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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, Haihua. 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 DP[1]:

(1) *Zhuōzi shàng fàng-zhe shu.*[2]
    table   on   put -IMP book
    'There are books lying on the table.'

(2) *Huāyuán lǐ yǒu sōngshǔ.*
    garden   in exist squirrel
    'There is a squirrel in the garden.'

(3) *Yuǎnchù lái -le jǐ tiáo xiǎo chuán.* (Lü Shuxiang 2000: 345;
    far.away come-PERF several CL small boat   slightly modified)
    '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 Chicheŵa (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) {*Zhuōzi shang/*Ø*} *fàng-zhe shu.*
     table   on   put -IMP book
    '{On the table/*Ø} are lying books.'

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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) (*Yuǎnchù*) *lái -le   jǐ   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

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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).[4]

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?'. Dragunov (1960 [1952]: 123, § 98, footnote 1) to a certain extent anticipates Kuroda's (1972) dichotomy. He characterizes the ExC in (7a) as a "monopartite" sentence (cf. Kuroda's "recognition of an event *in one single act*"), which can only be questioned by 'What happened?'; accordingly, (7a) is unfelicitous as an answer for 'Who came?'. This contrasts with a "bipartite" sentence of the form 'SVO' in (7b), (cf. Kuroda's categorical judgement involving *two acts*) which can serve as an answer to the question '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])[5]:

(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".[6] 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.'

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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. *Wǒmen   děng-le   bàntiān,   tàiyang cái   chūlái/*
      1PL　　　 wait -PERF long.time sun　 only come.out
     # cái   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[7]

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)?*[8]
      happen -PERF what matter
      'What happened?'

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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   bǎngjià-le.*
    Li wife PASS kidnap -PERF
    'Mrs. Li got kidnappend.'

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 wǎnhuì 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 wǎnhuì* '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 lǎoshī, Zhāng lǎoshī, Wáng lǎoshī hé*
      exist/ come-PERF Li prof.   Zhang prof.   Wang prof.   and
      tāmen de   xiānshēng.[9]
      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 *huǒchēzhàn* 'train station' is too general to act as restrictor.

(16) **Huǒchēzhàn 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:

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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.

(17) *Shāfā shàng tǎng-zhe shéi/ shénme rén?*
      sofa   on   lie -IMP who/ what   person
      'Who/what person is there lying on the sofa?'

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 jìnlái, 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 possibilites 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. {*Guìzi   lǐ /Ø*} *yǒu   shū.*
          cabinet   in   exist book
        'There are books in the cabinet.'

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

     c. *Mǎn   shēn shì/?? yǒu   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).[10]

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.

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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
          chàng gē.
          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/[*adjunct 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, yīyuànzhǎng   jiù   bèi*
          because die-PERF many patient   hospital.director then PASS
          tíng zhí   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. [$_{DP(place)}$ *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   *] [$_{adjunct\ NP}$ *jīntīan*] *kāi -le*
　　　　　　　　door in.front.of　　　　　today   open-PERF
　　　xǔduō méiguīhuā.]
　　　many   rose
　　　'In front of the door bloomed many roses today.'

　　b. [$_{TopP}$ [$_{adjunct\ NP}$ *Jīntīan*] [$_{TP}$ [$_{PostP}$ *mén qián   *] *kāi -le*
　　　　　　　　　　today　　　　　　　door in.front.of open-PERF
　　　xǔduō méiguīhuā.]]
　　　many   rose
　　　'Today in front of the door bloomed many roses.'

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11 Thanks to an anonyous 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   dìqū*] [adjunct NP *qùnián*]   *sǐ -le   xǔduō rén.*]
            this CL area   last.year die-PERF many people
        'There died many people in this area last year.'
      b. [TopP *Qùnián*   [TP [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.'

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).[12] 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*]].[13]
            tomorrow 3SG   tomorrow will tomorrow   come
        'He will come tomorrow.'
      b. [TopP {[Adjunct PP *Zài túshūguǎn*]} [TP *ni* {*zài túshūguǎn*}
            at library   2SG at library   can at library
        néng {*zài túshūguǎn*} *fùyìn*]].
        can   at library   xerox
        '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 túshūguǎn* '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 *Jīnnián*] [TP *wǒmen* [adjunct NP *měi   tiān*] *dōu bìxū*
                this.year   1PL   every day all   must
       [adjunct NP *liù diǎn*]   *qǐ   chuáng*.
                6 o'clock get.up bed
       '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   yī   zhī   lǎoshǔ!*[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 *zēngjiā* 'increase'; being atelic, it is compatible with the progressive aspect *zài*:

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14 In the following, we will no longer systematically give a pair of the ExC in a root and a non-root context.

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

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.

(29) a. *Tā   zài   chī fàn/ zài   chī niúròumiàn.*[16]
         3SG PROGR eat food/ PROGR eat beef.noodles
         'She's eating/eating beef noodles.'

---

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 bàozhǐ*
       3SG PROGR see book/ PROGR see English newspaper
       'She's reading/ reading an English newspaper.'
    b. *Tā   zài   kàn [shū] [yīngwén bàozhǐ].
       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: *chàndòng* '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.)', *késou* 'to cough', *kū* 'cry'; *ǒutù* 'vomit', *pá* 'crawl', *piāo* 'float', *tǎng* '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°

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17 We borrow the term *(hyponoyms 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   {[$_{NP}$ pēntì]   /[$_{NP}$ gé]   }   dǎ   -le*
          3SG   strike   sneeze[N] /   hiccup[N] strike-PERF
          yī   fēnzhǒng.
          1   minute
          'He sneezed/hiccupped for a minute.'
    b. **Tā   [$_{vP}$ dǎ   {pēntì /gé }] -le   yī   fēnzhǒng.*
          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 *pēntì* '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 <u>construction</u> rather than locative <u>inversion</u>.

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

examples and discussion, cf. Section 6 below.) 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]

(33)   *{Ànbiān/*Ø} pá -zhe yī zhī wūguī.*
      river.bank   crawl-IMP 1   CL   tortoise
      'On the river bank is crawling a tortoise.'

(34)   a. *{Shù xià/*Ø} zuò-zhe /guì -zhe yī ge nánhái.*
         tree under   sit - IMP /kneel-IMP 1   CL   boy
         'Under the tree is sitting/kneeling a boy.'
     b. *{Kuàichēdào/*Ø} zǒu   qìchē, {mǎnchēdào /*Ø} zǒu   múotuōchē.*
         fast.lane   move car   slow.lane   move motorbike
         'In the fast lane drive cars, in the slow lane drive motorbikes.'
         'The fast lane is for cars, and the slow lane is for motorbikes.'

(35)   *{Zhuōzi shàng/*Ø} fàng-le   hěn duō   shū.*
      table   on   put -PERF very much book
      'On the table are lying many books.'

The PlaceP may remain covert when it can be recovered from the linguistic context, e.g. in the answer to a *wh* question (cf. [36b])[19] or when occurring in the second conjunct of a coordination (cf. [37], [38]):

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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*
  horse.back on ride-IMP 1 CL boy also ride-IMP 1
  ge nǚhái.
  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 <u>yǒu</u>   xiǎoshuō]]?
    where 2PL have novel

(40) a. [$_{TP}$ Nǎlǐ   lái -le   kèrén]?
              where come-PERF guest
          'Where did guests arrive?'
    b. *[$_{TopP}$ Nǎlǐ   [$_{TP}$ kèrén lái -le]]?
                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[20]; 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*
              bed   on   at   bed   on   lie -IMP
          yī ge bìngrén.
          1 CL patient
          'On the bed is lying a patient.'
    b. [$_{PostP}$ *Shù dǐxià*] / *[$_{PP}$ *zài* [$_{PostP}$ *shù dǐxià*]] *zhàn-zhe*
              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.

c. [PostP *Qiáng shàng*] / *[PP *zài* [PostP *qiáng shàng*]] *guà -zhe*
　　　 wall　on　　　　　at　　wall　on　　　hang-IMP
　 yī dǐng màozi.[21]
　 1　CL　hat
　 '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 LoC[23]:

(42) a. [PostP *Wūzi lǐ*]/ *[PP [Prep *zài*] [PostP *wūzi lǐ*]] *hěn gānjìng*.
　　　　 room in　　　　　 at　　　　 room in　 very clean
　　　 'It is clean in the room.'
　 b. [PostP *Lúzi qián*]/ *[PP *zài* [PostP *lúzi qián*]]
　　　　 stove in.front.of/　　 at　　　 stove in.front.of
　　 hěn nuǎnhuo.
　　 very warm
　　 'It is warm in front of the stove.'

---

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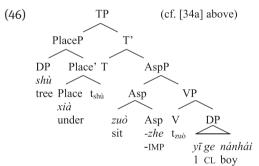**23** This likewise holds for *wh* PPs in the LoC (cf. [i]), and contrasts with the acceptability of a *wh* PP in the post-subject preverbal adjunct position:

(i)　 *(*zài) Nǎr zuò-zhe xuéshēng?* (Tan Fu 1991: 149, [33a-b])
　　　 at　where sit -IMP student
　　 'Where are the students sitting?'
(ii)　[TP *Xuéshēng* [PP *zài nǎr*] *zuò-zhe*]?
　　　 student　　　 at where sit -IMP
　　 'Where do the students sit?'

(43) [$_{PostP}$ *Chōuti lǐ*]/ *[$_{PP}$ [$_{PostP}$ *zài* [$_{PostP}$ *chōuti lǐ*]] *kànqǐlái hen luàn.*
      drawer in   at   drawer in look   very chaotic
      'It looks very chaotic inside the drawer.'

(44) [$_{PostP}$ *Wǔfàn yǐhòu*]/* [$_{PP}$ *zài* [$_{PostP}$ *wǔfàn yǐhòu*]] *shì zuì hǎo de*
      lunch after   at   lunch after be most good SUB
      xiūxi shíjiān.
      rest   time
      'After lunch is the best time for a rest.'

(45) [$_{PostP}$ *Wūyán xià*]/* [$_{PP}$ *zài* [$_{PostP}$ *wūyán xià*]]
      roof   under   at roof   under
      shì yànzi zhù wō zuì hǎo de chǎngsuǒ.
      be swallow build nest most good SUB place
      'Under the roof is the best place for swallows to build their nest.'

The main difference between prepositions and postpositions is that postpositions on their own are unable to license the case of their complement.[24] As a consequence, the complement moves to the specifier position where its case is checked by T° for subject-PostPs, illustrated here for the LoC[25]:

(46)   (cf. [34a] above)

'Under the tree is sitting a boy.'

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24 In this respect, postpositions are on a par with the other head-final categories in Chinese, i.e. N and C; cf. Djamouri et al. (2013), Section 3.3. For adjunct PostPs, case is checked by a preposition, which is required for preverbal adjunct spatial PostPs (cf. Djamouri et al. 2013, Section 3.2.2 for discussion):

(i)   *Tā* [$_{PP}$ *zài* [*zhuōzi xià*]] /*[$_{PostP}$ *zhuōzi xià*] *kàndào-le yī zhī lǎoshǔ.*
     3SG   at table under/   table under see -PERF 1 CL mouse
     'He saw a mouse under the table.'

25 Adverbs following the subject (as in [23a], [24a] above] are either adjoined to AspP or hosted by the specifier of a dedicated projection below TP and above AspP.

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* *Zhuōzi shàng*] *fàng-le*   *hěn* *duō*   *shū*
              table   on   put -PERF very   much   book
         'On the table are lying many books.'

       b. **Hěn *duō*   *shū*   *fàng-le*   [*PostpP* *zhuōzi shàng*]
              very   much   book   put -PERF   table   on

---

26 Besides duration and frequency QPs (*sān cì* 'three times', *shí fēnzhōng* 'ten minutes') as "quasi-arguments" depending on the aktionsart of the verb, only arguments subcategorized for by the verb are licensed in postverbal position. Cf. a.o. C.-T. James Huang (1982), Y.-H. Audrey Li (1990), Paul (1988), C.-C. Jane Tang (1990).

c. *Hěn duō shū* [[$_{V°}$ [$_{V1}$ *fàng*]-[$_{V2}$ *zài*]]-*le*]
   very much book   put   be.at-PERF
   [$_{PostP}$ *zhuōzi shàng*]²⁷
       table   on
   'Many books are lying on the table.'

(48) a. [$_{PostP}$ *Shù xià*]   *zuò-zhe jǐ*   *ge nánhái.*
         tree under   sit -IMP several CL boy
   'Under the tree are sitting several boys.'

    b. * *Jǐ*   *ge nánhái zuò-zhe* [$_{PostP}$ *shù xià*]
        several CL boy   sit -IMP   tree under

    c. *Jǐ*   *ge nánhái* [[$_{V°}$ [$_{V1}$ *zuò*]-[$_{V2}$ *zài*]] -*le*   [$_{PostP}$ *shù xià*]
        several CL boy   sit   -be.at -PERF   tree under
   'Several boys are sitting under the tree.'

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 Chinese²⁸:

(49) a. **Into every dog$_i$'s cage its$_i$ owner peered.* (Topicalization, WCO)
    b. *Into every dog$_i$'s cage peered its$_i$ 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* [$_{V°}$[$_{V1}$ *fàng*] -*le*   [$_{V2}$ *zài*]   [$_{PostP}$ *zhuōzi shàng*]]
         very much book   put -PERF   be.at   table on

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 promi-nence" (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* Jiālǐ]/ Ø} lái -le   / zǒu -le   sān ge kèrén.*
              home   come-PERF/leave-PERF 3   CL guest
        'There arrived/left 3 guests at/from home.'

b. *{[_{DP} Zhèlǐ]/ Ø} guā -le   dà fēng.*
    here   blow-PERF big wind
  'There blew a strong wind (here).'

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.*
           tree under   sit -PERF/kneel-PERF 1 CL boy
    'Under the tree has sat down/has knelt down a boy.'

(52) a. *{[_{PostP} Zhuōzi shàng]/*Ø} fàng-le   hěn duō   shū*
             table   on   put -PERF very much book
     'On the table have been put many books.'
    b. *{[_{PostP} Qiáng shàng]/*Ø} guà -le   yī fù yóuhuà*
             wall   on   hang-PERF 1 CL oil.painting
     '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 bówùguǎn guà   (#-le) /-zhe Bìjiāsuǒ de   Guernica.*
     Prado   museum   hang -PERF/-IMP Picasso SUB Guernica
    'In the Prado #has been hung/ is hanging Picasso's *Guernica*.'

(54) a. *Zhǎnlǎn   de dìyī tiān, bówùguǎn jià   shàng fàng-le*
         exhibition SUB first day museum   shelf on   put -PERF
      huángdì de   yùxǐ.
      emperor SUB seal
     'On the first day of the exhibition, on the museum shelf has been placed the emperor's seal.'
    b. *Bówùguǎn jià   shàng fàng-zhe huángdì de   yùxǐ.*
         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[29]:

(55) *Wèile   fāngbiàn dúzhě cānkǎo,*
      in.order.to facilitate reader consult
      [PostP *shū   hòu] fù -le   /*-zhe xiángxì 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) [PostP *Dì   shàng] bùxiǎoxīn   sǎ -le /*-zhe hěn*
           ground on   unintentionally spill-PERF/-IMP very
      duō shuǐ, xíngrén   láiwǎng dōu bìxū shífēn 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.

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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)   [TopP [PostP *Hēibǎn   shàng] [TP ta xiě -le   sān ge zì*
             blackboard on   3SG write-PERF 3 CL character
      ([PP *zài yòubiān])]].
           at right.side
      'On the blackbord, he wrote three characters (on the right side).'

(ii) [TP [PostP *Hēibǎn   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 perfec-
tive *–le* or bear no aspect suffix at all). In other words, V-*zhe* is confined to
the LoC[30]:

(57) a. *{Wàibīan/*Ø} xià-zhe yī chǎng dà yǔ.*
         outside   fall-IMP 1 CL   big rain
         'Outside is falling a heavy rain shower.'
      b. *{Zhuōzi shàng/*Ø} tóngshí   zhuàn-zhe jǐ   ge tuóluó.*
          table on   simultaneously spin -IMP several CL top
          '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.*
         sky on   hang-IMP/ -PERF 1 CL bright moon
         'In the sky hangs/*has been hung a bright moon.'
                                    (Hu Wenze 1995: 106, [34]; slightly changed)
      b. *Xìxì de   zhītiáo shàng guà -zhe/*guà -le   lǜsè de*
         thin SUB branch on   hang-IMP/ hang-PERF green SUB
         shìzi.
         persimmon
         'Green persimmons hung from thin branches.' (Jaxontov 1988: 132, (78))
         'On thin branches are hanging/*have been hung green persimmons.'
         (our translation)

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

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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*
        now   fall-IMP 1 CL   big rain

(59) *Zhuōzi 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'.[31] 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. *Shǒushùshì   ménkǒu děng-zhe sān míng jiāshǔ.*
        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. *Jǐ   ge lián   zài   zhǔdòng shǒu běimén.*
        several CL company PROGR own.accord guard Northern.Gate
        'Several companies guard the Northern Gate of their own accord.'

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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 yi ge yuán (Pan Haihua 1996: 428, [54])
       John PROGR draw-IMP 1 CL circle
       'John is drawing a circle.'

b. *Běimén   shàng* (*zhǔdòng)   *shǒu -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. *Jǐ   gè wàiguórén mǎnliǎnxiàoróngde [$_{V°}$ qí -zài]*
several CL foreigners all.smiles   ride-be.at
mǎ   bèi   shàng.[32]
horse back on
'Several foreigners are riding all smiles on horseback.'

b. *Mǎ   bèi   shàng (*mǎnliǎnxiàoróngde) qí -zhe*
horse back on   all.smiles   ride-IMP
jǐ   gè wàiguórén.
several CL foreigners
'On horseback are riding (all smiles) several foreigners.'

(63) a. *Sān míng jiāshǔ   zài shǒushùshì ménkǒu xīnbùzàiyānde*
3   CL   fam.member at surgery   entrance absent-minded
děng yīshēng.
wait doctor
'Three family members are waiting absentmindedly for the doctor at the surgery entrance.'

b. *Shǒushùshì ménkǒu (*xīnbùzàiyānde) děng-zhe sān míng*
surgery   entrance absent-minded wait-IMP 3   CL
jiāshǔ.
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   {bìngpái   / jǐnzhǎngde} [zhàn-zài]   wūlǐ.*
10 CL person side.by.side/ nervously   stand-be.at room
'Ten people stand nervously/side by side in the room.'

<div align="right">(Tan Fu 1991: 132; [9-10])</div>

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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   /*jǐnzhǎngde} 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 *jǐnzhǎngde* 'nervously', *xīnbùzàiyānde* 'absent-mindedly' etc. can therefore not be due to any agent suppression operation.[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.[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".

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 inclusion 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.

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33 Pan (1996: 411; 427) incorrectly classifies the posture ueV *zhan* '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.

34 Tan (1991) relates the unacceptability of *jǐnzhǎngde* '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 *nǎlǐ* '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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