

# An Inquiry into Existential Constructions<sup>1</sup>

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## Abstract

*Existential constructions play an important role in the development of Generative Grammar. Their special natures urge linguists to pay painstaking effort to give them a unified account. At first we have a brief review of the relevant study of these constructions and examine their strong points and weakness. On the basis of their study, we assume that in existential constructions of SVO languages Pr has a [Loc] feature, and its obligatory [EPP] feature must be deleted by an element matching with this feature, that is, a locative expression. Owing to the special property of locative word, locative phrase has an interpretable feature and preposition in the locative phrase turns out to be a case marker rather than the common case-checking one. And Chinese does have null expletive there, but its distribution is subject to some constraints which can be summarized into this rule: the further the nature of existential verb is away from you (have), a morphological realization of Pr in existential constructions, the lower the possibility of null expletive' appearance in Chinese existential constructions, provided that there is no locative noun phrase in the lexicon. With these assumptions proved tenable, we can not only offer a unified account of English and Chinese existential constructions, but also solve a lot of tough issues and long-lasting controversies concerning Chinese existential constructions.*

## Keywords

*Existential constructions, syntax, predication, [Loc] feature, locative phrase, preposition*

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## 1. Introduction

The aim of generative grammar is to explain the “Plato’s problem”, the puzzle of how children can acquire their first language on the basis of so little evidence. In order to solve this problem, generativists assume that humans are endowed with a language faculty or a

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1. We would like to thank Dr. Xú Jie and the editorial board of this magazine for invaluable comment on drafts of this paper. Thanks also go to Professor Bowers of Cornell University, who busy as he is, spared time to offer an satisfying answer to our questions concerning the this paper. All remaining errors are of course our own. language mechanism, a subcomponent of the brain that is dedicated to language. And language faculty, which has an initial state that is genetically determined, contains some

universal principles with a limited set of parameters. Language variation is a direct result of different possible settings of these parameters. Hence, a successful explanation of natural languages should find out the universal principles and reduce the differences in languages into limited parameters.

The existential constructions (ECs) have been the most debated topics within minimalist program because these constructions enable one to abstract away from the complexities involved in many other constructions found in natural languages, and get to core syntactic operations for which a natural account is rather successful. The explanation of ECs motivates a lot of postulates, such as probe-goal approach to case assignment and  $\Phi$ -feature matching, merge over move, etc. Moreover, the revision or abandonment of some important hypotheses in generative grammar also has something to do with the new discoveries in the study of ECs. Metaphorically speaking, ECs have been a touchstone to test those theories in the field of generative grammar. Although English and Chinese ECs share some common grounds, they have lots of differences. Hence a unified account of English and Chinese ECs and a reasonable explanation of some special characteristics of Chinese ECs have not only theoretical significance but empirical value.

To begin with, let's have a look at their characteristics

## 2. Characteristics of English and Chinese ECs

English ECs have a lot of special characteristics, which can be summarized into these: ①there appears in the subject position, but it is the post-verbal noun phrase (NP) that agrees with the verb like a subject<sup>2</sup>; ②there has no semantic content, but it can't be deleted at LF; ③ most of the verbs in ECs are unaccusative ones. Hence, the post-verbal NP is not in a structure position that can be assigned a case. On the contrary expletive *there* appears in the position that can acquire case<sup>3</sup>; ④the movement of NP to expletive *there* is subject to the constraint of Empty Category Principle and Subjacency Condition. ⑤the post-verbal NP always shows Definite Effect, but sometimes the definite NP can also appear in ECs.

Contrary to English, Chinese ECs don't boast inflectional variations or the corresponding word of expletive *there*. And the preverbal phrase, or part A in the term of Chinese grammarians, is realized by a locative phrase. Sometimes, a preposition can appear in front of the locative phrase. In addition, Chinese enjoys a special EC, modifier-head predicate construction, in which, no verb is available. The same as English, in most of the cases Chinese ECs also show Definite Effect.

## 3. Relevant study of Ecs

There are a number of works and assumptions dedicated to the study of ECs. For instance,

2. It is the first NP that agrees with the verb if the verb is followed by a conjunction of NPs, such as, There is a man and some women in the house. In case of copula construction, English permits a sort of default singular verb form regardless of the number features associated with the second argument, such as, There's a man/ two men at the door.

3. In the spirit of minimalist program, unaccusative verbs in ECs don't have the ability to check case, and T can only check one case, hence either *there* or NP doesn't have case. Chomsky (1981) puts forward *there*-insertion hypothesis, (1986) expletive replacement hypothesis, (1991,1993) LF Affix Hypothesis, (1995)feature movement, and (2000,2001,2004) operation Agree; Moro (2006),and Groat (1999) hold that *there* has Case and regard *there* as the placeholder of the predicate. In contrast, Hazout (2004) regards

*there* as the subject of the small clause. In the following we only have a brief review of those assumptions that attract attention in Chinese linguistic circle recently and the relevant fruits and shortcomings of the study on Chinese ECs on basis of these assumptions.

### 3.1LF Affix Hypothesis

Chomsky (1981,1986) assumes that expletive *there* has no meaning content and receives no interpretation, so it can't be licensed as a legitimate LF object and must be removed at LF level under Full Interpretation principle. However, expletive *there* appears to play the role of a scope marker blocking wide scope reading, such as the difference between (1) and (2).

- (1) There is not a man in the house.
- (2) A man is not in the house.

Then, Chomsky (1991,1993) and Lasnik (1992,1995) assume *there* is an LF affix, and the target of a movement operation, with the associate of the expletive moving to it. Overt agreement is the reflection of the inflected verb and the amalgamated expletive.

As for Case, Chomsky (1991) and Lasnik (1992, 1995) abandon the idea of case transmission, thinking that there are no strong evidences to support it and adopt Belletti (1988)'s theory of Partitive Case assignment. This means that *there* checks both the case and D-feature of Infl, and the  $\Phi$ -features of V are checked against the features of the associate at LF. This analysis gives a satisfying explanation to Definite Effect.

Gu (1997) not only argues that LF affix hypothesis is reasonable but also makes an inquiry into the reason why the subject of English ECs is taken by the expletive *there* and that of Chinese ECs by locative phrase. She thinks that if the verb in EC contains the ingredient of locative meaning, the role of locative would be externally assigned, hence the locative argument surfaces as the subject. However, as to case marking, she adopts the idea of Partitive case. She believes that verb can assign two cases to its object: structure case and inherent case (Partitive case). Although being unaccusative, the verbs in ECs can not assign accusative case, they can assign inherent cases to their objects.

Han (2001) also agrees that expletive *there* is an LF affix and Chinese has a covert expletive LF affix, a counterpart of *there*. He thinks that the subject position of EC is an empty slot filled by the expletive and Infl assigns case to the chain formed by the movement of LF affix. Hence, nominative case is transmitted from expletive LF affix to post-verbal NP, the same as case transmission theory. As a result, Case Filter is satisfied. In accordance with his reasoning, the locative phrase in English and Chinese EC are topic rather subject.

Reasonable as their analyses are, weakness still exists. First, treating *there* as an LF is quite ad hoc. In addition, under the principle of structure preservation, *there* is expected to be a maximal projection. But the notion of an XP "affix" is unprecedented. Furthermore, it seems undesirable to posit a new class of morpho-syntactic objects just on the basis of only one English morpheme. Empirically, this assumption clashes with the fact that the scope properties of the associate coincide with its overt position rather than its putative LF site, such as ,

- (3)There aren't many men in the house.
- (4)Many men aren't in the house.
- (5)Some applicants seem to each other to be eligible for this position.

(6)\* There seems some applicants seem to each other to be eligible for this position.

Second, their analyses appear to assume that Partitive case doesn't delete once checked, a violation of Case theory. Furthermore, the theory of Partitive case is dubious. Having an analysis of material used by the Belletti (1988), we can see that Partitive case is only a reflection of quantity rather than case (Groa 1999t). Moreover, there are some facts that are contrary to this theory, such as sentence (7) in which the post-verbal NP is definite.

(7) There will soon appear the definite edition of *Hamlet*.

### 3.2 Operation Agree

Chomsky (2000,01,04) holds that expletive *there* has neither case nor complete set of  $\Phi$ -features. The only feature *there* has is the uninterpretable feature [person]. T may appear with an [EPP] feature understood here as the requirement to be "an occurrence of something" (Chomsky 2004). In the new analysis Chomsky sharpened the Move-F account to a process of the operation of Agree. Agree is an operation that establish a relationship between an element *a* (which is called probe) with uninterpretable feature and an element *B* (which is called goal) with matching interpretable features in the domain of *a*. For Agree to apply, probe and goal must both be active. In the lexicon the uninterpretable features have no value, and they get their value in the course of derivation and then deleted through the application of Agree, with a syntactic relation that takes place at a distance (rather than in a Spec-head configuration) within a local search domain. To delete uninterpretable features, probe must have a complete set of  $\Phi$ -features (it must be  $\Phi$ -complete).

Xiong (2002) makes an analysis in Chinese existential constructions by means of Agree Operation within the framework of Minimalist Program. He assumes that Chinese locative phrases have incomplete  $\Phi$ -features just like that of expletive *there*. Out of Lasnik (1995)'s Enlightened Self Interest, locative phrase move to Spec-T to eliminate T' [EPP] feature. Owing to locative phrase's incomplete feature, T will go on to search in its local domain, and at last match with post-verbal NP, valuing their uninterpretable features. Reasonable as his argument is, he fails to offer sufficient evidence to prove why features of locative phrase are incomplete.

Dai (2003) also tries to get a unified explanation of English and Chinese ECs within the framework of Minimalist Program. Although he offers a rather convincing explanation to some puzzles, such as why T agrees with the first NP of the post-verbal coordinated NPs and singular tendency in *there*'s construction, his interpretation of Chinese ECs is open to suspicion. He classifies Chinese ECs into three categories: you (have) transitive construction, non-you transitive verb construction, and non-you intransitive construction. In the first two categories, there is a covert expletive. Assuming that LP doesn't carry [person] or [case] feature but [number] feature, i.e. its case feature is incomplete, he thinks that LP is merged in adjunct position and no preposition can appear in front of LP. Once there is a preposition in lexicon, LP will carry an accusative case and merge with preposition first. The derived prepositional phrase (PP) can only be merged its original place and doesn't move further. That is to say, locative PP can't appear in the subject of EC. In fact, it is perfectly acceptable for locative PP to appear in front of the verb as is shown in this paper. Moreover, it is inappropriate for him to regard LP as adjunct. For example, in (8) LP can serve any function but adverbial.

- (8) Zhejian shiqing rang wo xinli chuxian le xiwang.  
 This (CL) thing make my heart appear (ASP) hope  
 This thing arouses my hope

### 3.3. Post-verbal NP serves as the predicate of the small clause

Hazout (2004) believes that *there* has case and regards *there* as the subject of the small clause. Because the post-verbal NP serves as the predicate of the small clause, it needn't case checking. First *there* and predicate form agreement, and then *there* moves to the Spec of T to form Spec-head agreement with T. When explaining the locative inversion construction, he thinks that there is a NP empty category on the subject position under the control of prepositional phrase adjoined to CP, and it is this NP empty category that establish subject–predicate agreement and then moves to Spec-T to form Spec-head agreement. This analysis successfully explains a lot of tough issues concerning ECs, such as agreement, case, the status of *there*, etc. However, we think this analysis also has weakness.

As English is a non-pro drop language, it is not the best explanation to assume there is a pro in the subject position. Furthermore, Hazout (2004) still resorts to Spec-head agreement advocated in Chomsky (1993). On the conceptual level, its not clear whether there is anything natural about agreement bearing a reflex of a phrase structure relationship between a head and XP in its Spec. After all, syntactic relationships seem to be head-head relationship (Chomsky 2004). Even if agreement is indeed the result of configuration relationship, it is not clear why it would be so. Empirically, there are some facts that can't be explained, such as (9)(10)(11)(12).

- (9) There is a man in the house.  
 (10) \* There is in the house a man.  
 (11)\* There came a man into the house.  
 (12) There came into the house a man.

A serious empirical problem comes from the agreement of such kinds of sentence as (13). If *there* agrees with predicate NP and then agrees with T of the main clause as is claimed by Hazout (2004), (13) would be grammatical because coordinate nominal in the subject position usually requires plural agreement in the verb, such as (14)

- (13) \* There are a man and five women in the house.  
 (14) A book and a pen are on the desk.

Li and Wang (2005) also think that the post-verbal NP is generated in the place of the secondary predicate (the primary one is similar to light verb *v* in the works of Chomsky), so it is free from case requirement. The  $\Phi$ -features of post-verbal NP are transmitted to the main predicate since the existential verb is underspecified for  $\Phi$ -features. In their opinion, Chinese doesn't have a corresponding English expletive *there*. Thus, the Spec position of the primary predicate phrase is empty. The post-verbal PP moves to this position by way of the second predicate phrase and acquires the  $\Phi$ -features of the post-verbal NP through Spec-head agreement, giving rise to the null subject sentence or deleting the preposition in Spec-Pr, giving rise to the normal ECs.

We think their analysis also has weakness. First, Different from the expletive *there*,

preposition phrase has complete  $\Phi$ -features. Then how it can acquire others'  $\Phi$ -features in the process of derivation like expletive *there*? Second, their analysis is powerless when used to analyze sentence like (15).

- (15) You yi ben shu zai zuozi shang  
 Have one (CL) book on desk<sup>4</sup>  
 On the desk there is a book

Following their reasoning, we can't find out what is it that first establish agreement relationship with post-verbal NP and then form agreement with T in Spec-head construction, as they assume no corresponding expletive *there* is available in Chinese. Third, they fail to offer us a convincing explanation why preposition can be omitted arbitrarily, as sometimes preposition in location phase has syntactic affect, which we will have a detailed examination in this paper.

#### 4. Remaining problems

Judging from the above analysis, we know that up to now there is no satisfying analysis that can give a unified account of English and Chinese ECs. Not to mention the status of preverbal locative phrase about which there have been heated discussions and no agreement has been reached, we have some more challenging problems. For example, why (16) and (17) are ungrammatical?

- (16). \*Gua-zhe yi-ding mao-zi (zai)Qiang-shang  
 hang-ASP one-CL hat (on) Wall -top  
 (17). \*Lai -le yi ge (zai) ta jia  
 come -ASP one -CL person (at) his home

If we assume that the locative expression must be moved to the front of the verb in Chinese ECs, there is still some troubles, such as why in sentence (15) the LP movement is unnecessary<sup>5</sup>, and why the appearance or absence of the preposition *zai* (on) doesn't affect the grammaticality of sentence (18). However, in sentences (19), (20) and (21), the appearance or absence of the preposition *zai* (on) has an important influence on their grammaticality and interpretations. What are the underlying reasons that make all the

4. In this paper CL is an abbreviation of classifier. Zhe is a durative aspect and le is a perfective aspect.

5. Some linguistics may argue that *zai* (in) is a verb rather than preposition in sentence (15). Even we assume that it is the case, (15) still contrary to (16) (17) in that no locative phrase can be inserted in front of V when the assumed verb *zai* (in) is present. Hence, the category of *zai* (in) may not affect our argument. differences?

- (18) Zai Zhuo -shang fang -zhe yi-ben shu.  
 On Desk-top put-ASP one-CL book  
 On the table there is put a book.  
 (19)? Zai zhuo -shang fang -le yi-ben shu.  
 On Desk-top put-ASP one-CL book.

- (20) Ta zai zhuo -shang fang -le yi-ben shu. (when used as ECs, it is unaccepted.)  
 He on Desk-top put-ASP one-CL book  
 He put a book on the desk.
- (21) \*Zai Tian-kong duoduo baiyun  
 On Sky CL clouds

## 5. Assumptions

On the basis of Bowers (2002) and Chomsky (2000,2001,2004), we hold that there are three core functional categories: Complementizer (C), Tense (T), and Predication (Pr), a generalization of “light verb” *v*. Pr has an obligatory [EPP] feature that must be deleted during the process of derivation. As we can see from (16)(17) when there is no LP movement to delete Pr’s [EPP] feature, the derived sentences are ungrammatical, so we assume that in existential constructions of SVO languages Pr has an uninterpretable [Loc] feature, and its obligatory EPP feature must be deleted by an element matching with this feature, that is, a locative expression. Chinese locative words may have some special properties that exert an influence on the syntactic performance of LP. The above puzzle from Chinese may be caused by the fact that [EPP] feature of T and Pr can’t be checked by PP and that there is a null expletive working whose distribution is controlled by some factors.

## 6 The feasibility of our assumption that Pr carries [Loc] feature

### 6.1 Theoretical evidence

#### 6.1.1 Evidence from interrogative sentences

What originally serves as the object of the verb “do” in the echo question<sup>6</sup> (22). Why in the interrogative sentences, this interrogative operator will move from its original place to the Spec position of CP as is shown in (23)

- (22) You are doing what?  
 (23) What are you doing?

In order to explain this phenomenon, Chomsky (2000, 2001, 2004) and Radford (2004) assume that C has an obligatory [EPP] and [WH] features in interrogative sentences. Driven by Lasnik’s principle of Enlightened self-interest: the movement of  $\alpha$  to  $\beta$  is to satisfy the formal need of either  $\alpha$  or  $\beta$ , WH-expression moves to Spec-CP to delete uninterpretable [EPP] and [WH] features. When there is no wh-expression in the interrogative sentences like yes-no questions, we always assume that these interrogative sentences also contain an

6. Echo questions refer to those sentences whose function is to echo and question something previously said by someone. interrogative operator which is named null yes-no question operator Op. Inspired by the idea of [WH] feature in C in interrogative sentences, we think it is justifiable for us to assume a [Loc] feature in Pr to capture the phenomenon of LP movement in ECs.

#### 6.1.2. The pursuit of symmetry of generative grammar and the symmetry between C and Pr

Accepting Galileo's intuition that nature is perfect, generative linguists think that Faculty of Language is perfect system with an optimal design. The theory that describes the working mechanism of Language Faculty should also be beautiful, accordingly. Furthermore, the pursuit of symmetry, simplicity and perfection is the motivation to development of any linguistic theories, so is generative grammar. Symmetry makes the linguistic theory simple and rigid, avoiding a lot of further unnecessary questions harassing our theory when asymmetry is adopted. When referring to how Einstein's theory of general relativity satisfies

the requirement of beauty, Weinberg (1993) claims that there is one common feature that gives theories most of their sense of inevitability and simplicity: they obey principle of symmetry. And unity and symmetry in syntactic operations and representations represent one of the three pillars on which the minimalist program rests (Boeckx, 2006).

As argued by Bowers (2002), there are three core functional categories: C, T and Pr, Pr may optionally select an additional category Tr (transitive), which is located between Pr and V. Tr has [EPP] feature and can assign case as T does. Then, we can come to conclusion that Tr and T are in symmetry, and C and Pr are also in symmetry, accordingly.

Keeping it in mind that we assume there is an uninterpretable [WH] feature in the C for the sake of explaining the phenomenon that wh-phrase moves to the beginning of the interrogative clauses, it is completely feasible for us to assume there is a [Loc] feature in Pr to explain the movement of LP in ECs, since functional category C and Pr are symmetric in structure.

### 6.1.3. The precedents of the setting of semantic features on Pr

Some linguists may argue that it is not praiseworthy to set semantic features on Pr, since Pr is only a pure syntactic functional category. In fact, the setting of semantic features on Pr not only has its precedents, but also can solve some tough issues and make linguistic theory simple.

In explaining why possessive nouns move in sentences like (24), An (2007) assumes that in the lexicon, there is a light verb *v* (similar to Pr in our framework) which carries a [Sufferance] feature. When V moves to the light verb *v* and both of the NPs are in the same domain, and privileged to move. Nonetheless, only the possessive noun is allowed to move to delete *v*'s [EPP] feature because of *v*'s [sufferance] feature.

- (24) Ta si-le laopo.  
He die-ASP wife  
His wife died

In order to have a unified explanation of unaccusative verb constructions, absolutive constructions and causative transitive verb constructions, Radford (2004) assumes there is a light verb *v* above VP, which is affixation in nature and can attract verb to adjoin to itself. In causative transitive verb constructions, the light verb *v* has a [Causative] feature. Hence, its compulsory [EPP] feature needs a word or phrase matching with [Causative] feature to delete.

With good precedents created by them, we feel justified to think that there is [Loc] feature in Pr.

## 6.2. Empirical evidence

### 6.2.1. An instantiation of Pr' [Loc] feature

*There*, which has no lexical content, can't be merged in a  $\Theta$ -position. As a result, the possibility of being merged in the position of Spec-Tr(Transitive) is ruled out (e.g., \* John threw there perfectly a ball to Mary). For the sake of symmetry and perfection of generative grammar, *there* may not be merged in the position of Spec-T, either. Hence the two positions left for *there* are Spec-Pr and Spec-CP. If *there* is merged in the position of Spec-Pr, the verb must be unaccusative because the possibility of merging the external argument is ruled out. Fortunately, this is right the case of English and Chinese ECs. We think merge of *there* in Spec is by no means a coincidence. It can't be merged in any other position but Spec-Pr. In our opinion, carrying the semantic content of abstract universal existence, *there* is a word realization of Pr's [Loc] feature.

### 6.2.2. Cross-language evidence

The aim of generative grammar is to discover the secrecy of human mind and the nature of language faculty, so any assumption of Universal Grammar should get rid of the special property of any language and subject to the test of cross-language data. Ours is no exception. Finnish, Russian, Catalan and French ECs have the following structures:

Finnish LP +V +NP  
 Russian LP +V +NP  
 Catalan e +p+ V+NP+ LP  
 French NP +p +V +NP+ LP<sup>7</sup>

According to Baker (1988)'s Uniformity of Theta Assignment Hypothesis and Jackendoff (1972)'s Thematic Hierarchy, EC should be derived in the following way: First, V and LP merge, the combination of which verges with NP. And then the derived representation is chosen as the complement of Pr. When V move to the place of Pr, both LP and NP are in the same domain according to Chomsky (1995)'s equal distance principle. However, in Finnish and Russian ECs, it is LP rather than NP that moves to delete the Pr's compulsory [EPP] feature, and move to the Spec-T so as to delete T's [EPP] feature as last. Hence there must be a [Loc] feature in Pr that makes the movement of NP illicit and that of LP obligatory. We can see in Catalan ECs, no LP movement is involved, but there is proform in front of V. Maybe it is this proform that makes all the difference. Then what is the nature of the existential proform? Freeze (1992) argues convincingly that all existential proforms are locative: all such locative proforms are lexically locative and syntactically, the intralanguage complementary distribution of predicate locative and the existential remain constant with the proform existential. The appearance of proform satisfies Pr's [Loc] feature, so no LP

7. e is the abbreviation of empty subject and p is that of proform. movement is necessary. However, Freeze (1992) thinks that [Loc] feature is located in Infl. Is our assumption out of the mark? We think French ECs provide a very satisfying answer. In French ECs, the preverbal NP has nominative case and the post-verbal NP carries accusative case. Since the existential verb in existential is unaccusative (Freeze, 1992), how are the cases of these two NPs valued? Bowers (personal communication) suggests that there are two possibilities: ①the unaccusative verb in EC assign partitive case;② the

French existential pro-form and the verb form a maximal projection. This maximal projection will serve as a probe conducting Agree with the pos-verbal noun, valuing the uninterpretable accusative case feature of post-verbal NP, that is to say, the maximal projection functions like a transitive verb. He claims that as to these two possibilities, he prefers the second one. Provided Bowes' assumption is on the right track, the existential pro-form must be located in Spec-Pr if they are to form a maximal projection, capable of acting as a probe and deleting the accusative case feature of post-verbal NP. The appearance of existential pro-form, which has locative feature, makes the movement of locative phrase unnecessary. All these suggest strongly that there must be a [Loc] in Pr.

We would like to make an examination of English EC to show that our assumption has cross-language significance to justify our following analysis of Chinese ECs

## 7. A brief study of English ECs

### 7.1. Existential sentences with expletive *there*

As for the explanation of English ECs, our analysis is not inferior to any other analysis. Let's see (25) which has been frequently discussed in literature of generative grammar. In order to explain ungrammaticality of (25), Chomsky puts forward the idea of merge over move whose validity is questioned by many scholars. In our analysis, such kind of assumption isn't necessary. Suppose that the derivation goes to stage (26) A man can't move to the Spec-Pr, as Pr carries the uninterpretable [Loc] feature. Hence the only possibility is for *there* to merge in Spec-Pr. When *there* is merged in the Spec-Pr and the whole construction merge with T, (27) is derived. Because expletive *there* is closer to T than *a man*, it moves to check the EPP of T. At last sentence (28) is derived. (25) has no chance to be generated, hence it is ungrammatical. Our analysis meets the requirement of simplicity and symmetry, which are pillars of generative grammar.

(25)\*There is likely [a man to be [~~a man~~] at home

(26) [PrP be [VP a man ~~be~~-at home]].

(27)TP to [PrP there be [VP a man ~~be~~-at home]]

(28) There is likely to be a man at home.

### 7.2 Locative inversion construction

If no expletive *there* is available in the numeration, there will be a problem: which element checks the EPP of Pr. In the above we assume that in ECs Pr has [Loc] feature and only the locative expression has the ability to delete the [EPP] feature of Pr, so in the locative existential construction locative phrase will take the responsibility to delete the [EPP] feature of Pr. Our assumption is supported by linguistic facts, such as

(29) On the wall seems to be hanging a picture of Robin.

In (29), locative prepositional phrase moves through Spec-Pr to Spec-T. As prepositional phrase has no case feature, the uninterpretable features of T can not be valued. T will serve as a Probe to search in its domain. Meanwhile the post-verbal NP serves as a goal with its uninterpretable case feature. Then Agree takes place, and all uninterpretable features valued. Because the post-verbal NP conducts Agree operation with T, it will take nominative case and agree with T in number.

However, there is still a problem in this analysis. If we regard PP in ECs as subject like Bowers (2001), we can't explain why (30) is ungrammatical. Although it can undergo subject-to-subject movement, it can be considered as a subject.

(30)\*Did on the hill stand a man ?

Rizzi (1997) suggests that CP can be split into a number of different projections—an analysis that is usually named as Split CP hypothesis. C should be analyzed as Force markers, heading a Force phrase projection, which includes a Force phrase, a Topic phrase and Focus phrase. Following Rizzi's suggestion that wh-expression moves to the Spec-FocP in the main clause, we think that PP moves to Spec-Topic from Spec-T so that it becomes a topic of locative inversion construction. The ungrammaticality of (30) is caused by misplacement of Topic phrase and Focus phrase. A reversion of their order in (30), the derived sentence is perfectly grammatical.

(31) On the wall, did stand a person?

With a successful analysis of English ECs, we feel convinced enough to analyze Chinese ECs with our assumption.

## 8. The study of Chinese EC

The same with English, all of the verbs in the ECs don't have external arguments. However, before they are chosen in ES, some are innate accusative like *lai*(come) and *tang* (lie); some are originally transitive, like *ke* (carve), *yin* (print); some can be either transitive or intransitive, such as *fang* (put) and *gua* (hang). Then, how could they all lose their external argument all of a sudden? Following Gu(1997), we hold that there is a lexical rule operation *argument suppression* taking place through which the external argument is suppressed, while the other internal arguments remain. The placement verbs with a durative aspect *Zhe* in the Chinese ECs are subject to a process of *unaccusativization* before they are chosen for computation in the derivation, and the placement verbs with a perfective aspect *le* in Chinese ECs are subject to a process of passivization. Owing to these operations, the placement verbs lost its external arguments.

There are different kinds of subcategories of ECs in accordance with different standards. Fan (1963) classifies (Static) ECs into three types according to the grammatical nature of the verbs: ①ECs containing typical intransitive verbs, ②ECs containing the verbs that can either be transitive or intransitive, and ③ECs containing transitive verbs. Song (1991) classifies the ECs into static ECs and dynamic ECs. And the first is sub-classified into *You* (have)-sentences, *shi* (be) sentences, *zhe* (ASP) sentences, experiential sentences, and attributive-head EC and NP-predicate EC. And, the latter can be sub-classified into progressive EC and Perfective EC. All of the above classifications only intend to make a precise and detailed description of the characteristic and function of ECs. In our eyes, with plentiful fruits at hand made in the description, we should do our best to make an investigation of why ECs have all these properties. Hence, we would like to make a categorization of ECs in the light of the syntactic performance of the verbs. We divide ECs into: ①sentences with the existential verb *you* (have) which is similar to the *there*-be constructions in English; ②sentences with the innate unaccusative verbs or the verbs which has been subject to unaccusativization; ③ sentences with the verb which have been subject

to passivization.④ Modifier-Head predicate sentences.

Prior to a detailed study of the syntactic behaviors of these four types of ECs, we would like to have a study of the property of LP which constitutes an important part of ECs.

### 8.1. The nature of locative phrase

We can't simply regard the locative phrase as common noun phrase following the practice of some generativists. The combination of noun and noun will form a coordinate or modifier-head relationship, but in modern Chinese we can not say *lian shang* (on one's face) is a coordinate phrase or modifier-head phrase since its meaning is not equal to the phrase “\**lian he shang* (face and on)” or the phrase “\**lian de shang* (face' on)”. Furthermore, locative word can't be modified by adjective or *de* (functional word) phrases, as is shown in (32), both of which are characteristics of nouns.

(32) a. \**qiang-de shang* (wall' on). b. \**piaoliang-de shang* (beautiful on)

In old Chinese, locative words are really nouns as can be seen in (33)

(33) *Fen lue zhi nei, he fei wangtu.* 《左传》  
kingdom (functional word) inside, what not king territory.  
There are no places that don't belong to the king within the kingdom.

However, with time moving on, locative words lost their characteristics as nouns and acquired the properties of functional words, just as those former verbs *yu* (于) and *yi* (以) changing into prepositions in modern Chinese because of grammaticalization (Liu, 2003).

In fact, in Chinese linguistic circle, agreement has reached as to the nature of locative words up to now. Ding (1961) regards them as a subcategory of noun phrases; Zhang (1957) refers to them as nouns' subsidiary category; Zhang (2000) simply considers them as function word whereas Liu (2003) reckons them as prepositions (for more, please refer to Fang, 2004 and Chu, 2006)

Bearing in mind that locative words belong to a special category, we are ready to stop the discussion of the nature of locative word, and attach our attention to something directly relevant to our purpose here. As locative words always appear in ECs in combination with a noun or NP, we will have a probe into the property of the derived locative phrases.

One of the function of preposition is to introduce its complement, noun or noun phrases, like *duiyu fongwu de guanli* (the management of animals), *weile zhuguo* (for the sake our motherland). But some basic prepositions, such as *zai* (at, in or on) and *cong* (from) can not take a common noun as their complements except for the nouns denoting places. Hence, the nouns must first merge with a locative word, and only the combination of them is privileged to merge with prepositions. We can see it from the following expressions:

(34) a. \**Zai zuozhi* (on desk) b. \**zai tian* (on sky) c. *zai zuozhi shang* (on the desk)

Then what is the underlying reason that makes all the differences? Bošković, (2006) holds that preposition has several functions: it can take an argument that they case-check, or functions as an interpretable case marker and doesn't undergo case checking (the typology is not intended to be exhaustive). The first possibility is excluded by the fact that preposition can't take a noun which carry structure case as its complement. Hence, we assume that the prepositions in the locative phrases are case marker of interpretable case.

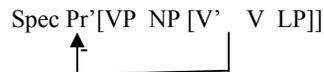
The source of the interpretable case of the locative phrase may be the combination of noun and locative word, a special category. We find solid support for our assumption from the fact that prepositions like *zai* (in) can take a locative nouns as its complement like *zai NanJing* (in Nan Jing).

## 8.2. Interpretation of ECs' syntactic behavior

What is the reason that when locative NP moves to Part A, different type of ECs show the same syntactic performance as is shown in (35)(36)(37)(38): they are all grammatical?

- (35) *Zhuo-shang you yi-ben shu*  
 Desk-top have one-CL book  
 There is a book on the desk.
- (36) *Zhuo -shang fang -zhe yi-ben shu.*  
 Desk-top put-ASP one-CL book  
 On the table there is put a book.
- (37) *Zhuo -shang fang -le yi-ben shu.*  
 Desk-top put-ASP one-CL book  
 On the table there is put a book
- (38) *Tian-kong duoduo baiyun*  
 Sky Cl clouds  
 There are some clouds in the sky,

Let's assume the derivation get to the following stage.



Although NP and LP are in the same domain and legitimate to delete Pr's EPP feature in accordance with Chomsky (1995)'s equal distance principle, only locative phrase is allowed to move to Spec-Pr because Pr carries a [Loc] feature which requires an element matching with this feature to delete the [EPP] feature of Pr. And this is exactly the case of Chinese ECs. Locative phrase goes on to move to Spec-T. The movement of locative phrase is out of Lasnik (1995)'s Enlightened Self Interest principle or is motivated by LP' uninterpretable [D] feature. Owing to the fact that LP's case is interpretable, after Agree takes place between T and LP, T still works as Probe to search in its domain. In the end, it matches with post-verbal NP and values all of their uninterpretable features under Agree. Once part A of ECs is filled by locative NP, derivation will follow these steps. Hence, they have the same syntactic performance. Whereas when part A of ECs is not filled by locative NP, they have vast difference, as is shown in (15)(18)(19)(21). Let's have a study of them one by one.

### 8.2.1. Sentences with the existential verb *you* (have)

We assume in the above that the existential Pr has a [Loc] feature, and its obligatory [EPP] feature must be checked by a locative expression. Hence, the ungrammaticality of (16) (17) is explained, but why is sentence (15) grammatical? Is there a null expletive in Chinese that take effect to delete [EPP] and [Loc] feature of Pr? According to the null subject

hypothesis, the null subject is only permitted in languages with morphologically uniform inflectional paradigms. (Jaeggli & Safir 1989). Spanish allows *pro* because it is a morphologically uniform language. For example, when the verb *hablar* (say) is used in present tense, its form will vary in accordance with the person and number features of the subject. This is morphologically uniform. In Chinese the form of *shuo* (say) is immune to change of the number and person feature of the subject. In our opinion, this is also morphologically uniform. As a result, Chinese may allow null subject. Languages, which allow null subjects in finite clause, have also been claimed to allow null expletive subjects in finite clauses (Safir 1985, Travis 1984). Hence, we do have null expletive in Chinese.

Let's see the nature of *you* (have). In sentences like (15), *you* (have) seems to have no semantic content because it can be omitted without the change of meaning<sup>8</sup>. Lü (1942), Tang (2003) proposes that *you* (have) serves as a formal word without semantic content, introducing a presentational entity. So we can say *you* (have) in ECs is only a morphological realization of functional Pr in existential sentences. The morphological realization of Pr may license the occurrence of null expletive in the Spec of Pr, which requires a locative expression to satisfy its [EPP] feature. Null expletive *there* has the abstract locative meaning. Hence, the EPP of Pr can be checked. But, when there is a locative NP in ECs, the null expletive will not exist in the numeration, because the same as *there*, null expletive belongs to category NP and the EPP of Pr only require one NP to check. If we force null expletive to co-exist with the locative NP in the numeration, the derivation will crash, such as (39).

- (39) \*You yi-ben shu zuo-shang  
Have one-CL book desk-top

### 8.2.2 Sentences with the innate unaccusative or unaccusativized verb.

If we assume that the obligatory [EPP] feature of Pr can be checked by a null expletive, which is licensed by the functional word *you* (have). Then why can't the ECs with unaccusative or unaccusativized verb license the null expletive that make the movement of LP unnecessary as is shown in (16)? (18) seems to suggest that when locative PP take trouble to move, the appearance of null expletive is licensed in lexicon, because different from English, Chinese PP has no qualification to check the EPP feature. As is shown in (40), *zai jia li* (at home) can only serve as adverbial / adjunct.

8. In the lexicon, there may be another *you* (have) which has possessive meaning.

- (40) Zai jia-li kanshu  
At home read book.  
(pro) reads books at home.

Hence, there must be a null expletive in the lexicon whose function is to check the [EPP] feature of Pr when (18) is generated. Our answer to the above question goes like this: without *you* (have) licensing null expletive in the numeration, its appearance in the numeration is illicit. However, since the verbs in this type of construction is a bit syntactically similar to *you* (have) in that in these sentences, there are no external arguments showing up by any means, we expect expletive *there* may be licensed by other means. As the [EPP]

feature of Pr must be checked by a locative expression, it will attract locative PP to its place when no locative NP is available. Failing to delete the [EPP] feature of Pr, the computation will search in the lexicon and make the appearance of null expletive licit order to get a convergent derivation. As a result, the status of null expletive in the numeration is legalized.

### 8.2.3. Sentences with the verbs that have been subject to passivization.

Different from the case of unaccusativized verbs, derived passivized verbs undergo lexical-semantic representation and lexical-syntactic representation. As a result, their syntactic performance differs greatly from the unaccusativized verbs. The possibility of appearance of null expletive will be affected, accordingly.

As we can see in (41), the external arguments of those passivized verbs can show themselves in some way.

- (41) Zhuo-shang bei ta fang-le yi-ben shu.  
 Desk-top by him put (ASP) one (CL) book.  
 One book is put on the desk by him.

In this respect, the syntactic property of derived passivized verbs is a step further away from *you* (have). If the possibility of null expletive's appearance is lower than that of the second type of ECs, we can say the further away from *you* (have) the existential verb is, the lower the possibility of null expletive's appearance in Chinese ECs is. Fortunately, fact falls into place quite straightforward. As we can see the grammaticality of sentence (37) is open to suspicion. This shows that even the movement of locative PP through the Spec-Pr is not powerful enough to make the appearance of null expletive free from question

The grammaticality of (38) indicates that *fang* (put) doesn't undergo a process of passivization. In fact, there are two *les* (ASP) in Chinese. One of the functions is to make the placement verbs passivized before derivation takes place and the other is just a mark of a perfective aspect. In (38), the external argument of *fang* (put) remains. As Pr has no [Loc] feature in its place, the [EPP] feature of Pr can be checked by other element. Therefore, (38) turns out to be grammatical. If we force an existential interpretation of (38), intuition may tell us it is unacceptable because in ECs Pr's [EPP] feature must be deleted by an element whose semantic features match with [Loc] feature, but in (38), this can not be satisfied..

### 8.2.4. Modifier-head predicate sentence

Some Chinese grammarians like Fan (1963) regard modifier-head predicate sentences as omission of a proper verb, that is the omission of *you* (have) or *shi* (be). However, in sentences like (58), it seems to be improper to insert *you* (have) or *shi* (be) into the sentence. Maybe some verbs like *chan chu* or *fa cha* (send out) is omitted.

- (42) Ren-qun li zhen-zhen xiao-sheng  
 The throng of people-Loc bursts of laughter  
 There are bursts of laughter in the throng of people

Following Tang (2003), we assume that there is an empty verb  $\emptyset$  in the modifier-head

predicate sentences. It has full feature of an overtly realized verb except for the phonetic form. Since it is the opposite of you (have), a morphological realization of functional category Pr, its property may be contrary to that of you (have). It may not license the appearance of null expletive in the Spec-Pr, even though PP movement is adopted. This assumption is borne out by the ungrammaticality of (43)

- (43)\*Zai ren qun li zhen-zhen xiao-sheng  
In throng of people-Loc bursts of laughter

Du (1982) and Song (1991) hold that words like *kao* (near), *dui zhe* (towards) and *shun zhe* (along) are prepositions and the phrases formed by the combination of these prepositions can show themselves up in the Part A of the modifier-head predicate sentences, just like (44).

- (44)Kaochuang you zhang xiezizuo  
Near window have (CI) desk  
There is a desk near the window

Their discovery appears to be a challenge to our argument. However, in our opinion, they misinterpret these locative phrases. In face these word can function either as preposition or verb in Chinese. And the prepositional LP in Du and Song' work is, in essence, verbal phrase, as verbal phrases can fill in the position of Part A in modifier—predicate sentences (Pan, 2003)

- (45) Jinmen liang-ke dashu  
Enter door two -CL big trees.  
Entering the door, one can see two trees.

Judging from above, we can see that although Chinese allow null expletive, its distribution is subject to some constraints. We make explicit this constraint in the following table.

Verb type	You (have)	Innate unaccusative/ unaccusavized	passivized	Null verb
PP movement	No	Yes	Yes	Yes
Legality of null expletive	Yes	Yes	?	No

The possibility of appearance of null expletive in ECs can be summarized into this rule: the further the nature of existential verb is away from you (have) , a morphological realization of Pr in, the lower the possibility of null expletive' appearance in Chinese ECs, provided that there is no locative NP in the lexicon.

### 8.2.5.Revelant issue.

The above discussion of Chinese ECs concerns the syntactic influence of appearance of the preposition in locative phrase. And as can be seen from our example, there are some instances, in the cases of which whether prepositions in locative phrases appear or not has

no affect in the respect of syntax. Then what is it that determines their chance of appearance? In our opinion, this is a matter of semantic or pragmatics. Horn suggests that the use of a marked (relatively complex and /or prolix) expression when a corresponding unmarked (Simpler, less “effortful”) alternate expression is available tends to be interpreted as conveying a marked message one which the unmarked alternative would not have conveyed (Hu and Jiang, 2002 ). So when the preposition can be optional chosen in locative phrase in EC, the appearance of it serves as a marked expression. It means the speaker has something more intend to say. The appearance of preposition in part A of Chinese ECs is to make an emphasis of the location (Pan, 2003).

There are some instances in which the compulsory or inappropriate appearance of preposition is affected by semantic or pragmatic concern, such as

- (46) Jiu zai zhe-xiao chunzi li zhu zhe yi-wei zhuming de zuojia.  
 Exactly in this small village inside live a-CL famous writer.  
 It is in this small village that lives a famous writer.
- (47) \*Zai Jia jia you ben nannian de jing.  
 At every home have troubles.

The function of jiu (just ) in (46) is to emphasize the following phrase. To realize the emphasis of location, preposition becomes a requisite. Whereas, in (47) jiajia (every home) itself have a sense of emphasis, so the appearance of preposition turns out to unnecessary

As this kind of discussion is beyond the field of syntax and irrelevant to our purpose, any further probe into this phenomenon is inappropriate. We simple make an end to the discussion here.

### 9. Additional benefits of our analysis

Our analysis can give a satisfying explanation to the following phenomena.

- (48) Liang-ge ren lai- le  
 Two-CL men came-Asp  
 There came two men.
- (49) Lai- le liang-ge ren.  
 Come-Asp two-CL persons.  
 Two men came
- (50) Lao-shi he xue-sheng dou xiao-le  
 Teacher and students all smile-Asp.  
 Both teacher and the students smile
- ( 51) \* dou xiao -le lao-shi he xue-sheng  
 All smile-Asp teacher and students.

In order to explain the derivation of sentences(48)(49),Tang (2003) assumes that there are two *lais* (come), when *lai* (come) is used in a declarative semantic sentence, it is ordinary unaccusative, which has one internal argument; when it occurs in an existential construction, it is existential verb that takes two internal arguments. In our opinion, this explanation fails to capture the connection between these sentences. In our analysis the difference between (60) and (61) is caused by different property of functional category Pr. (61) is an EC, so Pr has a [Loc] feature and its EPP must be checked by a locative

expression. In this sentence, the locative NP is omitted and it is this omitted NP (pro) that checked the EPP of Pr. In sentence (60), Pr has no [Loc] feature, so Pr's [EPP] feature should be checked by other NP. As a result, *liang-ge ren* (two persons) moves to check the [EPP] feature of Pr and then [EPP] feature of T. In the end (60) is derived.

Sentences (50)(51) are unergative constructions in which the external argument is merged in

Spec-Pr. Since *Lao-shi he xue-sheng* (teacher and students) and T all have uninterpretable features to be valued, *Lao-shi he xue-sheng* (teacher and students) moves to the Spec-T, valuing its uninterpretable feature and deleting the [EPP] feature of T. And then (50) is derived. As (51) can never be derived, it is ungrammatical.

This analysis also offers a partial solution to the long-lasting controversy on the subject and object in which the ECs prove to a hard nut to crack. Some Chinese grammarians like Wang (1956) define subject according to the criterion of meaning of NP, claiming that the agent in the sentence serves as subject. The problem with this analysis is that in some cases we can not determine which one is agent and which is patient. Some scholars like Zhang (1955) assume that the word order is yardstick that differentiates which one is subject. This assumption seems to suggest that any element can serve as subject since almost any category can appear in the front or at the back of verb (Lǚ, 1955). Zhu (1985) and Lu (1993) use the relationship of parallel structure change to differentiate subject and object. The same as other standards, theirs are also afflicted with troubles (Li and Wang, 2005). In our analysis, the existential Pr has an [Loc] feature, so its EPP feature must be checked by a locative expression. If there is a locative NP, it will move to satisfy the EPP features of Pr and T, and turn out to serve as the subject of ECs. If no locative NP is available, and null expletive will be licensed by some working mechanism, and the sentence derived is a null subject one, such as (64)

- (52) *Zai zhuo- shang you yiben shu.*  
 On desk- top have one-CL book.  
 On the desk is a book.

In EC, the agent has no chance to serve as subject, since it can not delete the EPP of Pr which requires a Locative expression. To our encouragement, our conclusion coincides with the view of Huang (1984), that is, in Chinese ECs only locative NP can serve as subject.

## 10. Conclusion

In this paper we prove that in ECs of SOV languages Pr has a [Loc] feature and its obligatory [EPP] feature must be deleted by an element whose semantic features match with [Loc] feature. Owing to the special property of locative word, locative phrase has an interpretable feature and preposition in the locative phrase turns out to be a case marker rather than the common case-checking one. Chinese does have null expletive *there*, and its distribution can be summarized into this rule: the further the nature of existential verb is away from *you* (have), a morphological realization of Pr in ECs, the lower the possibility of null expletive' appearance in Chinese ECs, provided that there is no locative noun phrase in the lexicon. Sometimes the appearance of preposition in front of LP is a matter of semantic or pragmatic concern. With these finding, we not only get a unified account of English and Chinese ECs, but also offer a satisfying explanation for the issue of preposition in ECs

within the framework of generative grammar. Furthermore, our analysis successfully solves a lot of tough issues and long-lasting controversies concerning Chinese ECs, such as the debate over subject.

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