be generalized to accommodate the non-nominal empty categories such as those found in VP-

ellipsis constructions: an Auxiliary must subcategorize for a verb phrase. A verb phrase is forced to be present to satisfy the subcategorization requirement of an Auxiliary. However, such a position cannot be occupied by a *Pro* (which, after all, is a pro“noun”, a nominal category, not a verbal category) or any other known empty category. The verb phrase must therefore be a position present in the phrase structure but not occupied a member of the known empty categories – a TEP. The TEP must be interpreted, achieved by copying from the antecedent verb phrase at LF --- the interpretive approach to VP-ellipsis structures (see the literature review in Winkler and Schwabe 2003). The limited space here prevents us from elaborating on such an account of the VP-ellipsis structures and the need to recognize the emptiness of a verb phrase syntactically. Instead, we will discuss some interesting contrasts between Chinese and Japanese “null object” constructions, which will demonstrate the working of a TEP as a last resort.

4. Some surprising cross-linguistic variations

Chinese widely allows sentences to contain stranded verbs --- what follows a verb is empty. This pattern is schematically represented in (34) and will be referred to as the V construction in Chinese.

(34) [Subject + ... + V ____]

As discussed in G. Li (2002), Xu (2003) and Y.-H. A. Li (2005), an important property characterizing the V construction in Chinese is the exclusion of adjuncts from the missing part. For instance, the missing part in (35b) only has the interpretation in (i), not (ii).

- (35) a. Zhangsan renshi Lisi hen jiu le.
 Zhangsan know Lisi very long LE
 ‘Zhangsan knew Lisi for a long time.’
- b. wo ye renshi ____.
 I also know
 i. I also knew Lisi.
 ii. *I also knew Lisi for a long time.

The exclusion of adjunct interpretation contrasts with the English VP-ellipsis structures, which do allow an adjunct to be included in the missing part:

(36) John knew him for a long time. Bill did, too. = Bill knew him for a long time, too.

Constructions with a stranded verb (stranded-V constructions) can be found in many other languages, such as Japanese and Korean. Works by Park (1997), and Kim (1999) for Korean, and Hoji (1998), Oku (1998), Tomioka (1997, 1998, 1999) for Japanese discuss at great lengths why the stranded-V constructions in these languages should be analyzed as a verb followed by a null object, rather than as a VP-ellipsis structure, in contrast to Otani and Whitman (1991), who claim otherwise. Goldberg (2005) follows these and other relevant works including Huang (1982)’s proposal for the Chinese stranded-V construction and suggests that Chinese might be different from Japanese and Korean, although she does not pursue the issue further. The most extensive comparative study of the stranded-V constructions in English, Chinese and Japanese one can find so far is G. Li (2002). The following discussion incorporates much of the discussion and insight from that work. We will also only sketch the main ideas and refer the readers to the work by G. Li because of the lack of space

A very important observation in G. Li’s work is that Chinese V constructions exhibit the so-called true sloppy interpretations, just like English VP-ellipsis structures. According to Hoji (1998), the sloppy reading in the following Japanese example is not a true sloppy interpretation, a true sloppy reading being the product of a formal dependency between the antecedent and the dependent in the appropriate structural configurations.

(37) a. Ken-wa zibun-no kuruma-o arat-ta
 Ken-Top self-Gen car-Acc wash-Perf

‘Ken washed his car.’

- b. Erika-mo [e] arat-ta
Erika-also wash-Perf
‘Erica also washed (her car).’

Hoji further uses patterns of Mix readings (Fiengo and May 1994) to illustrate the lack of true sloppy readings in the Japanese null object construction. In contrast, G. Li shows that true sloppy readings are possible in the Chinese null object construction --- referred to as the V construction in Chinese, to be distinguished from the Japanese null object construction. The lack of space prevents us from summarizing the main points and key examples in G. Li’s studies. The important question for us is why the Japanese null object construction and the Chinese V construction should contrast in the possibility of true sloppy readings. We would like to venture forth the following proposal and offer some direction of support: the differences between the two constructions can be traced to the different behavior of empty pronouns in Chinese and Japanese.

As discussed in section 1, empty pronouns (*Pro*) in Chinese are subject to the GCR. Consequently, they cannot appear in the object position. In contrast, subject positions allow a *Pro*, which must be identified by the closest c-commanding NP. Thus, the interpretation of an empty category in the subject position in island contexts (from which topicalization or relativization is not possible) is quite restricted because of the requirement of the antecedent being the closest c-commanding NP.

On the other hand, we do not seem to find the same restrictions on interpreting an empty pronoun in the subject position in Japanese as we do in Chinese. An empty pronoun in subject position in Japanese need not be coindexed with the closest c-commanding NP. Some examples are (the possessor of a nominal expression is the subject in a noun phrase):

Neeleman and Kriszta Szendrői (2005, their (9))

- (38) a. [John-wa]₁ kinoo Mary-ga [*pro*₁ imooto]-o mita.
John-TOP yesterday Mary-NOM sister-ACC saw
‘As for John, Mary saw his sister yesterday.’

- b. [John-wa]₁ kinoo Mary-ga gakkoo-e [*pro*₁ imooto]-to itta.
John-GEN-TOP yesterday Mary-NOM school-to sister-with went
‘As for John, Mary went to school with his sister yesterday.’

The acceptability of (38a-b) is contrasted with the unacceptability of the corresponding sentences in Chinese (39a-b).

- (39) a. *Zhangsan₁, Mali zuotian kandao [e₁ meimei].
Zhangsan, Mali yesterday see sister
‘Zhangsan, Mali saw (his) sister yesterday.’

- b. *Zhangsan₁, Mali zuotian gen [e₁ meimei] qu xuexiao.
Zhangsan Mali yesterday with sister go school
‘Zhangsan, Mali went to school with (his) sister yesterday.’

Likewise, the acceptability of the grammatical Japanese example (40) involving a null subject pronoun can be contrasted with the ungrammatical Chinese example in (41b). (41c) illustrates that, predictably, a null object is possible in Chinese under such circumstances:

- (40) Bush-wa, maikeru muua-ga senkyo-ni katta node gakkari siteita.
Bush-top Michael Moore-nom election-dat won because disappointed
‘Bush, Michael Moore was disappointed because (he) won the election.’

(The sentence requires a pause after 'Michael Moore-nom', from Emi Mukai, personal communication).

- (41) a. wo yinwei [Lisi hai bu renshi naxie ren] hen danxin.
I because Lisi still not know those people very concerned
'I am very concerned because Lisi still does not know those people.'
- b. *(Lisi₁,) wo yinwei [e₁ hai bu renshi naxie ren] hen danxin.
Lisi I because still not know those people very concerned
'(Lisi,) I am very concerned because Lisi still does not know those people.'
- c. (naxie ren₂,) wo yinwei [Lisi hai bu renshi e₂] hen danxin.
those people I because Lisi still not know very concerned
'(Those people), I am very concerned because Lisi still does not know e.'

(41b) is not acceptable no matter how one pauses between phrases, in contrast to (40).

These examples show that Japanese allows a subject within an island to be interpreted more freely than Chinese. Why is it that Chinese and Japanese differ in this manner? Most of the literature on Japanese empty categories assumes that empty pronouns in Japanese are like their overt counterpart (see, for instance, Hoji 1985, Saito 1985. However, see Hasagawa 1984 for a different analysis). In later works such as Hoji (1998), Tomioka (1997, 1998, 1999), an empty nominal is taken to be the counterpart of a bare noun. In Japanese, a bare noun may be interpreted as definite or indefinite. Correspondingly, a null noun is interpreted as a definite or indefinite expression. Significantly, the GCR, which applies only to pronouns, does not play a role in Japanese.

The important question that must be raised is why Japanese empty nominals are not subject to the GCR but Chinese empty pronouns are. We would like to suggest that this is related to the different projections of nominal expressions in these two languages. It has been argued convincingly that Japanese does not have a DP structure. A nominal expression is projected as an NP (see, for instance, Fukui 1986). On the other hand, there are many works in Chinese assuming or claiming the existence of a DP structure in Chinese. Li (1998, 1999a, 1999b) specifically argues for the existence of a DP structure based on a number of factors. Some of the more important ones are:⁶

- (42) a. the fixed word order of [Demonstrative + Number + Classifier + Noun] without *de*. Demonstratives, numbers and classifiers must occur in this order without the marker *de*, in contrast to all other modifiers, which are quite free in order and are followed by the marker *de*.
- b. the distribution and interpretation of the plural/collective marker *men* in Chinese

In contrast, Japanese treats its demonstratives and classifier phrases more on a par with all the other nominal modifiers (i.e., NP modifiers) in the sense that the marker *no*, which corresponds to *de* in Chinese, must occur with demonstratives and classifier phrases:

- (43) a. ko-no/so-no/a-no
this-NO/that-NO/that-NO
- cf. b. *zhe-de/na-de
this-DE that-DE
- (44) a. san-satu-no hon/ san-nin-no gakusei
three-CL-NO book three-CL-NO student
- b. *san-ben-de shu/ san-ge-de xuesheng
three-CL-DE book three-CL-DE student

This suggests that although the phrases marked by *no* correspond to DP level projections in other languages such as Chinese, they do not in Japanese. In other words, these phrases are syntactically distinct from phrases with the same meaning in Chinese.

In some marked cases, Chinese does allow *de* to follow classifiers. However, when this happens, the whole classifier expression behaves more like a modifier phrase, like other adjectival expressions.

(45) san-bang-de tangguo
three-pound-DE candy
'candy of three-pound weight'

(45) describes the packaging of the candy: a three-pound bag of candy. The classifier+*de* phrase can occur before or after another classifier phrase, before or after the demonstrative:

(46) a. na san-fen san-bang de tangguo
that three-units three-pound DE candy
'those three units of three-pound candies'

b. na san-bang de san-fen tangguo
that three-pound DE three-units candy
'those three units of three-pound candies'

c. san-bang de na san-fen tangguo
three-pound DE that three-unit candy
'those three units of three-pound candies'

In contrast, a classifier phrase without *de* cannot occur with another classifier phrase:

(47) a. *na san-fen san-bang tangguo
that three-unit three-pound candy
'those three-unit three-pound candy'

b. *na san-bang san-fen tangguo
that three-pound three-unit candy

The word order is also restricted:

(48) a. wo maile zhe san-bang tangguo
I bought this three-pound candy
'I bought these three pounds of candy.'

b. *wo maile san-bang zhe tangguo
I bought three-pound that candy

To complete the paradigm, Japanese, as expected, allow both the ordering of classifiers before demonstratives and the reverse:

(49) a. ko-no san-satu-no hon
this-NO three-CL-NO book
'these three books'

b. san-satu-no ko-no hon

three-CL-NO this-NO book
'these three books'

If the observed contrasts between Chinese and Japanese nominal phrases are indeed significant and are suggestive of their differences in structures (DP vs. NP), it may be claimed that Japanese projects an empty element as an N and Chinese, a D, just like their overt counterparts. An argument in Chinese is a DP and this language has an empty pronoun, which is a D. In contrast, an argument in Japanese is an NP. Therefore, an empty nominal element is the counterpart of a bare noun instead of a D pronominal. A D is a referential expression, if it is not quantificational. An N is neither referential nor quantificational. In the terms of Hoji, an N expresses a "concept," Or, in more general terms, an N is a property denoting expression. A D expression needs to be identified with another referential expression (if it does not already contain a referential index, as in the case of empty elements), which most likely is subject to some minimal distance principle, phrased as the GCR in Chinese. An N is property denoting and does not require a referential antecedent. If this distinction holds true, the contrast between Chinese and Japanese empty nominals follows.

The proposal tentatively put forward above has many interesting implications and need to be further investigated. Regardless of how the difference between Chinese and Japanese empty nominals should best be captured, the fact that they have different distributions is most important. The differences follow if Chinese empty *Pro* is subject to the GCR but not the Japanese empty nominal. The irrelevance of the GCR to Japanese empty nominals makes it possible for them to appear in object, as well as in subject positions. Therefore, it does not have the subject/object asymmetry we saw in Chinese. The facts in Chinese force us to claim that an empty position must host an empty *Pro* when possible. A TEP is allowed only when an empty *Pro* is not possible. In contrast, Japanese allows its empty nominals in all positions because of the irrelevance of the GCR. If a TEP as a last resort holds true in Japanese as well, we would not expect to find a TEP in the object position in Japanese as in Chinese, nor in the subject position. Because a null nominal in Japanese is not a TEP, we do not expect an antecedent to be fully copied to the empty position.⁷ This would capture the interpretive differences between the Chinese V construction and the Japanese null object construction, as observed by G. Li. The former has a TEP in the object position and allows copying of full representations from the antecedent to fill the position. The latter is an empty N, providing a range of vague interpretations.

The main points proposed may be summarized as follows:

(50) a. If a V subcategorizes for an object, an object position must be present as the complement to satisfy the Subcategorization requirement.

b. A particular language may have different projections for their arguments. Accordingly, a null argument may be a null N or a null D. A null D, in need of a referential index, requires an antecedent, sensitive to a minimal distance requirement --- the GCR. A null N is not subject to the GCR. The former is the case in Chinese; and the latter, Japanese.

c. When an empty object cannot be occupied by any empty category, it is a TEP.⁸ That is, only a position is projected. The interpretation of a TEP is made possible by an LF copying process: the relevant structure from the linguistic antecedent or some expression available from the discourse/pragmatic contexts is copied to the empty position.⁹

(50a) allows only subcategorized complements and excludes all non-subcategorized adjuncts from the missing part of the V-construction. (50b) allows an empty category in the null object position in Japanese, but not in Chinese. The latter is ruled out by the conflict between the identification requirement on *Pro* and the disjointness requirement on pronouns. The two languages differ in whether the empty category is subject to the GCR.

Notes:

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Zioga. All remaining errors are mine.

¹⁾ Natural languages might not be represented by sounds, such as sign languages.

²⁾ Since Abney's (1987) proposal that an argument nominal expression be represented as a Determiner Phrase (DP), the label NP has been used to indicate a property-denoting expression. However, because terms such as NP-trace and Complex NP islands have been so extensively used that the label NP will be used when the distinction between NPs and DPs is not important.

³⁾ Boeckx (2001) argues that constructions with certain types of pronouns also are derived by movement. He distinguishes movement on Match and Agree. We leave the discussion of such an approach to a separate work.

⁴⁾ In a later work (2003), Xu indicates that the choice of an overt or null form is determined by three factors: controlled or uncontrolled, grammatically determined or undetermined, and contextually sensitive or free. Unfortunately, the article does not explore further to tease out the factors involved in a principled way. It is difficult to determine what predictions there might be under such an approach and whether the predictions can be verified.

⁵⁾ This approach is reminiscent of the mechanism of late merger as proposed by Oku (1998), --- a lexical item is inserted late at LF, meeting subcategorization requirements at LF. We explore in another work the notion of late merger and compare it to the approach based on TEP advocated here. We will show that it is important that an empty position exists in syntactic structures. That is, subcategorization requirements still are met syntactically, not delayed till LF. The late merger approach does not apply to Japanese, contrary to the proposal of Oku. Moreover, its application to Chinese raises concerns regarding the absence of scrambling in this language, scrambling being correlated with the possibility of late merger according to Oku.

⁶⁾ Readers are referred to the cited works for the details.

⁷⁾ This means that the interpretation of a pronoun is not achieved by "reconstruction" of the antecedent to the pronoun position. A pronoun is a pronoun. It only has an index. A TEP has the full representation copied from its antecedent.

⁸⁾ According to Bare Phrase Structure (Chomsky 1995b), phrase structures are established by merging lexical items. It is a question how a TEP is "merged". In what sense can we claim that it is a "lexical item" that can appear in numeration and undergo merger? An option is to assume that numeration can contain elements with only categorial features. We discuss this issue in a separate work.

⁹⁾ English in general does not allow a TEP because the Case feature must be overtly realized. In contrast, Chinese does not require Case features to be overtly realized, as indicated by the possibility of empty pronouns in argument positions.

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