Existential and locative constructions in Mandarin Chinese

Abstract: Despite previous studies (cf. among others Huang 1987. Existential sentences in Chinese and (in)definiteness. In Eric J. Reuland & Alice G.B. Ter Meulen (eds.), The representation of (In)definiteness, 226–253. Cambridge, Mass.: MIT Press; Li, Yen-Hui Audrey. 1990. Order and constituency in Mandarin Chinese. Dordrecht: Kluwer; Li, Yen-Hui Audrey. 1998. Two types of existential sentences. Illinois Papers in Linguistics 26. 175–191; Pan, Haichua. 1996. Imperfective aspect zhe, agent deletion, and locative inversion in Mandarin Chinese. Natural Language and Linguistic Theory 14(2). 409–432), the defining characteristics of existential sentences in Chinese (including potential equivalents of locative inversion in English) have remained controversial. This is shown to be due to the failure to acknowledge the existence of two different constructions, the existential construction (ExC) ‘Ø V DP’ where a sentence-initial phrase indicating location (PlaceP) is not required, on the one hand, and the locative construction (LoC) with an obligatory PlaceP, on the other: ‘PlaceP V DP’. Only the ExC can serve as a diagnostic context for unaccusative verbs, whereas the LoC allows for a wide range of verbs, including a subset of unergative verbs. Furthermore, two types of LoC need to be distinguished, depending on the type of aspect (perfective aspect -le vs imperfective aspect -zhe), giving rise to different semantics. Both have, however, in common that the PlaceP occupies the subject position (SpecTP), not the topic position, and that it is merged in SpecTP, not moved there, as evidenced by the systematic lack of a corresponding source structure with the PlaceP in postverbal position.

Keywords: locative inversion, unaccusative verbs, unergative verbs, subject position

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1 Introduction

When examining Chinese equivalents for English existential constructions such as *There are books lying on the table,* *There is a dog in the garden,* *There arrived several boats from far away,* we observe that they can have the same structure: a sentence-initial DP or Postpositional Phrase indicating a location (henceforth PlaceP), followed by a verb and a postverbal DP¹:

(1) Zhuōùí shàng fāng-zhe shu.²
    table on put -IMP book
    ‘There are books lying on the table.’

(2) Huāyuán lǐ yǒu sōngshū.
    garden in exist squirrel
    ‘There is a squirrel in the garden.’

(3) Yuānchú lái -le jǐ tiáó xiǎo chuán. (Lü Shuxiang 2000: 345; slightly modified)
    far.away come-PERF several CL small boat
    ‘There arrived several small boats from far away.’

The presence of a PlaceP in the sentence-initial position of (1–3) has in turn been interpreted as an indication for a structural parallel with the so-called *locative inversion* known from English and Chichewa (cf. Bresnan 1994): *On the table is [lying] a book.* However, as to be extensively argued for in this article, this first impression is misleading.

First, sentences (1) – (3) are not of the same type. Instead, the locative construction (LoC) in (1) needs to be distinguished from the *existential construction* (ExC) in (2–3), because the LoC requires a sentence-initial PlaceP (cf. [4]), in contrast to the ExC (cf. [5] – [6]) where this PlaceP is optional:

(4) {Zhuōùí shàng/*Ø} fāng-zhe shu.
    table on put -IMP book
    ‘{On the table/*Ø} are lying books.’

¹ DP is used here as a cover term for extended nominal projections, including Quantifier Phrases as in (3).
² The following abbreviations are used in glossing examples: CL classifier; NEG negation; IMP imperfective aspect; PERF perfective aspect; PL plural (e.g. 3PL = 3rd person plural); PROGR progressive aspect; SG singular; SUB subordinator.
(5) (Huāyuán lǐ) yǒu sōngshǔ.
   garden in exist squirrel
   ‘There is a squirrel (in the garden).’

(6) (Yuānchù) lái-le jī tiáo xiǎo chuán.
   far.away come-PERF several CL small boat
   ‘There arrived several small boats (from far away).’

Second, the ExC allows for unaccusative verbs only, whereas many verb classes are permitted in the LoC.

It is correct that several differences between the types illustrated by examples (1) – (3) have already been noticed in the literature, in particular the obligatory presence of the PlaceP in (4) with V-zhe. However, this did not lead previous scholars to the conclusion defended here that there are two separate constructions with distinct characteristics. Instead, ExC and LoC were mistaken as instantiating mere variants of one and the same construction, as evidenced by enclosing the sentence-initial PlaceP in parentheses and thus obscuring the crucial role of its absence/presence as one of the defining properties of ExC vs LoC (cf. among others Huang 1987, Li 1990; Gu 1991; Pan 1996; Hu and Pan 2007, Wu 2008: 61–73, 85–88).³ This is reminiscent of the situation in English where according to Culicover and Levine (2001: 283) the failure to distinguish between the two types of locative inversion, light inversion and heavy inversion, led Levin and Rappaport Hovav (1995) to conclude that locative inversion is not limited to unaccusative verbs in English. As a result, it remained controversial which of these variants – if any – could serve as a diagnostic context for unaccusative verbs.

The article is organized as follows. Section 2 describes the semantic characteristics of the ExC and the LoC and shows both to be thetic judgments in the sense of Kuroda (1972). Section 3 explores in detail the ExC and shows it to exclusively feature unaccusative verbs. This observation motivates a short digression on unergative verbs in Chinese in Section 4, given that the diagnostics to identify these two subclasses of intransitive verbs are not the same as in English. Section 5 compares the LoC with the ExC and argues in favour of PlaceP as occupying the subject position (SpecTP), not a topic position in the left periphery. Given the systematic lack of a corresponding source structure with

³ C.-T. James Huang (1987) and Hu and Pan (2007), for example, use the term existential sentences for both ExC and LoC. Gu (1991) creates the mixed label locative existential constructions subsuming the ExC with the verb yǒu ‘exist’ and the LoC with placement verbs such as fàng ‘put’.
the identical PlaceP in postverbal position, the PlaceP must be merged in SpecTP, not moved there. Section 6 then further distinguishes two subtypes of LoC, ‘PlaceP V-le DP’ and ‘PlaceP V-zhe DP’ (perfective aspect -le vs imperfective aspect -zhe). Section 7 concludes the article.

2 The semantic characteristics of ExC and LoC

As in other languages, in Chinese as well, sentences of the type illustrated in (1) – (3) involve a *thetic judgement* in the sense of Kuroda (1972) where the speaker expresses “the simple recognition of an event” in one single act (p. 180). This is different from the *categorical judgement* which “is assumed to consist of two separate acts, one, the act of recognition of that which is to be made the subject, and the other, the act of affirming or denying what is expressed by the predicate about the subject.” (p. 154).

2.1 Precursors to ExC and LoC as *thetic judgements*

The *simultaneous* assertion of event and participant as the defining characteristic of ExC and LoC in Chinese has long been observed in the literature. ExC and LoC can be uttered “out-of-the-blue”; if construed as potential answers, then the “corresponding” questions are of a global type: ‘What is it?’; ‘What happened?’; accordingly, (7a) is unfelicitous as an answer for ‘Who came?’.

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4 Paris (1981:228ff) seems to be the first to apply Kuroda’s (1972) distinction to Loc and ExC. The result is, however, different from ours, because Paris (1981) subsumes under “locative existential” sentences both ‘PlaceP V DP’ and the “corresponding” ‘S V-zài [‘be at’] PlaceP’ sentence (cf. Section 5.4, [47c], [48c]). It is the inclusion of the latter that motivates her to classify the LoC ‘PlaceP V DP’ as a categorical judgement. Only sentences with verbs of (dis) appearance such as lái ‘come’, sǐ ‘die’ are classified as thetic judgements, thus excluding ExC with weather verbs as well as the ExC par excellence, viz. Yǒu DP ‘There is DP’, clearly an undesirable outcome (cf. Section 3.2 below for examples).
(7)  
   a. Lái -le kèrén.  
       come-PERF guest  
       ‘There have come guests.’  
   b. Kèrén lái -le.  
       guest come-PERF  
       ‘The guests have come.’

The absence of any sentence-internal partitioning likewise holds for the LoC (cf. [8])

(8) Tái shàng zuò-zhe zhǔxítuán.  
    platform on sit -IMP presidium  
    ‘On the platform is sitting the presidium.’

Teng (1975: 112) takes up Dragunov’s (1960 [1952]) analysis and stresses the absence of any presupposition for the ExC, characterized as involving “all new” sentences, nowadays often referred to as “broad focus”. This is illustrated by the comparison of the ExC in (9a) with the normal SV structure in (9b), which is felicitous in a context where the sun is “anticipated”:

(9)  
   a. Chū tàiyáng le.  
       come.out sun SFP  
       ‘The sun has come out.’

5 As again evidenced by the unfelicitousness of (8) as answer to the question: ‘Who is sitting on the platform?’ This is confirmed by the following question-answer pair, where only (ii), but not the LoC in (iii) can serve as answer to (i):

(i) Shéi zài shāfā shàng tǎng-zhe?  
    who at sofa on lie-IMP  
    ‘Who is lying on the sofa?’

(ii) Xiǎo dìdì zài shāfā shàng tǎng-zhe.  
    little brother at sofa on lie-IMP  
    ‘Little brother is lying on the sofa.’

(iii) #Shāfā shàng tǎng-zhe xiǎo dìdì  
    sofa on lie -IMP little brother  
    ‘On the sofa is lying little brother.’

6 Teng’s (1975: 115–116) few examples with a sentence-initial PlaceP all involve yǒu ‘exist’ and are characterized as purely asserting existence, on a par with his examples for ExC without any PlaceP.
b. Wōmen dēng-le bāntiān, tàiyang cái chūlái/
1PL wait -PERF long.time sun only come.out
# cài chū tàiyáng.
only come.out sun

‘We waited a long time before the sun came out.’
[
‘We waited a long time, only then the sun came out.’ (our translation)]
(Teng Shou-hsin (1975: 112-113, [2b], [3a-b])

The characterization of ExC and LoC as thetic judgements is reflected in the constraints observed for corresponding wh questions.

2.2 Wh questions in the ExC and LoC

The thetic nature of ExC and LoC leads to the expectation that wh questions should be impossible. This is indeed the case for the ExC with the existential verb yǒu ‘exist’, where a wh question is excluded, irrespective of the postverbal or preverbal position of the wh phrase:

(10) a. *Yǒu shénme?
exist what
b. *Shénme yǒu?
what exist

The unaccusative verb fāshēng ‘happen, occur’, by contrast, allows for a wh phrase in postverbal position (cf. [11a]) (though not in preverbal position). Due to the very semantics of fāshēng, the resulting question in (11a) is predominantly interpreted as a global question ‘What happened’, as illustrated by the possible answers in (11bi, 11bii). (Note the ExC in [11bi] as answer to the global question.) When (11a) is interpreted as a wh question, it requires an eventive noun such as chēhuò ‘accident’ in the answer (cf. [11biii]).

(11) a. Fāshēng-le shénme (shì)?
happen -PERF what matter
‘What happened?’

7 We thank an anonymous reviewer for asking us to discuss this issue.
8 While Fāshēng-le shénme? with a bare wh-phrase shénme ‘what’ is not unacceptable, (13a) is the 100% natural version to be encountered in natural discourse. Note that shénme (shì) ‘what (matter)’ is unacceptable in the subject position:

(i) *Shénme (shì) fāshēng-le?
what matter happen-PERF
b. (i) Qǐ huǒ le!
   arise fire SFP
   ‘There is a fire!’
(ii) Lǐ tàitài bèi bāngjià-le.
   Li wife PASS kidnap -PERF
   ‘Mrs. Li got kidnaped.’
c. Fāshēng-le yī zhǒng chēhuò.
   happen -PERF 1 CL accident
   ‘There happened a car accident.’

Likewise, a wh question is unacceptable with other unaccusative verbs (uaV) in
the ExC (cf. [12a]); instead, the wh phrase, here shéi ‘who’, must occupy the
preverbal subject position in an SVO structure (cf. [12b]):

(12) a. *Lái -le / zǒu -le shéi?
   come-PERF / leave-PERF who
   (*Who did there come/leave?’)
b. Shéi lái -le / zǒu -le?
   who come-PERF / leave-PERF
   ‘Who came/left?’

However, upon further scrutiny, the situation does not remain as clear-cut as
this. Given the rather subtle distinctions involved, we proceed in two steps, first
presenting the acceptable types of wh questions, and then showing that they are
felicitous in a special context only.

Complex wh phrases, i.e. DPs with a wh phrase as modifier such as duōshǎo
rén ‘how many people’ and shéi de xuéshēng ‘whose student’ are acceptable in
the postverbal position of the ExC:

(13) a. Lái -le / zǒu -le {duōshǎo rén /shéi de xuéshēng}?
   come-PERF/leave-PERF how.much person/who SUB student
   ‘{How many people/whose students} came/left?’
b. Lái -le / zǒu -le {shí ge rén / Lǐ lǎoshī de xuéshēng}.
   come-PERF/leave-PERF 10 CL person/Li professor SUB student
   ‘There came/left {ten people/Professor Li’s students}.’

As argued for in extenso by Pan (2011, 2014), in Chinese a nominal restriction
(here shéi de ‘whose’, duōshǎo ‘how much’) is sufficient to provide a restrictive
set for the wh variable, in contrast to English where ‘what NP’ is not considered
to be D-linked in the sense of Pesetsky (1987).
D-linking as a condition on wh questions also holds for the LoC with unaccusative verbs. Note, though, that in addition to complex wh phrases (cf. [14a]), bare wh phrases are likewise acceptable in postverbal position (cf. [14b]).

(14) a. Zhèlǐ zǒu -le duōshǎo rén?  
    here leave-PERF how.much person  
    ‘How many people left from here?’

b. Zuótiān de wǎnghù yǒu /lái -le shéi?  
    yesterday SUB party exist/come-PERF who  
    ‘Who was there at yesterday’s party? / Who came to yesterday’s party?’

The comparison of (14b) with the unacceptable (12a) above shows that it is the sentence-initial DP zuótiān de wǎnghù ‘yesterday’s party’ that constrains the search for values to be assigned to the wh variable to a restrictive set.

Importantly, when answering (14b), definite DPs are only acceptable as members of a list (cf. [15]). This is due to the Definiteness Effect otherwise holding for the ExC in Chinese (modulo some complications which cannot be discussed here for reasons of space), with list readings constituting an exception (cf. Huang [1987: 239] for detailed discussion).

(15) Yǒu /lái -le Lǐ láoshī, Zhāng láoshī, Wáng láoshī hé tāmen de xiānshēng.9  
    exist/come-PERF Li prof. Zhang prof. Wang prof. and 3PL SUB husband  
    ‘There were/came Prof. Li, Prof. Zhang, Prof. Wang and their husbands.’

That in case of a bare, hence non D-linked wh phrase it is the sentence-initial DP that provides a restrictive set for the wh variable (cf. [14b] above) is confirmed by the unacceptability of (16), where huóchēzhàn ‘train station’ is too general to act as restrictor.

(16) *Huóchēzhàn lái -le shéi?
    train.station come-PERF who

Finally, the LoC with non-unaccusative verbs likewise allows for a wh phrase (either explicitly or contextually D-linked) in the postverbal position:

9 (15) shows that like English (cf. Rando and Napoli 1978: 300–301), Chinese can use the ExC to assert the existence of a list; pace Hu & Pan (2007: 142) who postulate a “membership relation” of the postverbal DP with a presupposed set as an additional condition.
Let us now turn to the conditions under which these questions can be asked, using a LoC with a verb that is not unaccusative. For the question in (18b) below to be felicitous, a preceding assertion (cf. [18a]) is required, unless the existence of someone at the door is provided by the context (e.g. the speaker has seen some shadows and is therefore aware of someone standing in the entrance):

(18) a. A: Wǒ gānggāng jīnlái, ménkǒu zhàn-zhe jǐ ge rén.
   1SG just.now enter entrance stand-IMP several CL person
   ‘When I just came in, there were some people standing at the entrance.’

   b. B: Ménkǒu zhàn-zhe shéi/zěnmeyàng de rén?
      entrance stand-IMP who/what.kind DE person
      ‘Who/what kind of people is/are there standing in the entrance?’

The same constraint applies to the other cases of *wh* questions provided above. Accordingly, the question possibilities observed do not challenge the thetic nature of ExC and the LoC because these questions cannot be asked “out of the blue”. Instead, the questions can only be asked as a sequel to a preceding assertion or to a contextual indication of the existence of the situation at hand. In this respect, *wh* questions in Loc and ExC are still different from standard *wh* questions.

### 2.3 Wrap-up

Both the ExC and the LoC are thetic judgements in the sense of Kuroda (1972), i.e. they are “all new” or “broad focus”. That is the reason why they cannot serve as felicitous answers to a standard *wh* question with *shéi* ‘who’ in the subject position (SpecTP). Our brief discussion of *wh* questions in the ExC and LoC, an issue so far not systematically examined in the literature, shows them to be constrained in a way which is compatible with their thetic nature. The *wh* phrase must be D-linked; accordingly, a bare *wh* phrase is only acceptable when the choice from a pre-established set for the value to be assigned to the *wh* variable is provided elsewhere in the sentence. Finally, *wh* questions in the ExC and LoC require a preceding assertion or a contextual indication of the existence of the situation in order to be felicitous.
2.4 ‘PlaceP yǒu [exist] DP’ vs ‘PlaceP shì [be] DP’

Against this backdrop, it is evident that ‘PlaceP shì [be] DP’ is not a (variant of the) ExC ‘PlaceP yǒu [exist] DP’, in particular ‘PlaceP shì [be] DP’ does not convey a thetic judgement and accordingly, shì ‘be’ does not “permute” with yǒu ‘exist’ here. Unlike (19a), example (19b) with shì ‘be’ can not be uttered out of the blue (cf. Zhang 1996). The copula shì here as elsewhere establishes a relation of identity, leading to the interpretation of ‘At the place X there is (nothing but) N’ for bare nouns, whence the unfelicitousness of yǒu in (19c) (cf. Peyraube 1980: 267; [189–190], [193–194]):

(19) a. {Guīzi lǐ /Ø} yǒu shū.
   cabinet in exist book
   ‘There are books in the cabinet.’

b. {Guīzi lǐ /*Ø} shì shū.
   cabinet in/ be book
   ‘The cabinet is filled with books.’ (Lit.: ‘In the cabinet are books.’)

c. Mǎn shēn shì/? yōu tǔ.
   entire body be/ exist earth
   ‘His entire body is [covered with] dirt.’

Clearly, ‘PlaceP shì DP’ is not an ExC on a par with ‘(PlaceP) yǒu DP’, but an equational sentence, as also evidenced by the obligatoriness of the subject PlaceP with shì ‘be’ in (19b).

Finally, the use of the verb yǒu ‘exist’ in the ExC and LoC to the exclusion of the copula shì ‘be’ explains why in Chinese no parallel can be drawn with (pseudo-) cleft sentences, the latter requiring the copula shì plus the particle de (cf. Paul and Whitman 2008 for discussion and references). The situation in Chinese is therefore clearly different from inter alia Romance languages and English where the analysis proposed for (pseudo-) clefts has been extended to existential and locative structures (cf. Ramaglia and Frascarelli 2019), based on the presence of the copula ‘be’ in all of these constructions.

10 ‘Shì DP’ is grammatical under the analysis ‘[This/it] is DP’ with a null subject.
3 The existential construction

Besides the verb yǒu ‘exist’ – motivating the term ExC – only unaccusative verbs (uaV) are allowed in the ExC, to the exclusion of any other verb class. Furthermore, as mentioned in the introduction, the ExC does not require a PlaceP: ‘Ø yǒu/uaV DP’. In fact, these two properties will turn out to be the defining characteristics of the ExC and to distinguish it from the LoC.

Semantically, uaV in Chinese can be divided into the verbs broadly denoting (dis)appearance, which are all telic, on the one hand, and the set of atelic uaV, on the other, featuring inter alia the existential verb yǒu ‘exist’ and weather verbs (cf. Section 3.2 below).

3.1 Telic unaccusative verbs

In fact, all telic intransitive verbs in Chinese are unaccusative and can occur in the ExC (cf. Lu 2017; Lu and Lee 2018). (20a) and (21a) illustrate the ExC in a non-root context, i.e. a temporal or causal clause, respectively. For ExC as matrix clauses (cf. [20b], ([21b]), unless there is an anchoring of the event by the context (symbolized as Ø), either a temporal adverb or a PlaceP must be present in sentence-initial position:

(20) a. Lái-le / zǒu-le jǐ ge kèrén zhīhòu, wǒmen jiù kāishǐ come-PERF/leave-PERF several CL guest after 1PL. then start

sing song

‘After several guests had arrived/left, we started singing.’

b. {Ø/ [adv Gānggāng/[DP jiālǐ]} lái-le / zǒu-le sān ge kèrén. just.now / home come-PERF/leave-PERF 3 CL guest

‘There (just) arrived 3 guests (at home) /(just) left 3 guests (from home).’

(21) a. {Ø/[adject NP Qùnián/ [DP Nà ge dìqū]} sǐ-le xǔduō rén. last.year this CL area die-PERF many people

‘(Last year), there died many people (in this area).’

b. Yīnwèi sǐ-le xǔduō bìngrén, yǐyuǎnzhǎng jiù bèi because die-PERF many patient hospital.director then PASS tǐng zhǐ le. stop work SFP

‘Because many patients died, the hospital director was dismissed.’
The fact that besides a PlaceP, a temporal adverb (gānggāng ‘just now’, qùnián ‘last year’) can likewise anchor the event and that this is unnecessary in non-root contexts (cf. [20a], [21b]) confirms the absence of a PlaceP as a diagnostic criterion for the ExC. Because a LoC always requires a PlaceP, irrespective of the presence or absence of an adverb and of the type of context, root or non-root. (Cf. Sections 5 and 6.2 below for further discussion of the LoC.)

(22) a. [DP\(\text{place}\)] Xuéxiào ménkǒu zhàn-zhe yī ge jǐngchá.
   school entrance stand-IMP 1 CL policeman
   ‘At the school entrance is standing a policeman.’

b. *[\{adv Gānggāng]/Ø\} zhàn-zhe yī ge jǐngchá.
   just.now stand-IMP 1 CL policeman

c. Yīnwèi xuéxiào ménkǒu zhàn-zhe yī ge jǐngchá, lǎoshī
   because school entrance stand-IMP 1 CL policeman teacher
   jiù hěn dānxīn.
   then very worried
   ‘Because at the school entrance is standing a policeman, the teacher is very worried.’

d. *Yīnwèi {gānggāng/Ø} zhàn-zhe yī ge jǐngchá, lǎoshī jiù
   because just.now stand-IMP 1 CL policeman teacher then
   hěn dānxīn.
   very worried

Note that the PlaceP and the temporal adjunct NP can also co-occur, in either order:\(^{11}\):

(23) a. [TP \{PostP Mén qián \} \{adjunct NP jǐntiān\} kāi -le
   door in.front.of today open-PERF
   xūduō méiguīhuā.]
   many rose
   ‘In front of the door bloomed many roses today.’

b. [TopP \{adjunct NP jǐntiān\} [TP \{PostP mén qián \} kāi -le
   today door in.front.of open-PERF
   xūduō méiguīhuā.]]
   many rose
   ‘Today in front of the door bloomed many roses.’

\(^{11}\) Thanks to an anonymous reviewer for asking us to discuss this possibility. For the slight meaning differences resulting from the different orders, they reflect what Huang (1983: 58) calls “modificational scope”, i.e. differences in c-command relations, where the leftmost item is structurally higher than the item(s) to its right in Chinese. Also cf. Huang (1982), Tang (2001), Ernst (2002).
(24) a. $[TP \ [DP \ Nà \ ge \ diqù] \ [adjunct \ NP \ qùnián] \ sì \ -le \ xǐduō \ rén.]$
   ‘There died many people in this area last year.’

   b. $[TopP \ Qùnián \ [TP \ DP \ nà \ ge \ diqù] \ sì \ -le \ xǐduō \ rén.]$
   ‘Last year, there died many people in this area.’

Anticipating somewhat the results of Section 5 below demonstrating the PlaceP to occupy the subject position (SpecTP), this type of examples can be easily accommodated. When following the PlaceP, the adjunct NP clearly occurs TP-internally (cf. [23a], [24a]) and is either adjoined to the extended verbal projection or hosted in the specifier position of a dedicated functional projection below TP (cf. Cinque 1999). When preceding the PlaceP, the adjunct NP occupies a topic position in the left periphery. This ties in with the well-known general distribution of adjunct XPs, which are acceptable in three positions: topic position preceding the subject, and two preverbal TP-internal positions, either before or after the auxiliary (when present) (cf. Paul 2017 for further discussion and references):

(25) a. $[TopP \ {[adjunct \ NP \ Míngtiān]} \ [TP \ tā \ {míngtiān} \ huì \ {míngtiān} \ lái].$
   ‘He will come tomorrow.’

   b. $[TopP \ {[Adjunct \ PP \ Zài tūshūguān]} \ [TP \ ni \ {zài \ tūshūguān}]$
   ‘You can make photocopies in the library.’

12 In principle, we remain agnostic about whether adverbs are adjoined or rather hosted in the specifier of dedicated functional projections as in Cinque (1999). However, concerning our view of adverbs either preceding or following the subject (e.g. adjunct NPs and PPs such as qùnián ‘last year’, zài tūshūguān ‘in the library’ (cf. (23) – (25)), we consider the Subject position SpecTP as fixed and the adverbs as “mobile”. As far as we can see, this is not Cinque’s view, where instead the subject would raise (from ‘adverb subject’ order) so as to produce the ‘subject adverb’ order. Note that T° is always covert in Chinese (cf. Ernst 1994).

13 The different positions available for adjunct phrases again reflect the scope relations in Mandarin, where the leftmost item has scope over the items(s) to the right, as witnessed by (i) from Tang (2001: 218, [36]) where all the three positions are lexically filled:

(i) $[TopP \ {[adjunct \ NP \ Jīnián]} \ [TP \ wǒmen \ {[adjunct \ NP \ měi \ tiān]} \ dōu \ bǐxū$
   ‘This year, we all need to get up at 6 o’clock every day.’
Following Paul (2015: § 6.5, 244–248), we assume a left periphery with semantically unspecified recursive TopPs for Chinese, rather than a rigid hierarchy of subprojections (e.g. “scene setting” topics, “hanging” topics etc.) each of which is associated with a precise semantics, as in the cartographic approach (cf. Rizzi 1997, 2004; Benincà and Poletto 2004; Badan 2007; Bianchi and Frascarelli 2010). In particular, there is no evidence for ModP in the left periphery of Chinese (cf. Paul 2005), postulated by Rizzi (2004: 242, [60]) to host preposed adverbs below the focus projection and above the lowest topic projection, nor for a dedicated “scene setting” projection always located below the “hanging topic” projection (cf. Benincà and Poletto 2004).

3.2 Atelic unaccusative verbs

The foremost atelic uaV is yǒu ‘exist’:

(26) Yǒu yì zhī lǎoshū!14
    exist 1 CL mouse
    ‘There is a mouse!’

Weather verbs are likewise atelic, as evidenced by their compatibility with the adverb zhèngzài ‘in the process of’ (cf. [27b]) or with a QP indicating the duration of the event (cf. [27c]):

(27) a. {Xià yǔ / guā fēng} le.
    fall rain / blow wind SFP
    ‘Oh, it rains/the wind blows.’

    b. Zhèngzài {xià dà yǔ / guā dà fēng}.
    in.process fall big rain/blow big wind
    ‘It’s raining very heavily/a strong wind is blowing.’

    c. Xià yǔ xià-le sān tiān.
    fall rain fall-PERF 3 day
    ‘It rained for three days.’

In addition to yǒu ‘exist’ and weather verbs, atelic uaV also subsume verbs such as zēngjiǎ ‘increase’; being atelic, it is compatible with the progressive aspect zài:  

14 In the following, we will no longer systematically give a pair of the ExC in a root and a non-root context.
Stating the existence of uaV immediately raises the question of unergative verbs (ueV) as the second class of intransitive verbs. This issue requires a brief digression, because the diagnostics for ueV in Chinese are not the same as in e.g. English.\(^{15}\)

4 Necessary digression on *unergative verbs* in Chinese (cf. Lee et al. 2018)

English ueV such as *smile, sleep, dance* typically allow for *cognate objects* in “transitivizing” object constructions (Massam 1990: 163): *dance a dance, sleep a sleep* etc. At first sight, the same holds for Chinese: *shuì jiào* ‘(to) sleep sleep(N)’ = ‘to sleep’, *tiào wǔ* ‘(to) jump dance(N)’ = ‘to dance’ etc. However, in Chinese, cognate objects are *not* confined to intransitive verbs, but also occur with transitive verbs such as *chī* ‘eat’ and are then mutually exclusive with ordinary objects. Syntactically, they thus behave like Massam’s (1990: 164) *true cognate objects* in English: they must be case-licensed like ordinary objects (cf. the unacceptability of (29b), (30b)) and cannot be passivized, topicalized, questioned or pronominalized.

(28) Qùnián zài bùduàn zēngjiā bàngōngshì de miànjī.  
last.year PROGR continuously increase office sub area  
‘Last year, the office area increased continuously.’

(29) a. Tā zài chī fàn/ zài chī niúróumìjàn.\(^{16}\)  
3SG PROGR eat food/ PROGR eat beef.noodles  
‘She’s eating/eating beef noodles.’

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\(^{15}\) Based on the longitudinal production data of three Mandarin-acquiring children aged between 1;6 and 2;6, Lu (2017) found that two of the children only used uaV, but no ueV in the ‘(PlaceP) V DP’ structure, with 87% of these tokens in the ExC without a sentence-initial PlaceP. By contrast, the third child not only produced uaV, but also ueV in ‘(PlaceP) V DP’, 71% of which had no sentence-initial PlaceP. Importantly, ueV here were restricted to the unique verb *zǒu* ‘walk, move’. These findings, in combination with those by Lu and Lee (2018) and Lu (2019) are consistent with many other acquisition studies, demonstrating children’s early sensitivity to the unaccusative vs. unergative distinction across a wide range of languages (e.g. Italian, Dutch, Japanese, Hebrew) (e.g. Snyder et al. 1995; Randall et al. 2004; Sano 2000; Friedmann 2007).

\(^{16}\) In contrast to Tā zài chī fàn ‘She’s eating (food),’, the null object in (i) refers to a definite DP:

(i) Tā zài chī.  
3SG PROGR eat  
‘She’s eating it.’
b. *Tā zài chī [fàn] [niúròumiàn].
   3SG PROGR eat food beef.noodles

(30) a. Tā zài kàn shū / zài kàn yīngwén bāozhì
   3SG PROGR see book/ PROGR see English newspaper
   ‘She’s reading/ reading an English newspaper.’
b. *Tā zài kàn [shū] [yīngwén bāozhì].
   3SG PROGR see book English newspaper

From a semantic point of view, cognate objects in Chinese pattern with Hale and Keyser’s (2002: 71) hyponymous objects where the verb identifies the complement sufficiently to make the object predictable (cf. [31]), hence our choice of the term (hyponyms of) cognate objects.17

(31) a. He danced a jig.
   b. He bagged the potatoes in a gunnysack.

Given that in Chinese, (hyponyms of) cognate objects are not confined to intransitive verbs, they cannot serve as a diagnostic criterion for ueV. We therefore propose to consider as unergative only those intransitive verbs with a unique external argument that systematically lack (hyponyms of) cognate objects: chāndòng ‘vibrate’, gōngzuò ‘work, guì ‘kneel’, huáxíng ‘glide’, huàng ‘sway’, hūxī ‘breathe’, nào ‘make noises’, jiào ‘shout, yell, make noise (of animals such as dogs, horses, pigs etc.)’, kēsōu ‘to cough’, kū ‘cry’, ǒūtū ‘vomit’, pā ‘crawl’, piāo ‘float’, tāng ‘lie’, yóu ‘swim’, xiào ‘laugh’, zhàn ‘stand’, zuò ‘sit’ etc. By contrast, VPs such as pǎo bù ‘run step’ = ‘to run’, tiào wǔ ‘jump dance(N)’ = ‘to dance’, shuì jiào ‘sleep sleep(N)’ = ‘to sleep’ etc. are excluded.

The inclusion of unergative V° only, to the exclusion of unergative VPs, is necessary not only for the comparison of ueV with uaV in Chinese, which never take (hyponyms of) cognate objects, but also for guaranteeing the tertium comparationis indispensable for cross-linguistic studies.

The (non-exhaustive) list of ueV given above is important because the existence of unergative V° in Chinese is often doubted, probably because most studies concentrate on and are side-tracked by the fact that the Chinese equivalents of some ueV in English such as sneeze, hiccup turn out to be VPs, not V°

17 We borrow the term (hyponyms of) cognate object from Haselbach (2018). In Chinese linguistics, these are indistinctly referred to as cognate objects (cf. a.o. Chao 1968: 312).
(cf. among others Huang and Roberts 2016: 328), as evidenced by the position of the perfective aspect -le:

(32) a. Tā dǎ {[NP pěntì] / [NP gé ]} dǎ -le
   3SG strike sneeze[N] / hiccup[N] strike-PERF
   yī fēnzhǒng.
   1 minute
   ‘He sneezed/hiccupped for a minute.’

   3SG strike sneeze/hiccup -PERF 1 minute

Given that -le must be suffixed to the verb, only (32a) is acceptable, but not (32b), where -le is merged with the VP. (For extensive discussion of verb copying illustrated in [32a], cf. C.-T. James Huang 1982; Paul 1988). Importantly, the verb dǎ ‘strike’ itself is not unergative, but transitive, selecting pěntì ‘sneeze’ and gé ‘hiccup’ as object. Accordingly, these VPs translating into unergative verbs (V°) into English cannot be included in the class of ueV qua verbal heads.

5 The locative construction: Evidence for merging the PlaceP in subject position

This section discusses the differences between the LoC and the ExC. It also provides extensive evidence that the sentence-initial PlaceP in the LoC occupies the subject position (SpecTP), not a topic position and that it is merged there, not moved, thus motivating our label locative construction rather than locative inversion.

5.1 Defining properties of the locative construction

Recall that in the LoC, a PlaceP is obligatory in sentence-initial position (cf. [33–35]). This PlaceP is either an inherently locative DP (such as jiālǐ ‘home’, xuéxiào ‘school’, ànbiān ‘river bank’ and place names) or a locative PostP (such as shù xià ‘tree under’, zhuōzi shàng ‘table on’) and occupies the subject position, as to be demonstrated in the remainder of this section.

In addition to uaV (cf. Section 3 above), ueV (e.g. pá ‘crawl’, zuò ‘sit’, zǒu ‘move (of vehicles)’) and (di-)transitive placement verbs (e.g. fàng ‘put’, guà ‘hang’) are allowed here. For the latter, it is the theme that is realized as the DP in postverbal position, i.e. within the verbal projection. (For additional
The VP-internal position of the postverbal DP in the ExC and LoC is a direct consequence of the systematically right-branching directionality viz systematic head-initiality of the extended verbal projection and the general exclusion of adverbs in postverbal position, as argued for in all syntactic studies since C.-T. James Huang’s (1982) doctoral thesis (cf. the discussion on this point in Paul 2015: section 2.2.1). Huang (1987: 232) therefore explicitly excludes any “subject inversion” in the ExC and Loc and assumes the postverbal DP to remain in its base position.  

18 When the DP occurs preverbally in SpecTP (cf. [7b] above), it raises from its VP-internal position, as any other subject. For reasons of space, we cannot discuss the associated Definiteness Effect (DE) here. For an in-depth investigation of the DE, cf. C.-T. James Huang (1987), who – according to his own words – considers it as “inconclusive” (p. 250), too many different factors being involved here.

19 Thanks to an anonymous reviewer for drawing our attention to this fact. S/he referred us to Gu (1991), who in turn credits Huang (1989) for this observation; however, we could not find the relevant passage in Huang (1989) nor in his other ExC-related studies (i.e. Huang 1987, 1988).
(36) a. \{Ménkǒu/*Ø\} zhàn-zhe shéi?
   entrance stand-IMP who
   ‘Who is there standing at the entrance?’
b. (Ménkǒu) zhàn-zhe jǐ ge xuéshēng.
   entrance stand-IMP several CL student
   ‘There are several students standing (at the entrance).’

(37) Wūzi lǐ zhàn-zhe shí ge rén, Ø yě zuò-zhe shí ge rén.
   room in stand-IMP 10 CL person also sit-IMP 10 CL person
   ‘There are ten persons standing in the room, and there are also ten persons sitting.’

(38) Mǎbèi shàng qí -zhe yī ge nánhái, Ø yě qí -zhe yī ge nǚhái.
   horse.back on ride-IMP 1 CL boy also ride-IMP 1 CL girl
   ‘There is a boy riding on the horse, and there is also a girl riding.’

Importantly, the covert and the overt PlaceP have the same reference, i.e. in e.g. (38), the boy and the girl are riding on the same horse. In this respect, the null PlaceP behaves like a (pronominal) null subject.

It is the obligatory presence (overt or covert) of the PlaceP in the LoC that straightforwardly challenges an analysis of the PlaceP as a topic. Because it is well-known that the topic position in Chinese does not need to be filled, notwithstanding its often cited “topic prominence”. (For a more fine-grained view of this concept, cf. Paul and Whitman 2017.)

5.2 Wh question with nǎlǐ ‘where’

Another important argument in favour of locating the PlaceP in the subject position is the possibility to question it with nǎlǐ ‘where’ (cf. [39a], [40a]). This contrasts with the unacceptability of nǎlǐ ‘where’ in topic position (cf. [39b], [40b]):

(39) a. \[TP Nǎlǐ yǒu xiǎoshuō]\?
   where exist novel
   ‘Where are the novels?’ (Context: entering a bookshop)
b. *\[TopP Nǎlǐ \[TP nǐmen yǒu xiǎoshuō]\]?
   where 2PL have novel
(40) a. \[TP Nǎlǐ lái-le kèrén?\]
   \[\text{where come-PERF guest}\]
   ‘Where did guests arrive?’

b. \[*_{TopP} Nǎlǐ [TP kèrén lái-le ]]?\]
   \[\text{where guest come-PERF}\]

Note that both (39b) and (40b) are well-formed without the wh phrase in topic position.

5.3 The general ban on PPs in subject position

The two observations above constitute further evidence for the general consensus in the literature that the PlaceP in the LoC occupies the subject position, not a topic position. While C.-T. James Huang (1987) and Hu and Pan (2007: 133) base-generate the PlaceP in the subject position, Li (1990: 117–121) raises the PlaceP there, after movement of the argument DP to the postverbal position\(^2\); Wu (2008: 68) only adopts the raising of PlaceP to SpecTP part. Note, though, that Huang (1987: 229), Li (1990) and Wu (2008: 62) (mis-)analyse PostPs as locative DPs, with the postpositions as noun-like “localizers” (also cf. Huang et al. 2009: section 1.1.2); this allows them to exclude PPs in the subject position of LoCs (cf. [41a-c]) due to their non-nominal, adpositional nature:

(41) a. \[PostP Chuáng shàng] / \[*_{PP} zài [Post chuáng shàng]] tǎng-zhe\]
   \[\text{bed on at bed on lie -IMP}\]
   yǐ ge bìngrén.
   1 CL patient
   ‘On the bed is lying a patient.’

b. \[PostP Shù dǐxià] / \[*_{PP} zài [PostP shù dǐxià]] zhàn-zhe\]
   \[\text{tree under at tree under stand-IMP}\]
   liǎng ge xiǎohái.
   2 CL child
   ‘Under the tree are standing two children.’

\(20\) This raised PlaceP is a PP, whose head, however, “does not appear”. No explanation is given, but the preceding discussion seems to imply that this is due to the subject position being a case position: “The locative can then take advantage of this configuration [where the subject position is empty; P/L/L] and move to subject position; the preposition thus does not appear.” (Y.-H. Audrey Li 1990: 139). Cf. the explanations of the structure (46) below for further discussion.
On the wall is hanging a hat.

The situation is, however, more complex, and cannot be reduced to a ban on non-nominal subjects. As extensively argued for in Djamouri et al. (2013), Chinese does not only have prepositions, but also postpositions. Importantly, PostPs are perfectly acceptable as subjects of adjectival predicates (cf. [42] – [43]) and copular predicates (cf. [44–45]), in addition to their being subjects in the LoC.22 By contrast, PPs are banned from the subject position in general (cf. [42–45]), not only in the LoC23:

(42) a. \([\text{PostP } Wūzī lǐ] / [\text{Prep } zài] [\text{PostP } wūzī lǐ ]\) hěn gānjīng.

room in at room in very clean

‘It is clean in the room.’

b. \([\text{PostP } Lúzī qián ] / [\text{Prep } zài ] [\text{PostP } lúzī qián ]\)

stove in.front.of/ at stove in.front.of

hěn nuānhuo.

very warm

‘It is warm in front of the stove.’

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21 As already observed by Y.-H. Audrey Li (1990: 152, footnote 14) and Tan (1991: 148), some speakers accept (41a–c) with PPs. Importantly, the analyses concur that the sentence-initial PP then occupies a topic position in the left periphery: \([\text{TopP } \text{PP } \text{TP } \text{Ø } \text{V } \text{DP} ]\), not the subject position (also cf. Djamouri et al. 2013). Note that the same native speakers who accept PPs in (41a–c), reject a LoC without any PlaceP in sentence-initial position.

22 Thanks to Roberto Zamparelli (p.c.) for urging us to illustrate the acceptability of PostP-subjects elsewhere than in the LoC only.

23 This likewise holds for wh PPs in the LoC (cf. [i]), and contrasts with the acceptability of a wh PP in the post-subject preverbal adjunct position:

(i) \(*zài\) Nār zuò-zhe xuēshēng? (Tan Fu 1991: 149, [33a-b])

at where sit -IMP student

‘Where are the students sitting?’

(ii) \([\text{TP } Xuēshēng ] [\text{Prep } zài ] nār ] zuò-zhe ]?

student at where sit -IMP

‘Where do the students sit?’
The main difference between prepositions and postpositions is that postpositions on their own are unable to license the case of their complement.\(^\text{24}\) As a consequence, the complement moves to the specifier position where its case is checked by T\(^\circ\) for subject-PostPs, illustrated here for the LoC\(^\text{25}\):
By contrast, in PPs the case feature of the DP complement is checked within the PP projection, and is unavailable to check the case feature of T, whence their unacceptability in subject position.

As pointed out in Djamouri et al. (2013: 90), this analysis highlights an important difference between the Chinese and the English LoC. In English, the sentence-initial PP in locative inversion is held to check the EPP feature of T, whereas the case and other phi features of T are checked by the postverbal DP (cf. Collins 1997). In Chinese, however, the PostP subject checks both the EPP, and indirectly through its complement, the case feature of T. It is tempting to speculate that this difference may be related to the absence of elaborated phi-features (person, number, gender, morphological case) in Chinese; this in turn may be related to a reduced role for Agree targeting phi features.

5.4 The systematic lack of a “source structure” with the PlaceP in postverbal position

Having established that the PlaceP occupies the subject position, we still need to demonstrate that it is merged there rather than raised from a postverbal position, as assumed in the standard cases of locative inversion: “locative inversion as discussed here is when a canonically S-V-O-(LOC) language inverts a locative phrase in discourse-appropriate contexts, resulting in a LOC-V-S word order.” (Diercks 2017: 1–2):

In fact, in Chinese there is simply no “corresponding” structure for the LoC with the identical PlaceP in postverbal position and the theme DP in preverbal position (cf. [47b], [48b]). Instead, the verb must combine with the verb zài ‘be at’ to form a V-V compound, which can then c-select the PlaceP as its argument.26

(47) a. [PostpP Zhuōzì shàng] fāng-le hěn duō shū
table on put -PERF very much book
‘On the table are lying many books.’
b. *Hěn duō shū fāng-le [PostpP zhuōzì shàng]
very much book put -PERF table on

Given that Chinese systematically lacks a corresponding structure with the identical PlaceP in postverbal position, Culicover & Levine’s (2001) test for the subjecthood of the PlaceP in English light inversion cannot be replicated for Chinese:

(49) a. *Into every dog’s cage its owner peered. (Topicalization, WCO)
    b. Into every dog’s cage peered its owner. (Locative inversion, no WCO)

(Culicover and Levine (2001: 289; [14a-b]))

Since in (49b) no WCO effects are observed for the movement of the PlaceP over the co-indexed theme DP, Culicover and Levine (2001) conclude that the PlaceP occupies an A-position, viz. the subject position. (For possible complications associated with WCO effects as diagnostics, cf. Dierck 2017).

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27 The verb status of zài in the ‘V-zài’ compound is evidenced by the necessity for the perfective aspect suffix -le to combine with, hence follow the entire verbal compound (cf. Lü 2000 [1980]). This excludes an analysis of zài as the (homophonous) preposition zài ‘at’.

(i) *Hěn duō shū [\([V^0\ [V_1 \ fàng\ ]-[V_2 \ zài]\]\)-le]
   very much book put be.at-PERF
\[\text{[PostpP } zhuōzi \ shàng]\]
   table on

‘Many books are lying on the table.’

Accordingly, the postverbal PlaceP in examples (47) – (48) is a PostP, not a zài-PP.

28 Thanks to an anonymous reviewer for extensive discussion of this point.
5.5 Intermediate summary

Based on the general agreement in the literature that the PlaceP in the Chinese LoC only shows A-properties, not A-bar properties, this section has provided additional evidence that the PlaceP occupies the subject position SpecTP, not a topic position in the left periphery.

First, the obligatory character of the PlaceP in the LoC would be difficult to maintain if the PlaceP were a topic, given the general non-obligatoriness of a constituent in TopP in Chinese, notwithstanding its often cited “topic prominence” (cf. Paul and Whitman 2017). Second, a topic-analysis of the PlaceP seems incompatible with the status of the LoC as a thetic judgement, i.e. the recognition of an event in one single act, insofar as a ‘topic comment’ sentence clearly implies a bipartitioning. Third, unlike topics, the PlaceP in the LoC can be questioned by nǎlǐ ‘where’. Fourth, against this backdrop, the unacceptability of PPs as PlaceP in the LoC can be explained by the general ban against PPs in subject position.

This result highlights interesting differences between Chinese and English. The possibility of PP and CP subjects of the copula in English suggests that T with copular predicates need not bear a case feature. The facts that we have discussed suggest that this is not the case in Chinese: while PPs are in general excluded from the subject position, PostPs are perfectly acceptable as subjects in copular sentences, on a par with DPs.

Identifying the subject position as (final) host for the PlaceP has also been proposed for English in what Culicover and Levine (2001) call light inversion (LI). More precisely, LI is one of the two subtypes often conflated under the same label “locative inversion” or “stylistic inversion”, the other being Heavy Inversion (HI). In LI, the postverbal DP is licensed VP-internally (as in Chinese), and the PlaceP is raised to the subject position (unlike Chinese). In HI, by contrast, the PP is topicalized; the heavy DP passes through the subject position at some point of the derivation and is subsequently postposed to the right edge of the VP.

Given the principled lack of a source structure with the PlaceP in postverbal position in Chinese, we have in a second step argued that the PlaceP must be merged in the subject position, not moved there. Importantly, Chinese is not the only language where no raising of the PlaceP to SpecTP is postulated; Zeller (2013) adopts a similar analysis for the LoC in Zulu. He also explicitly mentions the possibility of pro drop in the LoC (with the null subject interpreted as the PlaceP) as argument for the subject status of the PlaceP in Zulu, in addition to the well-known noun class agreement between the PlaceP and the verb in Bantu languages in general (cf. Bresnan and Kanerva 1989; Bresnan 1994). Another central ingredient
of our analysis, i.e. the VP-internal position of the postverbal DP in the Chinese LoC, is likewise well-established in the literature on the LoC in Bantu languages.

This brief discussion clearly indicates that locative inversion is not a unitary phenomenon crosslinguistically. Inter alia, there seems to be a divide between languages allowing PPs as PlaceP (English and the Romance languages) and those excluding them (Chinese and some of the Bantu languages). Accordingly, the analysis of the LoC in Italian where Ramaglia and Frascarelli (2019) uniformly show the PlaceP to be in topic position, cannot hold in general.

6 Two types of locative constructions

Before discussing the further subdivision of the LoC in Chinese, we would like to briefly recap the results obtained so far. We have established that the ExC ‘Ø V DP’ is a diagnostic context for uaV in Chinese whose unique internal argument is merged and case licensed VP internally. In this respect, it is parallel with Culicover and Levine (2001) LI in English, modulo the optionality of the PlaceP in the Chinese ExC. The Chinese LoC, by contrast, requires a PlaceP and is not restricted to uaV.

In fact, two types of LoC need to be distinguished, viz. in terms of aspect marking (perfective -le vs imperfective -zhe) and verb classes, i.e. ‘PlaceP V-le DP’ and ‘PlaceP V-zhe DP’. While there are semantic differences, their syntactic analysis is the same, i.e. the PlaceP occupies the subject position and the postverbal DP the VP-internal object position. Both types have been described in quite some detail by Chinese grammarians (cf. Lü 2000 [1980]; Li 1986 among others), who in particular noted the many verb classes allowed here, thus de facto already ruling out the LoC as a diagnostic context for uaV. ‘PlaceP V-zhe DP’ requires some special attention since Pan (1996) postulated it as the Chinese equivalent par excellence of English locative inversion à la Bresnan and Kanerva (1989), i.e. prior to Culicover & Levine’s (2001) distinction between LI and HI.

6.1 ‘PlaceP V-le DP’

Given their acceptability in the ExC, telic (cf. ([50a])) and atelic uaV (cf. [50b])) are likewise acceptable in the presence of a PlaceP:

(50) a. {DP jǐālǐ}/ Ø lái -le / zǒu -le sān ge kèrén.
    home come-PERF/leave-PERF 3 CL guest
    ‘There arrived/left 3 guests at/from home.’
Further verb classes allowed here are posture ueV (cf. [51]) and ditransitive placement verbs (cf. [52a-b]), both excluded from the ExC (indicated here as the option without a PlaceP):

(51) {PostP Shù xià */Ø} zuò-le /guì-le yi ge nánhái.
‘Under the tree has sat down/has knelt down a boy.’

(52) a. {PostP Zhuōzi shàng */Ø} fàng-le hěn duō shù
‘On the table have been put many books.’

b. {PostP Qiáng shàng */Ø} guà-le yī fù yóuhuà
‘On the wall has been hung an oil painting.’

Concerning ditransitive placement verbs, unlike in the LoC with ‘V-zhe’ (cf. Section 6.2 immediately below), the postverbal theme DP in the LoC with ‘V-le’ is understood to be at the PlaceP due to the prior action of an agent, hence the possibility of an associated state-of-change interpretation (cf. Djamouri and Paul 2018 and references therein). This explains the unfelicitous character of (53) with -le when wanting to state that the Guernica is located in the Prado:

(53) Pǔlāduō bówùguān guà (#-le)/-zhe Bǐjiāsuō de Guernica.
Prado museum hang -PERF/-IMP Picasso SUB Guernica
‘In the Prado #has been hung/ is hanging Picasso’s Guernica.’

(54) a. Zhānlān de diyī tiān, bówùguān jià shàng fàng-le
exhibition SUB first day museum shelf on put -PERF
huángdì de yǔxī.
emperor SUB seal
‘On the first day of the exhibition, on the museum shelf has been placed the emperor’s seal.’

b. Bówùguān jià shàng fàng-zhe huángdì de yǔxī.
museum shelf on put -IMP emperor SUB seal
‘On the museum shelf is placed the emperor’s seal.’
The implicit presence of an agent with ditransitive placement V-le is also evidenced by the acceptability of purposive clauses and agent-oriented adverbs:\footnote{29}

(55) *Wèile fāngbiàn dúzhě cānkāo,*
in order to facilitate reader consult
\(\text{[PostP shū hòu fù-le \/*-zhe xiāngxì de shūmù].} \)
book after add-PERF/-IMP detailed SUB bibliography
‘In order to make it easier for the reader to consult (the book), at the end of book has been added a detailed bibliography.’

(56) \(\text{[PostP Dì shàng bǔxiāoxīn sā-le \/*-zhe hěn ground on unintentionally spill-PERF/-IMP very duō shuǐ, xíngrén láiwǎng dōu bǐxū shīfēn dāngxīn. much water passer.by come.go all must very careful ‘On the ground has been unintentionally spilled a lot of water. All the passers-by have to be very careful.’} \)

As we will see immediately below, the LoC with V-zhe displays different semantic properties.

\footnote{29} The *implicit presence* of an agent must be distinguished from “argument dropping” as proposed by Pan (1996: 424), for whom “PlaceP V-le DP” does not illustrate a LoC, but a SVO sentence with a null (agent) subject and the PlaceP in a topic position: ‘PlaceP [pro V-le theme-DP]’. This is, however, not correct, as indicated by the contrast in (i) and (ii), unexpected under his proposal:

(i) \(\text{[TopP PostP Hēibān shàng] [TP ta xiě-le sān ge zì blackboard on 3SG write-PERF 3 CL character}\)}
\(\text{(\{PP zài yòubiān\}).]}\)
\(\text{at right.side ‘On the blackboard, he wrote three characters (on the right side).’} \)

(ii) \(\text{[TP PostP Hēibān shàng] xiě-le sān ge zì (*\{PP zài yòubiān\}). blackboard on write-PERF 3 CL character at right.side ‘On the blackboard have been written three characters (on the right side).’} \)

In addition, no such “argument dropping” can be claimed to occur in the LoC with -le for uaV and ueV (cf. [50] above).
6.2 ‘PlaceP V-zhe DP’

Concerning uaV, evidently only atelic uaV are compatible with imperfective -zhe. Crucially, when suffixed with -zhe, even uaV require a PlaceP, contrasting with their acceptability in the ExC (where they are either suffixed with perfective -le or bear no aspect suffix at all). In other words, V-zhe is confined to the LoC:

\[(57) \ a. \ \{Wàibīan/\*Ø\} \ xià-zhe \ yī \ chǎng \ dà \ yǔ.\]
\[
\text{outside fall-IMP 1 CL big rain}
\]
\[
\text{‘Outside is falling a heavy rain shower.’}
\]
\[
b. \ \{Zhuōzi \ sháng/\*Ø\} \ tóngshí \ zhuàn-zhe \ jī \ ge \ tuóluó.\]
\[
\text{table on simultaneously spin -IMP several CL top}
\]
\[
\text{‘On the table are spinning several tops.’}
\]

The already mentioned lack of an implicit agent for ditransitive placement verbs in the LoC with V-zhe is further illustrated in (58a-b):

\[(58) \ a. \ Tiān \ shàng \ guà -zhe/\*le \ yī \ lùn \ míng \ yuè.\]
\[
\text{sky on hang-IMP/-PERF 1 CL bright moon}
\]
\[
\text{‘In the sky hangs/has been hung a bright moon.’}
\]
\[
\text{(Hu Wenze 1995: 106, [34]; slightly changed)}
\]
\[
b. \ Xìxì \ de \ zhītiáo \ shàng \ guà -zhe/\*guà -le \ lǔsè \ de \ shìzi.\]
\[
\text{thin SUB branch on hang-IMP/hang-PERF green SUB persimmon}
\]
\[
\text{‘Green persimmons hung from thin branches.’ (Jaxontov 1988: 132, (78))}
\]
\[
\text{‘On thin branches are hanging/have been hung green persimmons.’}
\]
\[
\text{(our translation)}
\]

Accordingly, agent-oriented and activity-related adverbs are unacceptable here:

\[(59) \ a. \ \{Wàibīan/\*Ø\} \ xià-zhe \ yī \ chǎng \ dà \ yǔ.\]
\[
\text{outside fall-IMP 1 CL big rain}
\]

30 Recall that the presence of a temporal adjunct NP in sentence-initial position instead of a PlaceP is insufficent in the LoC:

\[(i) \ \*Xiànzài \ xià-zhe \ yī \ chǎng \ dà \ yǔ\]
\[
\text{now fall-IMP 1 CL big rain}
\]
(59) *Zhuòzi shàng gùyì /mànmànde fàng-zhe yī běn shū.
   table top on.purpose/ slowly put -IMP one CL book
   (‘A book was put on the table on purpose/slowly.’)
   (Pan Haihua 1996: 430, [60]; his glosses and translation)

Pan (1996) cites (59) as argument for the suppression of the agent role as a morphological operation associated with -zhe, an operation exclusively applying in the LoC ‘PlaceP V-zhe DP’ with accomplishment verbs (our ditransitive placement verbs) such as fàng ‘put’. This “zhe operation” reduces the theta grid <agent, theme, location> to <theme, location> (cf. Pan 1996: 428: [57]; for a critical appraisal, cf. a.o. Lin 2002, Wu 2008; Zhang 2008).

However, as observed by Li (1986: 75), non-placement transitive verbs can likewise occur in the LoC with V-zhe, where, as he emphasizes, the postverbal DP is precisely not a theme, but an agent:

(60) a. Běimén shàng shǒu -zhe yī ge lián.
    Northern.Gate on guard-IMP 1 CL company
    ‘At the Northern Gate a company keeps guard.’

b. Mǎbèi shàng qí -zhe yī ge nánhái.
   horse.back on ride-IMP 1 CL boy
   ‘On the back of the horse is riding a boy.’

c. Shǒushūshì ménkǒu dēng-zhe sān míng jiāshū.
   operation.room entrance wait-IMP 3 CL family.member
   ‘At the entrance to the surgery are waiting three family members.’

If we now check the acceptability of agent-oriented, activity-related adverbs, we see that notwithstanding the overt presence of the agent, they are again banned form the LoC with -zhe (cf. [61b], [62b]), while acceptable in the corresponding SVO sentences (cf. [61a], [62a]):

(61) a. Jī ge lián zài zhūdòng shǒu běimén.
    several CL company PROGR own.accord guard Northern.Gate
    ‘Several companies guard the Northern Gate of their own accord.’

31 In addition, this agent suppression is said to only apply in non-stative sentences, for it is not observed in SVO sentences with the progressive aspect zài, hence claimed to be stative by Pan (1996: 427–428):

(i) John zài huà -zhe yī ge yuán (Pan Haihua 1996: 428, [54])
    John PROGR draw-IMP 1 CL circle
    ‘John is drawing a circle.’
b. Běimén shàng (*zhǔdòng) shōu -zhe yī ge lián.
Northern.Gate on own.accord guard-IMP 1 CL company
‘At the Northern Gate several companies keep guard (of their own accord).’

(62) a. Jī gé wàiguórén mǎnlǐānxìàoróngde [v qí -zài ]
several CL foreigners all.smiles ride-be.at
mǎ běi shàng.32
horse back on
‘Several foreigners are riding all smiles on horseback.’
b. Mǎ běi shàng (*mǎnlǐānxìàoróngde) qí -zhe
horse back on all.smiles ride-IMP
jī gé wàiguórén.
several CL foreigners
‘On horseback are riding (all smiles) several foreigners.’

(63) a. Sān mín jiāshū zài shōushūshì měnkōu xīnbūzàiýände
3 CL fam.member at surgery entrance absent-minded
dēng yīshēng.
wait doctor
‘Three family members are waiting absentmindedly for the doctor at the
surgery entrance.’
b. Shōushūshì měnkōu (*xīnbūzàiýände) dēng-zhe sān mín
surgery entrance absent-minded wait-IMP 3 CL
jiāshū.
family.member
‘At the surgery entrance are waiting (absent-mindedly) three family
members.’

Tan (1991: 132) states the same phenomenon for the LoC with posture ueV:

(64) a. Shí ge rén {bīngpái / jīnzhāngde} [zhàn-zài] wūlǐ.
10 CL person side.by.side/ nervously stand-be.at room
‘Ten people stand nervously/side by side in the room.’
(Tan Fu 1991: 132; [9-10])

32 Recall from the discussion of example (47c) above that ‘V-zài’ is a verbal compound with the
verb zài ‘be at’ as its second member.
b.  Wūlǐ {bìngpái /*jīnzhāngde} zhàn-zhe shí ge rén.
   room side.by.side/ nervously stand-IMP 10 CL person
   'In the room are standing side by side/nervously ten people.'

As in examples (60–63), (64b) has an overt agent (viz. the unique argument of the
ueV zhàn ‘stand’), “despite” the presence of -zhe. The unacceptability of the
adverbs jīnzhāngde ‘nervously’, xīnbùzàyàn ‘absent-mindedly’ etc. can there-
fore not be due to any agent suppression operation.\footnote{33} Instead, the correct
generalization is rather that activity-related adverbs are excluded in the LoC
with -zhe, because this construction conveys a situation, a state, rather than an
(agent-controlled) activity. This is confirmed by the acceptability of adverbs such
as bìngpái ‘side by side’ in (64b) referring to a state.\footnote{34} This again challenges Pan
(1996: 427) scenario of the agent deletion operation associated with -zhe as
prerequisite for the LoC, with “agent deletion deriv[ing] an unaccusative
predicate”.

\subsection*{6.3 Interim summary}

The two types of LoC differ with respect to the range of verb classes allowed and
the semantics involved. The LoC with V-le allows for telic and atelic uaV,
posture ueV (contrasting with ueV of the type gōngzuò ‘work’, xiào ‘laugh’
etc.) and ditransitive placement verbs, the agentive semantics of the verbs
being conserved. The LoC with V-zhe allows for the same range of verbs, modulo
the exclusion of telic uaV (incompatible with imperfective –zhe) and the inclu-
sion of transitive non-placement verbs (e.g. děng ‘wait’). Unlike the LoC with
V-le, the LoC with -zhe conveys a situation, a state, as evidenced by the
unacceptability of activity-related adverbs. Importantly, neither the LoC with
V-le nor the LoC with V-zhe can serve as a diagnostic for verb classes, be they
uaV or ueV.

\footnote{33} Pan (1996: 411; 427) incorrectly classifies the posture ueV zhàn ‘stand’, zuò ‘sit’ etc. as uaV;
since uaV have no agent, so his reasoning, the agent suppression operation associated with -zhe
simply does not apply here.\footnote{34} Tan (1991) relates the unacceptability of jīnzhāngde ‘nervously’ in (64b) to the non-subject
status of shí ge rén ‘ten persons’, hence incapable of “controlling” the adverb. She accordingly
has difficulties to explain why bìngpái ‘side by side’ is acceptable.
7 Conclusion

Having teased apart the ExC ‘Ø V DP’ and the LoC ‘PlaceP V DP’ allows us to use the acceptability in the ExC as a diagnostic for uaV. By contrast, the LoC admits a wide range of verb classes, including inter alia a subset of ueV. Within the LoC, two types need to be distinguished: ‘PlaceP V-le DP’ and ‘PlaceP V-zhe DP’. They have in common, though, that the PlaceP is merged in the subject position (SpecTP), not moved there, as is the case in English “light” locative inversion.

A topic position in the left periphery as host for the PlaceP is excluded for several reasons. First, the obligatory character of the PlaceP in the LoC would be difficult to maintain if the PlaceP were a topic, given the general non-obligatoriness of a constituent in TopP in Chinese, notwithstanding its often cited “topic prominence”. Furthermore, unlike topics, the PlaceP in the LoC can be questioned by nàlı ‘where’. Against this backdrop, the unacceptability of PPs as PlaceP can be explained by the general ban against PPs in subject position (contrasting with their acceptability in a topic position).

Locative DPs and PostPs, by contrast, are acceptable as subjects in the LoC as well as with copular and adjectival predicates. Following Djamouri et al. (2013), the asymmetry between PPs and PostPs visible here is linked to the general dichotomy in Chinese between head-initial and head-final projections, the latter not being able to case-license the complement on their own.

Finally, our analysis of Chinese adds to the studies on typologically diverse languages showing that equivalents of so-called “locative inversion” in English do not involve a unitary phenomenon.

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