

# The covert perceiver in English Locative Inversion

## an alternative to expletive *pro*

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Locative Inversion (LI) in English is a broad-focus inversion structure in which a spatio-deictic XP seemingly occupies the canonical subject position. An analysis of LI must explain EPP-satisfaction: previous approaches take either a silent expletive *pro* (Bruening, 2010; Coopmans, 1989; Postal, 2004) to value EPP or they consider the locative element to do so like expletive *there*. Indeed, LI resembles inversion under *there*, showing pragmatic, lexical-semantic, and syntactic restrictions, being limited mostly to unaccusatives of speaker-directed movement/orientation, while verbs of disappearance or change-of-state are largely unacceptable. However, unlike inversion under *there*, LI does not trigger definiteness effects which are associated with expletives. Moreover, LI is incompatible with negation, *do*-support and the present perfect. We propose that LI is an inherently evidential construction. This behaviour results from an EPP-satisfying logophoric covert perceiver argument dubbed  $Exp_{LOC}$  (Sluckin, Cruschina & Martin, 2021) which provides an alternative to the typologically anomalous expletive *pro*.  $Exp_{LOC}$  moves from a vP-internal position scoping over a Small Clause to Spec,TP and is licensed only by contexts and verbs which can presuppose a perception event on the part of a perceiver. This explains previous observations that LI involves a visual experiential component (Breivik, 1989; Brinton & Stein, 1995). Importantly,  $Exp_{LOC}$  derives known pragmatic and lexical-semantic restrictions on LI, e.g., no disappearance unaccusatives, negation (which negates a perceivable event), and the English present perfect which is infelicitous in reports of direct perception. Furthermore, we show that all unergative verbs participating in LI are coerced into an unaccusative structure.

**Key words:** Locative Inversion, Expletives, Evidentials, English, EPP

### 1. Introduction

Locative Inversion (henceforth LI) is a structure involving the preposing of a topic-like locative XP to a pre-finite-verbal position and inversion of a late subject under (see 1) presentational or rather wide/broad focus. It is cross-linguistically well attested across Romance languages (e.g. Corr, 2016; Pinto, 1997; Sheehan, 2007; Sluckin et al., 2021; Tortora, 1997, 2001), English (e.g. Birner, 1994, 1996; Bresnan, 1977; Bruening, 2010; Coopmans, 1989; Levin & Rappaport Hovav, 1995; Stowell, 1981), to some extent Dutch (Hoekstra & Mulder, 1990; Zwart, 1992), Bantu languages (e.g. Bresnan, 1994; Salzmänn, 2011), and also Hebrew (Shlonsky, 1997; Sluckin, 2021). LI is largely associated with unaccusative verbs or unergatives coercible as such (Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995; Roberts, 2010).

- (1) Out of the house came Goldilocks.

Generally speaking, the preposed locative in (1) resembles subject expletive *there* (2) in both its association with broad focus on the logical subject (and the predicate more widely) (Sluckin et al., 2021) and its lexical-semantic restrictions, e.g. a strong association with unaccusatives and non-active syntax (see e.g. Alexiadou & Schäfer, 2014; Levin & Rappaport Hovav, 1995; Sluckin, 2021).

- (2) There appeared a girl.

Although LI is not limited to English (Corr, 2016; Levin & Rappaport Hovav, 1995; Salzmann, 2011; Sluckin et al., 2021), it is particularly striking in English because of a strong preverbal overt subject requirement, i.e. the EPP requirement on T (Chomsky, 1982, 1995; *et seq*). In LI, the canonical nominative DP subject does not satisfy the EPP in Spec,TP, instead remaining low in the vP. Moreover, the typically spatial PP or adverb (i.e. encoding LOCATIVE, GOAL, SOURCE, PATH) (Levin & Rappaport Hovav, 1995; Roberts, 2010) appears to surface in the canonical subject position. An enduring theme in the literature has been the mechanism of EPP satisfaction in LI; two predominant positions have emerged:

- a. The spatial XP satisfies the EPP by occupying or moving through Spec,TP (Bresnan, 1994; Hartmann, 2008; Roberts, 2010; Sheehan, 2007; Sluckin et al., 2021).
- b. The spatial XP occupies a higher position via A'-movement and EPP is satisfied by an expletive *pro* (Bruening, 2010, 2021; Coopmans, 1989; Postal, 2004) (or some other repair strategy (Rizzi & Shlonsky, 2006)).

This paper aims to build upon previous approaches to LI in English, taking account of interpretational effects hitherto mostly overlooked in formal analysis. Namely, we build on observations by Brinton and Stein (1995), Breivik (1989) and most recently Sluckin et al. (2021) that speaker/observer perspective is central to LI. We expand suggestions by Sluckin et al. (2021) that LI is a fundamentally evidential construction and present an alternative to a semantically vacuous expletive *pro*. We pursue an account that syntactifies an evidential component via a silent logophoric evidential element  $Exp_{LOC}$  which not only values T's EPP property but can also derive a range of extra syntactic constraints.

Section 2 provides a general linear description of LI and explores its constraints at the interfaces, e.g. Information Structure and Lexical Semantics. In Section 3, we investigate the syntax of LI across the lexical and functional domain; we here show that a silent element is necessary for EPP satisfaction (*pace* Bruening, 2010, 2021; Coopmans, 1989; Postal, 2004). Section 4 contains an explicit motivation for an evidential account of LI and a reappraisal of expletive *pro* as a covert experiential element  $Exp_{LOC}$ . We address the argument structure of LI in Section 5, arguing among other things that all unergative verbs in LI are coerced as

unaccusatives (*contra* Levin & Rappaport Hovav, 1995). A full and revised derivation of LI is presented in Section 6.

## 2. *LI: a construction across interfaces*

Perhaps the most striking syntactic problem in LI is the mechanism by which the syntactic pre-verbal subject requirement is bypassed. While this is a core characteristic of LI, a range of information-structural, pragmatic and semantic restrictions are equally challenging for a holistic and coherent account of LI. Let us look more closely at these particular constraints before exploring the syntax of LI.

### 2.1 *The information-structural value of the late subject*

The late subject DP is often considered to bear presentational focus (Birner, 1996; Bresnan, 1994; Huddleston & Pullum, 2002; Landau, 2010; Levin & Rappaport Hovav, 1995; Roberts, 2010), i.e. late subject is presented as newer or less familiar than the preposed locative. The information-structural profile of the late subject thus resemblesthetic existential clauses with expletive *there* (see e.g. Breivik, 1989; Milsark, 1974).

Presentational focus is defined as either i) '[e]xplicitly introducing a new participant into the discourse, as athetic sentence;' or ii) '[p]resenting a referent as new information' (van der Wal, 2021). However, LI is cross-linguistically well attested, e.g. across Romance, as a construction invoking broad focus (defined in 3) on the entire predicate structure (Sheehan, 2007; Sluckin et al., 2021); that is, the focus domain falls on both the late subject DP and the state/event-denoting verb.

#### (3) **Broad Focus** (van der Wal, 2021):

Focus on a larger constituent than just a noun phrase, or multiple constituents, typically the verb phrase. It can sometimes include the whole sentence, that is, be athetic sentence.

The example below provides evidence that English LI also involves broad focus; here, not only is the DP presented as new, but the entire 'coming' event is under focus. The focus domain is the subject and the entire event or state.

(4) Question: What happened after the knock at the door?

Answer: Into the room [FOCUS came the head master.]

Thus, the presentational properties of the inverted DP in English LI fall under broad (also termed wide) focus. The entire predicate structure receives a focus interpretation, i.e., the verb and its low argument(s) (for cross-linguistic comparison see Bentley & Cruschina, 2018; Corr, 2016; Pinto, 1997; Sheehan, 2007; Sluckin, 2021; Sluckin et al., 2021; Tortora, 1997, 2001).

In contrast, if a question is formed that induces narrow focus only on the subject DP and establishes D-linking with the spatio-deictic XP, LI becomes infelicitous (see 5a).

- (5) Question: Who came into the room after the knock at the door?
- a. #Into the room came the head master.
- b. THE HEAD MASTER came into the room.

English narrow focus is associated with prosodic stress (Kiss, 1998; Lambrecht, 1994) (5b) and thus narrow-focussed DPs do not typically invert, unlike for example in Italian (see Cinque, 1995).

Let us now turn to the information-structural value of the preposed spatio-deictic XP.

## 2.2 *The information-structural value of the preposed XP*

Although the preposed XP in LI is a topic in sense of Topic-Comment structure, it need not be given nor D-linked; it must only be contextually more familiar or retrievable than the late subject (Huddleston & Pullum, 2002). The preposed locative can also encode new information, but not newer than the depicted event and actors (V and DP) in the predicate; hence \*NEW-OLD is ruled out (6a), but the combinations OLD-NEW (6b), OLD-OLD (6c) and NEW-NEW (6d) are quite felicitous (Huddleston & Pullum, 2002).

- |        |   |          |
|--------|---|----------|
| (6) a. | * Out of a house appeared the girl.           | *NEW-OLD |
| b.     | Out of the house appeared a girl.             | OLD-NEW  |
| c.     | Out of the house appeared the girl.           | OLD-OLD  |
| d.     | Out of a house (on the left) appeared a girl. | NEW-NEW  |

In this sense, the preposed XP corresponds to the Aristotelian pragmatic notion and Cardinaletti's (2004) information-structural conception of Subject of Predication (henceforth SoP) (Sluckin et al., 2021). This is roughly synonymous with a Sentence Topic (also Aboutness) (Frey, 2004; Gundel, 1985) which need not be given. SoP is formally defined as [- d-linking, + aboutness] (see Bentley & Cruschina, 2018; Cardinaletti, 2004; Rizzi, 2005, 2018; Sluckin, 2021; Sluckin et al., 2021). Indeed, Cardinaletti (2004) notes that SoPs can be spatio-deictic XPs in unaccusative contexts in Italian and beyond, which is intuitively applicable to English LI.<sup>1</sup> Thus, SoP is a more basic information-structural notion than topics with extra specifications for D-linking, familiarity, and givenness. SoP status accounts for variation in the novelty of the preposed locative. For a detailed discussion of the SoP properties of both overt and covert preposed locatives, we refer to work by Bentley and Cruschina (2018), Sluckin (2021), and Sluckin et al. (2021).

We also briefly note proposals for both French (Lahousse, 2003, 2006, 2007, 2011) and English (Teixeira, 2016) that the spatial element is a Stage Topic (Erteschik-Shir, 2007); that

1. Cardinaletti (2004) also states that object experiencers of psych verbs can be SoP. Indeed, psych verbs are unaccusative (Belletti & Rizzi, 1988) and lack an agentive external argument. Moreover, an inherent link between locatives and experiencers exists (Landau, 2010). Therefore, similarities between locatives in unaccusative contexts and psych-verb contexts are unsurprising.

is, a topic introducing the “here and now” of a situation which can be understood as spatio-temporal location already known to the addressee either via discourse familiarity or contextual salience. While this is an accurate pragmatic description, there can be multiple covert and overt stage topics in a sentence (Erteschik-Shir, 2007) which detracts from the explanatory value of Stage Topics in LI. Likewise, contrary to claims that Stage Topics may act as the syntactic subject in English and French (Teixeira, 2016), such a stipulation overgenerates ungrammatical instances of LI with preposed temporal adjuncts (Sluckin et al., 2021, 185), as shown in (7).

- (7) a. ??On Friday arrived the Eurostar (at platform 12).  
 b. (On Friday) at platform 12 arrived the Eurostar.  
 (ex.37 Sluckin et al., 2021, 185)

In summary, the topicalised spatial PP in LI is best understood as SoP in pragmatic and information-structural terms. However, we will not pursue a strong cartographic understanding of SoP as entailing a dedicated SubjP projection (but see Cardinaletti, 2004). We instead view SoP as a property of C (see Mohr, 2005; Sluckin, 2021). In the next section, we will show the locus of the locative to lie Spec,CP.

### 2.3 Lexical-semantic restrictions

LI is strictly associated with intransitive verbs and most frequently tied to unaccusativity (Bresnan, 1994; Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995; Stowell, 1981), i.e. verbs assign a theme or patient  $\theta$ -role to the subject, as opposed to an agent role. We explore the syntactic structural relationship between unaccusativity and LI in the next section and section 5. Here, we present the lexical-semantic verb classes compatible with LI, drawing a comparison to supposedly expletive *there* where relevant.

Finally, copula BE is well documented in LI; however, BE is special in that it can partake more widely in other inversion phenomena in English, e.g. predicate inversion, negative inversion, inversion in WH-contexts (see Huddleston & Pullum, 2002). For this reason, we will not discuss BE further here.

**2.3.1 Unaccusatives.** Unaccusative verbs in LI fall broadly into three classes: verbs of appearance (including coming into existence) (8a), verbs of existence (8b), and verbs of inherently directed motion (i.e. a change of location) (8c) (220 Levin & Rappaport Hovav, 1995). Indeed, these verbs also allowthetic inversions under *there* and typically assign a THEME  $\theta$ -role.

- (8) a. At the window/*there* appeared a witch.  
 b. In the town centre/*there* stood an old church.  
 c. Out of the house/*there* came Goldilocks.

Notably, unaccusative predicates depicting a change of state - so-called alternating anticaus-

atives (Roeper, 1987; Schäfer, 2008) - are incompatible with LI. These also assign a PATIENT  $\theta$ -role and are largely also incompatible with inversion under *there* (9) (Alexiadou & Schäfer, 2011; Levin, 1993; Levin & Rappaport Hovav, 1995; Sluckin et al., 2021).

- (9) a. \*In the Kitchen/there broke a glass

Likewise, unaccusative expressing disappearance (including 'to die') (10a,b) or motion away from the speaker (10c) are generally excluded from LI and also under *there* (see Levin, 1993; Levin & Rappaport Hovav, 1995; Sluckin et al., 2021).

- (10) a. \*In(??to) the cave/??there disappeared the bear.  
 b. \*In this house/??there died Charles Dickens.  
 c. \*From the station/??there departed the train.

*2.3.2 Unergative verbs.* Typically agentive unergative verbs expressing **manner of motion** (11a) and **emission** (11b) are also found in LI with directed phrase complements, e.g. a directional goal in the former and a path in the latter (Levin & Rappaport Hovav, 1995, 221); these are uncontroversially accepted to be coerced as unaccusatives with such complements (see also Hoekstra & Mulder, 1990).

- (11) a. Into the room ran a little girl.  
 b. Through the orchards rattled the field station's Ford pickup [...]  
 (adapted from ex.10 Levin & Rappaport Hovav, 1995, 222)

Generally, these verbs are also compatible with *there* in these contexts (for extensive discussion see Levin, 1993, 88) (12).

- (12) a. There ran a little girl into the room.

Less frequently, agentive unergative manner of motion verbs (13a,b) and even activity verbs (13c) can also appear in LI with a simple locational PP. These cases typically involve an existential reading.

- (13) a. Inside swam fish from an iridescent spectrum of colors..  
 b. Above them pranced the horses on the Parthenon frieze..  
 c. At one end, in crude bunks, SLEPT Jed and Henry...  
 (ex.19-20 Levin & Rappaport Hovav, 1995, 224-225)

However, as soon an object DP is added, LI is immediately ruled out, as shown by the contrasts in (14).

- (14) a. Across the finishing line ran the little girl.  
 b. \*Across the finishing line ran the little girl her fastest time.  
 c. The little girl ran her fastest time across the finishing line.

In summary, LI is sensitive to lexical-semantic factors mediated by both the types of verb class and PP complement. Enduring questions remain concerning the structural and semantic factors facilitating LI, although it resembles *there*-insertion. We refer to work by Levin (1993), Levin and Rappaport Hovav (1995) and Culicover and Levine (2001) for extensive investigation of all attested verb types. However, we note that the most exceptional and very rare instances of LI, which we will not discuss here, can appear to involve agentive transitive verbs. However, these are conditioned by weight, i.e. inversion of heavy DP subjects and are actually confounds with heavy NP shift (Culicover & Levine, 2001; Rizzi & Shlonsky, 2006; Sluckin, 2021). We return to the syntax of unaccusativity in LI in Section 3 and Section 5.

#### 2.4 *No inverted pronouns: Syntax vs Information Structure*

In LI, only full DP subjects participate in inversions, while anaphorically linked subject pronouns are necessarily preverbal (Birner, 1996; Bresnan, 1994; Coopmans, 1989; Roberts, 2010; Sluckin et al., 2021); note the contrasts in (15).

- (15) Out of the house came Goldilocks/\*she.

The ban on late pronouns appears motivated by their formal and informational status. Subject pronouns are both inherently familiar and by default SoP. They are thus incompatible with the broad focus reading associated with the focal end position under vP, i.e., they are always more familiar than the fronted locative. Moreover, Roberts (2010) argues that a subject pronoun must raise to check the EPP due to its status as a weak pronoun (see also Cardinaletti & Starke, 1999) which must appear in the designated specifier position Spec,TP.

#### 2.5 *No negation*

LI is compatible with negation (see Bresnan, 1994; Levin & Rappaport Hovav, 1995; Sluckin et al., 2021, among others). Thus, the sentences in (16) are infelicitous

- (16) a. \*Down the hill hasn't/didn't rolled the ball.  
 b. Down the hill rolled (\*not) a ball.  
 c. ?Down the hill will (\*not) roll a ball.  
 d. \*Down the hill rolled no ball.

We note that future compound tense with *will* is not ungrammatical in LI (although a little degraded), unlike *do*-support or the present perfect, yet the addition of *not* renders the utterance ungrammatical. We consider the ban on negation as a pragmatic and not necessarily syntactic

constraint, in part, for the reason that negation is possible in contexts marking contrastive focus under broad focus (Bresnan, 1994; Sluckin et al., 2021) at the argument (constituent) level, i.e., negation of a DP itself ().

- (17) a. Into the room came not a boy but a girl.

Levin and Rappaport Hovav (1995) Birner (1996) accredit resistance to negation in LI to a proposed light informational status of the verb. Birner (1996, 115) builds on observations for the informationally light and quasi-dummy status of copular BE and argues that ‘the verbs appearing in this construction [LI (my addition)] represent evoked or inferrable information in context, and therefore contribute no new (i.e., discourse-new) information to the discourse’. Similarly, Hoekstra and Mulder (1990) make an analogy between the copula and other verbs in LI, considering them extended copulas. However, it unclear why this excludes negation, asthetic *there + V* sentences show no such resistance. Moreover, we are sceptical that informational lightness can be formalized from a syntactic perspective or even that verbs in LI are bleached from a lexical-semantic perspective. As we will show in a more in-depth discussion of the argument structure of LI, there is good evidence that verbs involved can be bi-eventive which copulas are not. Likewise, we ultimately pursue a semantic motivation for the ban on negation.

### 2.6 *No present perfect or do-support*

LI in English strongly prefers simple tenses (Coopmans, 1989): both the present perfect (18b) and do-support (18c) are incompatible (Coopmans, 1989) and as noted future periphrases are acceptable although degraded (18; progressives are generally fine under a stative location reading, i.e., located motion and not directed-motion (18e,f) (Roberts, 2010). Note however that the progressive prefers an indefinite subject without adequate context:

- (18) a. Down the hill rolled the ball.  
 b. \*Down the hill has rolled the ball.  
 c. \*Down the hill did roll the ball.  
 d. ?Down the hill will roll the ball.  
 e. Down the hill was rolling ??the/?a ball.  
 f. On top of the hill was rolling ?the/a ball.

Thus, assuming standardly that auxiliaries are merged in T, the ban on the present perfect or affirmative do-support is unlikely syntactic but rather comes from the interfaces with semantics and pragmatics (but see Bruening, 2010 for an imaginative and technically elegant syntactic solution). Notably, do-support in affirmative contexts is a known marker of verum focus in English (see among others Gutzmann & Castroviejo Miró, 2011; Höhle, 1992); quite simply, we consider that the broad-focus and a verum reading clash, as shown in (19).



- (19) a. **Question:** What happened after the knock at the door?  
**Answer:** John came/#did come into the room.
- b. **Question:** What happened?  
**Answer:** We witnessed/#did witness a car accident.

Therefore, the clash between broad and verum focus explains the general infelicity/ungrammaticality of affirmative *do*-insertion in LI. Indeed, as for negation, contrast improves emphatic *do*-insertion (20), yet, prosodic stress on *do* is required. The introduction of contrast replaces broad focus on the predicate with narrow focus on the late subject.

- (20) Against all expectations, out of the woods DID come a bear.

We present a detailed semantic explanation of the ungrammaticality of the present perfect in Section (4).

### 2.7 A quick note on *do*-support

We have noted that insertion of *do*-periphrases is ruled out. It is tempting to pursue a full syntactic account of why *do* is incompatible with LI (see e.g. Bruening, 2010). However, a unified account focusing on *do* is unnecessary, since insertion of *do* is neither synchronically nor diachronically unitary (Kroch, 1989). A constraint against negation will rule out *do*-support in negative contexts. Likewise, verum-focus-related *do*-support in affirmative contexts is incompatible with broad focus in LI. This leaves only the ungrammatical status of *do* in questions involving WH-movement needing a form of explanation (21).

- (21) a. \*Where did appear John?  
b. \*In which room did appear John?

However, the ungrammaticality of (21a,b) is symptomatic of a wider resistance to the formation of questions within a single clausal domain; we note the claimed acceptability of multi-clausal (22) (Stowell, 1981), yet it is a highly unnatural formulation, in which *do* appears in the dominating clause. We assume that the raised wh-phrase in questions like (21a,b) is informational-structurally incompatible with LI. That is, in (21a) *where* can be understood as an interrogative focus element. In (21b), *in which room* is likewise attempting to elicit newer information than the DP *John*, but NEW-OLD is ruled out in LI (Huddleston & Pullum, 2002). Moreover, in the case of (21a), the QP moves directly to Spec,CP leaving the EPP unsatisfied; therefore, the subject DP must move to Spec,TP, rendering inversion ungrammatical.

- (22) [Into which room]<sub>i</sub> did you say [S'[e]<sub>i</sub> [[e]<sub>i</sub> walked the children]]?  
(Bresnan, 1977; Stowell, 1981)

In summary, we suggest that the ban on *do*-support is conspiratorial; each instance in which *do* is ungrammatical is explicable via the particular function of either the sentence-type or *do*

itself, but does not relate to an inherent property of *do* as a syntactic T-element.

### 3. *The Syntactic profile of LI*

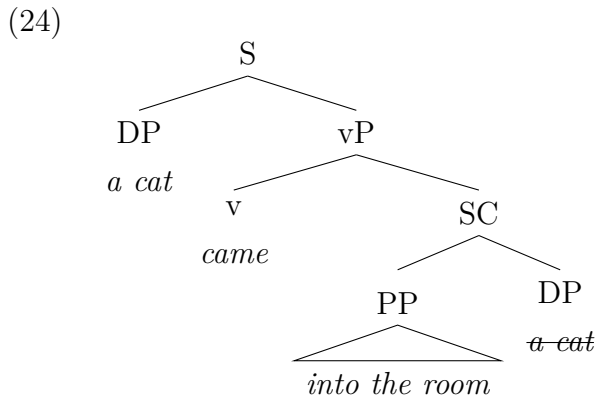
As introduced, LI involves topicalization of a spatio-deictic XP to a preverbal position, while the subject surfaces post-verbally. LI typically involve unaccusative verbs whose subjects are internal arguments of *v*, although exceptions are possible (Coopmans, 1989; Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995; Stowell, 1981). Consequently, LI results from the interaction of topicalization, subject requirements, and argument structure. In this section, we address i) the position and derivation of the late subject, ii) the position of the preposed locative, and iii) the means of EPP-satisfaction.

#### 3.1 *An overview of the vP in LI*

As discussed, LI is typically associated with unaccusativity (Bresnan, 1994; Collins, 1997; Coopmans, 1989; Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995; Roberts, 2010; Stowell, 1981, among many others), i.e. those verbs assigning a PATIENT or THEME  $\theta$ -role to a DP subject (Belletti, 1988; Perlmutter, 1978; Stowell, 1981) merged under *v* (see e.g. Alexiadou, Anagnostopoulou & Schäfer, 2015; Levin & Rappaport Hovav, 1995; Schäfer, 2008). The fronted spatio-deictic XP in LI is can be understood as a raised additional argument of the verb encoding the  $\theta$ -roles of a directional goal, a source, a path, or a simple locative (Coopmans, 1989; Roberts, 2010) and is not a simple adjunct.

- |      |    |                                   |          |
|------|----|-----------------------------------|----------|
| (23) | a. | Into the room came a cat.         | GOAL     |
|      | b. | From under the car emerged a cat. | SOURCE   |
|      | c. | Along the path came a cat.        | PATH     |
|      | d. | In the corner was sitting a cat.  | LOCATION |

We adopt the uncontroversial position that the late subject is the in-situ internal argument of the unaccusative verb and remains inside a small clause complement of *v*, while the spatial XP is extracted to a preverbal position, as illustrated in simple terms in (24) (Bresnan, 1994; Coopmans, 1989; Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995; Moro, 1997; Roberts, 2010).



Unaccusativity facilitates inversion because the subject is naturally low and any relevant other argument which is higher or equidistant could be targeted by a higher head instead. In contrast, transitive (25a) and most unergative verbs (25b) are ungrammatical in LI (Coopmans, 1989; Levin & Rappaport Hovav, 1995).

- (25) a. **transitive**  
 \*Into the river threw a man some books.
- b. **unergative**  
 \*In the room breathed a man.

Verbs taking agentive external arguments show resistance to inversion structures because the DP subject sits in a v-external position, i.e. Spec,vP/Spec,VoiceP (Chomsky, 1995; Kratzer, 1996). This DP is always more local to T than any other vP-internal element and is thus the first goal for EPP satisfaction in Spec,TP. This derives from principles of general locality (Collins, 1997), e.g., the Minimal Link Condition (Chomsky, 1995) or Relativized Minimality (Rizzi, 1990). Moreover, in English, the impossibility of inversion with such verbs is confounded as lexical verbs cannot move out of vP (Roberts, 2010); V-to-T movement disappeared in Early Modern English (see *inter alia* Biberauer & Roberts, 2010; O. Fischer, Kemenade, Koopman & Wurff, 2001).

However, for a limited set of typically agent-assigning unergative manner-of-motion verbs, there is ambiguity as to whether the DP-subject denotes a THEME or an AGENT role (26)

- (26) a. Into the room skipped a boy. **unergative: directed motion**
- b. In the room was sitting a boy. **unergative: location**
- c. Through the orchard rattled the Ford pickup [...]. **unergative: emission**  
 (adapted from ex.10, Levin & Rappaport Hovav, 1995, 222)

As noted in Section 2, the unaccusative status of such verbs has been the subject of considerable debate (Hoekstra & Mulder, 1990; Irwin, 2012; Levin & Rappaport Hovav, 1995; Roberts, 2010; Sluckin, 2021). Since motion unergatives in directed motion contexts are accepted to be coerced into unaccusative structure, e.g. (27a), these are unproblematic in LI. However, a

simple location-denoting predicate (27b) under an existential reading is slightly degraded unless the aspectual properties of the verb are modified (27c); existential readings prefer progressive aspect but not simple tense forms.

- (27) a. Into the room walked a cat.  
 b. ?In the room walked a cat.  
 c. In the room was walking a cat.

Levin and Rappaport Hovav (1995) hold that contrasts such as (27a,b) derive from the fact that only unergative verbs in directed motion contexts can be coerced as unaccusative verbs. However, sentences such as (27c) mean that Levin and Rappaport Hovav (1995) must propose two separate analyses for LI with unaccusatives and apparently non-coerced unergatives in which the latter involves a dislocated focus position. While technically possible, such a proposal has an *ad-hoc* flavour. In section 5, we pursue the position that English LI always involves pure unaccusatives or unergatives coerced into an unaccusative structure (Roberts, 2010, ff.).

### 3.2 The EPP and the locative

A particular challenge is to explain how English's D-related EPP in TP is satisfied in LI; two primary positions have emerged:

- a. The preposed spatio-deictic XP is formally equivalent to a subject DP and satisfies the EPP by landing there or passing through there (Bresnan, 1994; Hartmann, 2008; Levin & Rappaport Hovav, 1995; Roberts, 2010; Sheehan, 2007; Stowell, 1981)
- b. The preposed spatio-deictic XP is fronted to the C-domain, while a silent expletive or expletive-like element occupies Spec,TP checking its EPP requirement (Bruening, 2010; Coopmans, 1989; Postal, 2004; Sluckin, 2021; Sluckin et al., 2021).

There is strong evidence that the Preposed XP ultimately lands in a position in the C-domain, i.e. Spec,CP, and is not spelled-out in Spec,TP. This comes from the fact that English LI is primarily a root-phenomenon and is greatly degraded in embedded contexts (28). This suggests that the locative must move to a left peripheral position (see also Coopmans, 1989; Roberts, 2010; Stowell, 1981).

- (28) a. ?? Everyone saw that on the square stood an ornate church.  
 b. ?? Maria said that out of the drain emerged a rat.

However, a locative-in-CP hypothesis cannot rule out movement of the preposed XP through Spec,TP, a position taken by Stowell (1981), Hartmann (2008), and Roberts (2010) (among others). We now introduce several arguments against a move-through-TP hypothesis.

3.2.1 *A closer look at embedded LI.* We have already shown that LI is ungrammatical in straightforward embedded clauses under complementizers in English. Indeed, LI in English differs from Romance languages in which embedded LI is more readily available (Sluckin et al., 2021) (as shown for French in 29).

(29) **French embedded LI**

*Tout le monde sait que dans cette maison habites George Brassens.*

All the world knows that in this house lives George Brassens.

'Everyone knows that George Brassens lives in this house.'

The move-through-TP hypothesis does not prevent LI in English embedded clauses. If the locative could satisfy EPP requirement as a DP subject does, i.e. via A-movement, the PP could simply remain there in embedding. The fact that it cannot suggests that T does not probe it. Moreover, theory-internal reasons may block further movement to the C-domain.

Hoekstra and Mulder (1990) provide some initially compelling evidence in favour of the locative PP in Spec,TP in (30) which they claim to demonstrate a locative in the subject position under CP-element *how*.

- (30) a. We all witnessed how/\*that down the hill came rolling a huge baby carriage.  
 b. We suddenly saw how/\*that into the pond jumped thousands of frogs.  
 (ex.72 Hoekstra & Mulder, 1990, 33)

Notably, there is a clear contrast between the acceptability of *that* and *how* in LI. One potential relevant factor could be the formal difference between *how*, a wh-pronoun in Spec,CP, and *that* a head on C. Hoekstra and Mulder (1990, 32) state that since Spec,CP is occupied by *how*, the locative PP can only be in Spec,TP. However, note that both examples in (30) are ungrammatical under *that* (as marked above), and ii) involve verbs entailing direct perception of the event; note that (31a,b) are very degraded. Hence, the explanation must be both syntactic and also lexical-semantic.

- (31) a. ??We suddenly imagined how into the pond jumped thousands of frogs.  
 b. ??We were all told how down the hill came rolling a huge baby carriage.

However, the locative must be in a C-domain position, since both the topicalized PP and *there* can unproblematically co-occur under *how* (32). This demonstrates that 'see/witness how' are either embedding matrix CPs or that *how* occupies a higher position than the locative in the C-domain.

- (32) We all witnessed how down the hill **there** came rolling a huge baby carriage.

The mechanics of how *how* permits embedded LI are potentially straightforward. Firstly, *that* as the overt realisation of C will simply block preposing of a locative XP to its Spec.

Turning then to *how*, we can consider the question pronoun to function here as a subordinating element encoding manner. I assume that *how* in non-interrogative context simply lacks an interrogative operator rather than requiring multiple generation points. Secondly, drawing on work by (Rizzi 2001 *et seq*) on the left periphery, wh-elements may target or be generated in various function-related positions higher above C, or rather FinP, i.e. a very high IntP for pure interrogatives, e.g. *why* (see also Ko, 2005); an intermediate FocP for raised wh-elements especially in matrix contexts, and a lower Q<sub>emb</sub>P for embedded-Q elements. While we need not specify the exact position in a radically exploded CP, we have already showed that *how* occupies a position higher than Spec,CP (or another low topic position), be this a dedicated projection or simply a higher specifier of C than the target position of the proposed locative.<sup>2</sup>

While this explanation might explain why some instances of *how*-induced subordination are possible, the semantic content of the embedding matrix verb is clearly also decisive, i.e. it seems to require a link to nothing less than direct perception. We shall return to this apparent lexical-semantic precondition below.

*3.2.2 Variation with overt expletive there.* The possible co-occurrence of a preposed locative with apparent expletive *there*-insertion (33) suggests that the preposed XP can move directly to a topic position, i.e. Spec,CP.

(33) Out of the cave (there) came a mountain lion.

Roberts (2010, 172), among others, suggests that a locative PP travels through spec,TP to the C-domain in LI. We could say that *there* is the Spell-Out of the PP-trace, yet if this is the case, we cannot explain why *there* is optional. I contrast, we might say that when *there* is absent, the PP will travel through Spec,TP, but when *there* is present the PP is probed directly by the C and moves into the left periphery. We have already argued that this type of approach should enable ungrammatical embedded LI. However, if we assume that C and T probe simultaneously (see Chomsky, 2008), there is no reason that the PP would ever end up in T if it is directly probed C.<sup>3</sup> Indeed, if one follows Chomsky (2008), the specifier of a standard non-defective T should be invisible to any higher probe and thus unavailable for further operations (see also Radford, 2009). If this position is correct, even if the locative PP could satisfy EPP on T via movement to Spec,TP, it could not vacate to the C-domain where it evidently ends up.

Indeed, for Postal (2004) and Bruening (2010) LI and topicalisation of a locative with an overt expletive *there* are equivalent, going back to the observation that *there* in LI is nigh on optional (Coopmans, 1989).<sup>4</sup> The difference for Postal and Bruening boils down to variation

2. Another particularly simple alternative is as follows: if we consider *see* and *witness* to involve assertions of the truth of a perceived event, these verbs of direct perception could embed a matrix CP in the way that has been claimed for verbs of communication (Class A) and thought (Class B) by Hooper and Thompson (1973). But the contrast between *how* and *that* remains unclear in such an account.

3. We are aware that this is a strong and potentially controversial position.

4. We refer to (Postal, 2004) and (Bruening, 2010) for a in-depth discussion of clear parallels between LI and

between *there* or expletive *pro* as a means of EPP satisfaction. A particularly strong argument for the presence of a null expletive, i.e., a phonologically silent *there* emerges in the fact that in tag questions following LI clauses, the tag pronoun is *there* (Bruening, 2010; Postal, 2004).

- (34) a. To Gloria (there) will fall a number of unpleasant tasks, won't there?  
 b. At that time (there) were built a number of warships, weren't there? (ex.92, Postal, 2004, 42)

However, while the behaviour of *there* and LI seems to cut pretty closely, positing a null-expletive requires Bruening (2010, 48) to posit the stipulation that English null-expletives do not cause definiteness effects (to which we return later), while overt ones do; this is the total opposite of claims concerning null expletives for Romance (Sheehan, 2007) and Hebrew (Shlonsky, 1997). Why should English present such a typologically anomalous instance of expletive *pro*.

Moreover, one must explain the apparent optionality of the overt and null expletive, since free variation is an unsatisfactory explanation. Bruening (2010) holds that a fronted XP in CP or adjoined to TP can license the null expletive and is simply a different pronunciation of *there*. While he shows that *there* can be necessary to avoid *that*-trace effects for other reasons, to which we return below, it remains unclear why one variant is chosen over the other. Moreover, given the lexical restrictions on LI, it is more plausible that a licensing factor of any expletive element is not the presence of a preposed XP alone but also involves a property of the verb itself, as is the case for *there*.

Let us now present some evidence that LI and a fronted spatial XP followed by *there* are not always optional. In directional contexts such as (35a), *there* is ungrammatical with DP-ellipsis of the PP-internal goal or source. However, iterations in (35b–c) are perfectly grammatical. This demonstrates that *there* is dependent on the fronted DP within the preposed locative PP, while a silent element is not. If an expletive *pro* analysis is correct, then its licensing conditions are different to *there*. Alternatively, *there* in preposed locative structures is not in fact a pure expletive but an extractable element of the larger PP structure itself. If *pro*<sub>EXPL</sub> were simply a reflex of *there*, it too should be ruled out in such contexts.

- (35) Context: John was waiting underneath the window of the Chinese restaurant,  
 a. \*and suddenly out there jumped a boy.  
 b. and suddenly out of the window jumped a boy  
 c. and suddenly out of the window there jumped a boy.  
 d. and suddenly out jumped a boy.

This evidence seems then to show that *there* in LI-equivalent sentences, excluding copular

sentences, is not a true expletive but in fact a locative pronoun (see also Hartmann, 2008) which resumes the PP-embedded DP. Thus, sentences such as (33) are akin to Left Dislocation.

Moreover, we draw attention to the distinction betweenthetic inversions with *there* with copular BE and full verbs. As discussed in depth by Hartmann (2008), *there* with full verbs (henceforth *there* + V behaves like LI and not like *there* + BE. Indeed Hartmann (2008, §2) applies multiple syntactic tests to *there* + V/BE to these ends. For example, *there* + BE can easily embed (36c), while *there* + V resists embedding like LI (36b,c).

- (36) a. The reporter wants to know whether there is a billboard at the intersection.  
 b. \*The reporter wants to know whether there stands a billboard at the intersection.  
 c. \*The reporter wants to know whether at the intersection stands a billboard.

Going beyond narrow syntax, we see that, like LI, *there* + V also resists negation.

- (37) a. There was not a train at the platform.  
 b. \*There didn't arrive a train at the platform.  
 c. At the platform didn't arrive a train.

Moreover, from a pragmatic perspective, we also note that *there* + BE does not require what Breivik (1989) calls visual impact, while *there* + V does. In short, Breivik (1989, 32-33) argues that *there* can be omitted with BE if the subject DP and a locative together convey visual impact, i.e. if the sentence allows us to visualize a concrete scene. If visual impact is lacking, *there* is obligatory: he calls this the Visual Impact Constraint. This is demonstrated in the contrast between (38a-d) and (39a-d); in the former LI is possible, while in the latter the negative indefinite subject removes the possibility of any visual impact of the subject.

- (38) a. An account book is on the table.  
 b. There is an account book on the table.  
 c. On the table is an account book.  
 d. On the table there! is an account book.
- (39) a. \*No sign of life was in the house.  
 b. There was no sign of life in the house.  
 c. \*In the house was no sign of life.  
 d. In the house there was no sign of life.

However, the constraint is inactive in *there* + V sentences. Where visual impact of the subject is absent, here via DP-negation, *there* is not only not obligatory but ungrammatical in



inversion (see a vs b). Where the subject exists in the visualized scene, both LI and fronted *there* are grammatical.

- (40) a. No ghosts appeared in the dungeon.  
 b. \*There appeared no ghosts in the dungeon.  
 c. There appeared a ghost in the dungeon.  
 d. In the dungeon appeared a ghost.

Likewise, if we remove the possibility of direct visual impact via creating a supposition that requires us to make assumptions about a hypothetical event, *there* + BE is once again grammatical/felicitous, while *there* + V is ruled out (41a vs b). That is, Breivik's Visual Impact Constraint only applies to *there* + BE; LI and *there* + V always require visual impact. This is further evidence that expletive *there* with lexical verbs V is more accurately considered a locative pronoun and *there* + BE is akin if not equal to LI (*pace* Hartmann, 2008)

- (41) Judging from the claw marks...  
 a. There was a bear in this cave.  
 b. #/?There emerged a bear from this cave.

Thus, overall the distribution of *there* with preposed locatives and both its syntactic and pragmatic behaviour contribute towards a view that it is only truly expletive when combined with copular BE.<sup>5</sup> Moreover, EPP-satisfaction on T in LI either proceeds via the locative pronoun *there* or via a silent expletive-like element, as suggested by Coopmans (1989); Postal (2004) and Bruening (2010). We are however skeptical that this element is a true expletive *pro* for reasons we will motivate in this paper.

*3.2.3 that-trace effects in LI.* One of the main arguments for the locative as the syntactic subject is based on the presence of anticomplementizer or rather *that*-trace effects (Bresnan, 1977; Stowell, 1981). In short, a subject trace should not be able to follow a complementizer *that*; thus, the presence of *that* should block subject-extraction of a subject DP or indeed a preposed locative acting as the syntactic subject, as shown in (42a,b).

- (42) a. \*[Who did you say]<sub>i</sub> [(*\*that*)<sub>i</sub> lived in this house]?  
 b. \*[In which house]<sub>i</sub> did you say/claim [(*\*that*)<sub>i</sub> lived the Jones']?

However, following work by Postal (2004) and Bruening (2010, 2021), *that*-trace effects are alleviated by the presence of overt phonological material, such as a subject expletive (43a) or an adverbial (43b), an observation in part going back to Culicover (2013).

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5. We also assume that it is a true expletive in passive contexts and perhaps heavy NP shift, yet this is beyond the scope of this paper.

- (43) a. ?[In which house]<sub>i</sub> did you say/claim [that there lived the Jones']?  
 b. ?[In which house]<sub>i</sub> did you say/claim [that for all intents and purposes lived the Jones']?

Indeed, the same effect is also present under *wh*-extraction of a subject, as shown by Culicover (2013).

- (44) Lee forgot which dishes<sub>i</sub> Leslie had said that \*(under normal circumstances) t<sub>i</sub> should be put on the table. (ex.21 Culicover, 2013, 221)

The example in (43) indicate that extraction of a spatio-deictic XP is unproblematic and that *that*-trace effects result from a separate process. Bruening (2010, 52) makes the generalization that '[t]here must be overt material between an overt complementizer and a subject position with no phonetic exponence.' In short, *that*-trace effects in English result from a requirement on prosodic well-formedness and are not *per se* a constraint on extraction. The presence of the subject expletive *there* in both (43a) and (33) is further good evidence that locative preposing does not involve movement via Spec,TP in English.

Thus, Postal (2004) and Bruening (2010) interpret evidence such as (43) that a silent expletive, i.e. expletive *pro* occupies Spec,TP and values its D-related EPP feature. We follow them in assuming the presence of a *pro*-like element in Spec,TP in LI, yet we shall ultimately pursue a much-modified version. This is because we do not ultimately adopt the position that a silent expletive *pro* lacking semantic content takes on this function for English (*contra* Bruening, 2010, 2021; Coopmans, 1989; Postal, 2004); we shall return to the exact nature of this element below.

### 3.3 Definiteness effects and their implications

It is tempting to consider allthetic expletive inversions, i.e. those with *there* and LI together as both are highly correlated with unaccusativity and presentational/broad focus. However, while both types of sentence involve broad focus,thetic sentences and LI behave differently with definiteness effects (henceforth DE) imposed on the late subject. Consider the following sentences:

- (45) a. There arrived a/\*the train (into the station).  
 b. Into the station arrived a/the train.

The examples in (45) demonstrate that LI structures are not inherently associated with DE (Birner, 1996), yet inversion structures involving expletives are; that is, the late subject under an expletive is necessarily definite (Birner, 1996; Freeze, 1992; among others). An immediate challenge to theories arguing for expletive *pro* in English LI is the question as to why only an overt expletive should cause DE.

Beyond English, broad-focus inversions in which both a PP and the subject remain low

under *v* require that the late subject is indefinite (e.g. the following works on Italian: Belletti, 1988; Pinto, 1997). As visible in (46), a typical Italian LI structure such as (46a) is not subject to DE, yet if *alla stazione* ‘at the station’ remains low, then DE are introduced (46b) (Sluckin, 2021, 68).

- (46) a. *Alla stazione è arrivato un/il treno.*  
 to-the station is arrived a/the train  
 ‘Into the station arrived a/the train’.
- b. *e poi è arrivato un/\*il treno alla stazione.*  
 and then is arrived a/\*the train to-the station  
 ‘And then a train arrived into the station.’  
 (ex.97 Sluckin, 2021, 68)

The standard assumption is that the Italian EPP is valued in such cases by an expletive *pro* (see for example Rizzi, 1982; Sheehan, 2007).<sup>6</sup> While an exact analysis of Italian is not necessary, Italian DE emerge only where an expletive can be posited to merge in Spec,TP (Sheehan, 2007), and/or both arguments of *v* remain inside vP (Belletti, 1988). Italian is thus informative for us if we consider the uncontroversial position that unaccusative verbs of existence and verbs of speaker-oriented motion necessarily select either an overt or covert silent locative argument (a stative location or directional goal argument respectively) (Pinto, 1997; Tortora, 1997).

This position is extendable to English unaccusatives (Alexiadou & Schäfer, 2011; Freeze, 1992; Hale & Keyser, 1998; Irwin, 2012, 2018). Therefore, DE in English subject-verb inversions with expletive *there* are indicative that the syntax of LI and *there*-insertion are not totally equivalent, although they do share many of the same licensing properties and restrictions which can give this impression (Hartmann, 2008; Levin, 1993; Levin & Rappaport Hovav, 1995). Therefore, if *there* is standardly assumed to be a subject expletive, or even a situational argument not selected by the verb (Hinterhölzl, 2019), an Englishthetic sentence will always involve two internal arguments, the associate DP and a covert or overt spatio-deictic argument of *v*. In short, Englishthetic-sentences appear to derive DE from the same mechanism as Italian Free-Inversions under broad focus with two low arguments.

However, the motivation of these DE are not totally clear. While I shall not attempt to provide a new syntactic account of DE, nor do I wish to adopt every specific detail, let us briefly consider some recurrent themes in approaches to DE which will ultimately inform the treatment of LI. These approaches can be broadly split into vP-internal approaches and those drawing DE from the expletive itself.

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6. A silent situational argument or event argument has been proposed (Bentley & Cruschina, 2018; Bianchi, 1993; Sluckin et al., 2021)

3.3.1 *Low arguments cause DE.* Belletti’s (1988) account of DE attributes DE to partitive case assignment on the internal in-situ subjects of unaccusative verbs. This is assigned directly by the verb and is necessarily indefinite. Nominative Case cannot be assigned to the internal subject because the VP acts as a barrier; therefore, the subject DP may only be definite if the subject is spelled-out in a position outside the vP, i.e. Spec,TP or a dislocated and outside the VP domain. This type of approach is thus perhaps overly strict as it cannot explain permissible late vP-internal definite subjects in LI without ad-hoc transformations. Likewise, the absence of DE in Romance Free Inversion under broad focus is problematic (47); the standard assumption is that the DP-subject remains in situ and a null locative moves to Spec,TP (see also Bentley & Cruschina, 2018; Pinto, 1997; Sheehan, 2007; Sluckin, 2021; Sluckin et al., 2021, among others).

- (47) *LOC È arrivato un/il treno.*  
 LOC is arrived a/the train  
 ‘The train arrived.’

The examples in (45, 46) and (47) all demonstrate that DE disappear when the spatio-deictic argument of *v* moves out of vP. A silent or overt expletive presumably blocks raising of a locative out of vP inducing DE.

In contrast, Diesing (1992) suggests the Mapping Hypothesis in which DE derive in an interaction at the syntax-semantics associated with the position of arguments under *V*. Explicitly, in Diesing’s terms, VP material is mapped into nuclear scope, while IP material is mapped into a restrictive clause. Hence, in an existential sentence such as (48), DE derives via the VP internal position of the subject DP *a train*.

- (48) There was/arrived a/\*the train.

The lack of DE on late subjects in LI presents an immediate challenge to Diesing (1992) if the subject is in situ, yet there is no empirical evidence for a vP-external subject DP in LI. Thus, like Belletti (1988), Diesing’s (1992) theory works only with an *ad-hoc* stipulation that inverted subjects in LI are dislocated.

3.3.2 *DE result from expletives.* Alternatively, Sheehan (2007) suggests that DE are correlated with the presence of an expletive, overt or covert (see also work on Hebrew by Shlonsky, 1997). Moreover, empty expletives, or rather expletive *pro* itself is generally assumed to be a property of richly inflecting null-subject languages and partial null-subject languages (Rizzi, 1982, 1986). However, for Bruening (2010), the proposed English expletive *pro* does not produce DE in the same kinds of contexts that it does in Romance. We note the potentially controversial position taken by Haeberli (2002a) that Germanic overt-subject languages with rich inflectional agreement, e.g. German, permit a variant of expletive *pro* which does not appear to induce DE (but for alternatives see Alexiadou & Anagnostopoulou, 1998; Biberauer, 2010; Biberauer, Holmberg, Roberts & Sheehan, 2010; Haider, 2010; Richards & Biberauer,

2005; Sternefeld, 2006). However, English has no evidence for this kind of *pro* nor the morpho-syntactic conditions necessary for its existence (see discussions in Haerberli, 2002a, 2002b).

A broader question, however, is then why the presence of a subject expletive, either expletive *pro* or an overt expletive, induces DE. We might assume that they necessarily induce existential sentences and that DE are derived not only via syntax but directly via semantic interpretation (see arguments on existentials in Alexiadou & Anagnostopoulou, 1998; S. Fischer, 2016; Freeze, 1992). While possible, we ideally prefer a theory of DE which does not derive DE from various sources. Nonetheless, Englishthetic inversions with unaccusatives denoting change-of-location verbs are clearly bi-eventive (49a) (Alexiadou & Schäfer, 2011) and not existential; likewise, instances of English LI with existential interpretation do not show DE (49b).

- (49) a. There arrived a man in the garden  
(ex.1 Alexiadou & Schäfer, 2011, 101)
- b. On the square stood the town church.

Thus, DE may not result from the expletive *per se* but correlate with its presence because two arguments become stuck within the vP-complex inthetic sentences.

As a side note, we note the well-known position of Alexiadou and Anagnostopoulou (1998), who reject the existence of expletive *pro*. They instead propose EPP-satisfaction via the rich morphological properties of the finite verb in null-subject languages. We understand this as D/ $\phi$ -satisfaction on T via features on the verb which moves to T. This explains the observation that only null-subject and partial null-subject languages appear to possess expletive *pro*, assuming that Germanic does not an even weaker form (*contra* Haerberli, 2002a). This is relevant for a theory of LI in English involving expletive *pro* because i) expletive *pro* may not even exist, and ii) it would be extremely typologically anomalous for English to possess not only an expletive *pro* as an overt-subject language lacking rich agreement, but a special one which does not induce DE and is only ever produced in one very specific context. Therefore, while we do agree that some silent expletive-like element is at work in English LI, we believe that expletive *pro* is technically workable theory-internal necessity at best and an *ad hoc* solution at worst. An alternative is necessary; we return the exact nature of the null element in Section 4.

*3.3.3 A generalization for DE.* While a theoretical explanation remains lacking, we have established the simple generalization that if v selects two internal arguments, e.g., a DP subject and a PP argument, and both remain in-situ under v, then the DP must be indefinite. However, we do not commit to a particular theory (50).

- (50) DESCRIPTIVE GENERALIZATION FOR DEFINITENESS EFFECTS:

When two internal arguments of an unaccusative v remain in situ, DE will follow on the DP argument<sup>7</sup>.

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7. This does not apply to ditransitive verbs which I assume to make use of several vP-layers, or rather a

Returning then briefly to the DE-inducing effects of overt expletives, we can explain these in terms of the assumption that verbs of existence and verbs of speaker-oriented motion select either an overt or covert silent locative argument (Irwin, 2012, 2018; Pinto, 1997; Tortora, 1997, 2001); thus, Merge of an expletive will trap both arguments under *v*, giving rise to DE. Thus, DE are by default correlated with expletives but DE do not derive from them.

*3.3.4 Remaining questions for DE in LI.* In light of the above discussion, some questions remain regarding the absence of DE in LI and the presence of DE in LI-like structures with an apparently expletive *there*; recall our argument that *there* in such structures is perhaps not expletive at all but an associate of the PP-internal DP.

Let us first consider why DE are absent in LI and what the implications of this absence are for a potential covert expletive-like element. If there is a covert EPP-satisfying element in LI, it cannot be spelled-out in *vP*, since the presence of two arguments under *v* would lead to DE. DE would be avoided if this element merges in *TP*, yet there are arguments against this. Recall that LI correlates closely to particular lexical-semantic classes and is ruled out with verbs of disappearance/movement away from the speaker and also anticausative unaccusatives (Levin & Rappaport Hovav, 1995). It is thus more predictive and indeed restrictive to posit that the expletive-like *pro* element is at least in part selected or licensed by *v* itself, as opposed to the fronted XP. This follows from more recent conceptions of overt expletive *there* as a *v*-selected element (Alexiadou & Schäfer, 2011; Deal, 2009; Richards & Biberauer, 2005). Therefore, if both the null element and the PP are extracted to *TP* and *CP* respectively, only a single argument will remain in *vP* without DE.

Now let us consider why a fronted XP does not bleed DE in the presence of *there*, if *there* is a *vP* element raised to *Spec,TP*. We are faced with the following two options:

- a. The presence of *there* is ambiguous at the interfaces with the true expletive, which then triggers DE for semantic reasons, i.e. an existential reading is forced, inducing DE (see Alexiadou & Anagnostopoulou, 1998; Freeze, 1992). However, this is an *ad-hoc* solution requiring us to deny eventiveness in all such inversions, which is incorrect and overstipulative.
- b. Recall the following proposals: the apparently expletive *there* in LI appears for roughly the same motivation as a resumptive in Left Dislocation phenomenon and is directly associated with the PP-embedded DP. This suggests the presence of a big-PP akin to a big-DP (Grewendorf, 2002a, 2009), e.g. [PP *Pthere* [PP *into the room*]]. Moreover, we supposed that the *pro* element must be licensed or selected by *v* in such inversions. Therefore, Selection of *there* cannot automatically rule out Selection of the *pro* element. However, pronominal instances of *there*, as opposed to the independent pure locative adverb, must move to *Spec,TP* (see Roberts, 2010, 170) for the same reasons that subject pronouns, i.e. because they are weak in the sense of Cardinaletti and Starke (1999) and must move to a designated Specifier. e.g.

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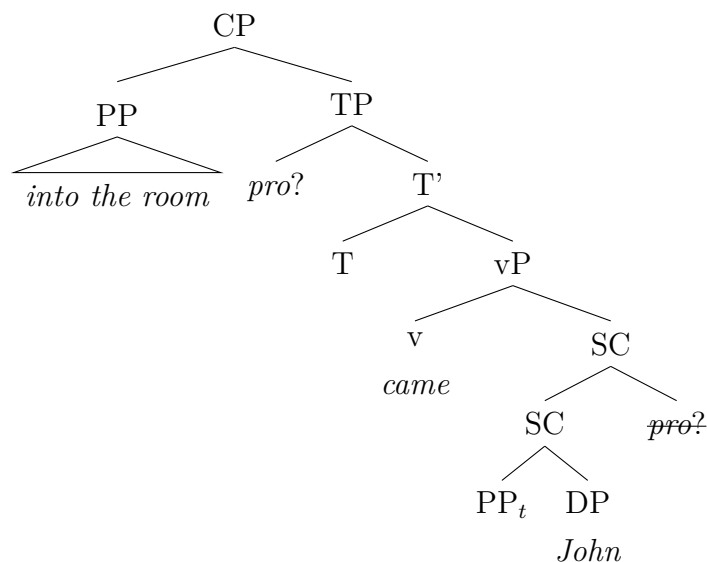
combination of *v* and applicative head following (Pylkkänen, 2008)

Spec,TP. If correct, the expletive-like *pro* element remains in situ within vP, triggering DE according to our generalization.

### 3.4 An intermediate analysis

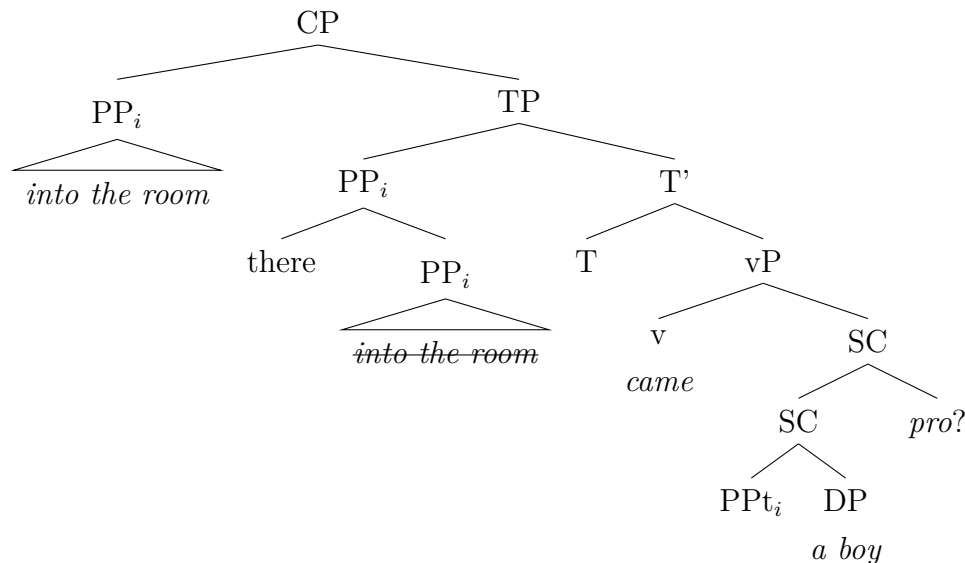
We have outlined that straightforward LI involves movement of a spatial XP directly to the C-domain but how is T's EPP requirement satisfied? We adopt the position that an empty expletive-like element values T's EPP requirements (Bruening, 2010, 2021; Coopmans, 1989; Postal, 2004); nonetheless, we cast doubt on the status of this element as a expletive *pro*. Since both subject expletives in English and LI appear to be licensed by particular lexical-semantic classes of unaccusative only (Alexiadou & Schäfer, 2011; Levin, 1993) and in light of the absence of DE in LI, we have proposed that this silent element must be extracted from a vP internal position to Spec, TP, as shown in 51. We provisionally depict this element as emerging from a complex SC structure which we explore in more depth in Section 5.

(51)



Turning to the similar construction of LI with *there* in Spec,TP, which we presume is a locative resumptive (see argumentation above), we suggest the general analysis in (52). We employ a big-PP structure, like a big-DP (see Grewendorf, 2002a, 84f) in Left Dislocation, in which *there* heads a PP-embedding PP. Since *there* is a pronoun it necessarily moves to Spec,TP, just like its formally identical expletive counterpart (Cardinaletti & Starke, 1999; Roberts, 2010). Since we employ a big-PP, *there* pied-pipes the locative PP with it. The locative PP then topicalizes to Spec,CP. As argued in section (3.3.4), the covert expletive-like element is not generated in TP as a repair but merges in the vP-domain. Because *there* occupies Spec,TP, this element is trapped low in vP with the subject DP and DE are induced.

(52)



If our analysis is correct, one might ask why English does not allow Free Inversion of the Italian type (53), if the *pro?* element can satisfy the EPP.

- (53) *é arrivata Beatrice*  
 is arrived Beatrice  
 Beatrice has arrived (here).

Indeed, Bruening (2010) holds that expletive *pro* is licensed by the preposed XP and consequently he does not predict Free Inversion. We follow (Holmberg, 2000) in assuming the presence of [P] feature in English associated with EPP effects visible in TP; that is, a syntactified condition that a phonologically visible category inhabits Spec,TP. However, we modify this slightly. We consider [P] a left-edge phenomenon which can but need not be associated with T. In short, we assume that all features of T are inherited from C the Phase head (Biberauer & Roberts, 2010; Chomsky, 2001, 2008; Ouali, 2008, 2011). A possible solution is then as follows: English C donates  $\phi$  and D features to T but retains [P]; moreover, we do not think that [P] alone can act as a movement trigger like Case features (Chomsky, 1995, 2001), yet  $\phi$  and D content do trigger movement. In a typical SVO matrix clause, the [ $\pm$ P] property of C can be satisfied locally via C-command, thus giving the impression that [P] is a property of T. However, if a spatial XP in LI targets Spec,CP, this prosodic edge condition is satisfied directly on C and TP is available as a landing site for phonologically covert material.<sup>8</sup> This would rule out Free Inversion.

8. One might alternatively assume that C duplicates its [P] feature onto T so that both host [P]. XP movement to CP could then satisfy the left-edge prosodic condition on C but not T. However, since two neighbouring heads share the same feature, satisfaction of [P] on C could deactivate [P] on T via C-command; this works on the assumption that in a chain of identical shared features, valuation of the highest F:\_\_\_ can bypass Crash (Bošković, 2011).



#### 4. Syntactifying the semantico-pragmatic properties of LI

In this section, we look more in-depth at particular pragmatic properties of LI involving the visual impact or rather the perception of the states and events depicted. We first relate Breivik's (1989) Visual Impact Constraint to work by Sluckin et al. (2021) on the evidential flavour of LI. Building on this, we demonstrate here how formalizing these properties can shed light on well-known restrictions involving negation and aspectual restrictions.

##### 4.1 LI is evidential

In the syntactic discussion of LI and the distribution of *there*, it becomes apparent that both LI andthetic-inversions are conditioned by speaker perspective. So far this has been demonstrated in two ways. Firstly, we saw that embedded LI under *how* only appeared possible under verbs alluding to direct perception, e.g. *see* and *witness*. Secondly, we introduced Breivik's (1989) Visual Impact Constraint and some striking contrasts between *there* + BE on the one hand and *there* + V and LI on the other. In short, *there* can only be omitted if the location and the subject convey visual impact. With copular BE *there* must be included if no visual impact can be established. Instead LI and *there* + V are only possible if visual impact can be established; i.e. *there* + V is unacceptable without visual impact. This was taken as evidence that *there* in subject inversion with lexical verbs is in fact a subtype of LI (see also Hartmann, 2008).

Via his Visual Impact Constraint, Breivik (1989) actually made the larger observation that inversions involving preposed locatives are inherently evidential, even if he did not phrase so explicitly. Indeed, Brinton and Stein (1995) also observe that LI “let[s] us see the events as if through a moving camera”. Although they do not investigate this function further, their description is in other words that LI is evidential. In this vein, I draw on independent arguments by Hole and Fraser (2019) for English expletive inversion structures and by Sluckin et al. (2021) for LI that these structures are inherently evidential.

Hole and Fraser (2019) claim that inversion involving *there* + V has an evidentiality implication of direct perception tied to it; note the contrasts between (54a,b, and c) (their original example contains the verb *perceive* instead of *see*). Where perception is explicitly denied, the inversion is infelicitous. This fits exactly with the observations by Breivik (1989) and in this paper; namely that *there* with a lexical verb must involve visual impact, i.e. the event must be observed.

- (54) a. There marched Basques through the square.  
 b. #There marched Basques through the square, and I didn't see it.  
 c. Basques marched through the square, and I didn't see it.

(Hole & Fraser, 2019)

Let us now compare this LI: consider the SV example in (55a) compared to the degraded inversion in which perception is denied (55b). In short, perception is a necessary ingredient of LI andthetic *there*-inversion, while it is not required in canonical orders. Note the improvement in (55c) once the event can again be construed as having been witnessed.

- (55) a. Goldilocks came out of the house and I didn't see it.  
 b. #Out of the house came Goldilocks, and I didn't see it.  
 c. I was watching from behind the bushes, and as expected, out of the house came Goldilocks.

An inferred event is also incompatible with LI, as was the case for *there* + V, as direct perception of the event cannot be reconstructed.

- (56) #Given the footsteps in front of the door, out of the house came Goldilocks.

We must then ask where the evidential component comes from in LI and in *there* + V which, following Hartmann (2008), we have argued to be LI and not involve a true expletive. Recall that we consider LI to involve some EPP-satisfying silent element (i.e. what Coopmans (1989), Postal (2004), and Bruening (2010) consider expletive *pro*). With the above discussion in mind, we propose that the licensing conditions and effect of this null element are inherently tied to this evidential character.

#### 4.2 The covert perceiver

In order to locate the source of evidentiality, we draw on argumentation by Sluckin et al. (2021) that English and French LI draw their evidential character from a silent logophoric argument, or in their terms a perceiver/observer argument which can be understood as a type of covert experiencer which they call  $EXP_{LOC}$ . Sluckin et al. (2021) propose that a decisive property of verbs participating in LI in English and French is that they license a covert experiencer/observer argument. This is linked to the idea that experiencers and mental locations are conceptually similar Landau (2010), by which experiencers can act as an abstract locative subject; in short, there is something inherently locative about experiencers. For French, Sluckin et al. (2021) argue that this element is syntactically active and can value T's EPP features.  $EXP_{LOC}$  is the crucial ingredient facilitating rare instances of French Free Inversion, or rather optional omission of expletive *il* with verbs of appearance and speaker-oriented directed motion.

- (57) *(Il) est apparu un chien.*  
 it is appeared a dog  
 'A dog appeared.'

For English, however, they cautiously assume only that this argument is a semantic implicit argument with interpretational effects but is not necessarily active in the Syntax; they posit

EPP satisfaction via PP movement through Spec,TP following Roberts (2010). We shall revise this position.

Sluckin et al. (2021) argue that licensing of  $EXP_{LOC}$  relies on the presupposition of the occurrence of a perception event  $e$  on the part of the experiencer/observer. The (asserted) appearance event  $e'$  is part of what is observed through the (presupposed) perception event. This appearance event  $e'$  amounts to the emergence of a new element - the postverbal DP's referent - in the experiencer's field of perception. This perception event is associated with its own time interval, which gives the topic time (also reference time) of the appearance event.

In this sense, the  $Exp_{LOC}$  does resemble a covert stage topic (Erteschik-Shir, 1997, 2019) denoting the 'here and now' of the discourse, which in turn requires a level of evidentiality. However,  $Exp_{LOC}$  is more restrictive than a stage topic. Only verbs of appearance (including directed and speaker-oriented motion) and existence may license the  $Exp_{LOC}$ ; this is not the case for stage topics. In contrast, unaccusatives depicting motion away from the speaker or disappearance, e.g. *die* or *disappear* cannot and are thus not possible with either *there* or in LI (Breivik, 1989; Levin, 1993; Levin & Rappaport Hovav, 1995). Sluckin et al. (2021, 179) claim that the covert experiencer is impossible in such contexts because these verbs cannot presuppose a perception event. Let us build further on these suggestions. Recall the idea that experiencers are a kind of abstract locative relating to a mental location (Landau, 2010). Where  $Exp_{LOC}$  is licensed, the mental location it depicts must be the site of the perception event ( $e$ ). We specify further that a condition must be placed on the perception event whereby the theme must be perceived in its final state of existence/result state. Since the theme cannot be perceived in a disappearance context, verbs that deny perception of the final state are highly degraded. This explanation thus resembles and goes further than the Visual Impact Constraint proposed by Breivik (1989) in its explanatory power. Indeed, as a consequence, where an event or rather perception of an event is negated (55 b) or inferred as in (56), it is thus incompatible with the covert perceiver, rendering the utterance infelicitous.

Notably then  $Exp_{LOC}$  in LI forces a specific and eventive reading from the perspective of the observer. Its job resembles the VP-level Davidsonian variable argued for by Kratzer (1995) which ranges over spatio-temporal locations (see discussion in Husband, 2012) in stage-level predicates. This has been understood in the wider literature on inversion and expletives as an event argument (for Italian see Benincà, 1988) or a type of situation argument (Bentley & Cruschina, 2018; Hinterhölzl, 2019). Whatever the exact formalisation, we note that both *there* + V and LI appear tied to stage-level predication (Carlson, 1977; Husband, 2012; Kratzer, 1995; Milsark, 1974) and resist genericity at the level of arguments and events, as shown in (58).

- |      |    |                                    |                         |
|------|----|------------------------------------|-------------------------|
| (58) | a. | *There live monkeys in trees.      | <b>Individual level</b> |
|      | b. | *In trees live monkeys.            | <b>Individual level</b> |
|      | c. | There lives a monkey in this tree. | <b>Stage level</b>      |

d. In this tree live some monkeys.

**Stage level**

Therefore, building on Sluckin et al.'s (2021) proposals, we would like to make three primary claims:

- a.  $Exp_{LOC}$  is not only semantically but also syntactically active in English as the silent EPP-satisfying element, rather than an expletive *pro*.
- b.  $Exp_{LOC}$  accounts for the ban on negation in LI
- c.  $Exp_{LOC}$  accounts for the infelicity of the present perfect in LI.

Some syntactic questions are still open. For instance, we should ask where  $Exp_{LOC}$  is externally merged and how it makes its way to Spec,TP in LI. If  $Exp_{LOC}$  is a different way of understanding Kratzer's (1995) stage-level event argument, the primary hypothesis is that it comes from the vP. In support of this recall the discussion in section (3.3.4) where we argued that a null element resembling the expletive *pro* proposed by Coopmans (1989); Postal (2004) and Bruening (2010) must be active in LI-like sentences with *there* insertion based on i) the non-expletive status of *there* and ii) the presence of DE. In short, given our generalization that two in-situ arguments under v will trigger DE,  $Exp_{LOC}$  must derive from a vP internal position and remain there where a resumptive *there* occupies Spec,TP.

We will now demonstrate more explicitly how the covert perceiver/observer argument rules out negation and the present perfect.

#### 4.3 The perceiver rules out negation

Let us explore further why the evidential flavour and thereby the implicit experiencer associated with LI is incompatible with negation.

Consider the affirmative/negative contrasts below for appearance/directed motion in (59) and non-dynamic existence in (60):

- (59) a. Out of the well emerged a small girl.  
 b. #Out the well did not/had not emerged a small girl
- (60) a. In the corner was sitting the boy.  
 b. #In the corner wasn't sitting the boy.

The negation is a presupposition hole which cannot be reconciled with the perception event within the context of broad focus. That is, negation lets the presuppositions of its complement slip through it (Karttunen, 1973). Consequently, while both the negative sentences in (59b) and (60b) and the affirmative variants (59a) and (60a) convey the occurrence of the observing-the-well/corner event, (59b) and (60b) simultaneously deny the occurrence of events or states associated with the appearance of the theme argument, which is part of what is perceived by

the observer. While (60b) is not explicitly associated with appearance in its lexical semantics, it is tied to a new perception event of the boy by the observer, which equates to appearance.

It is then the mismatch between perception and negation which underlies the infelicity of negated LI. Put simply, it is counter-intuitive to report the perception of an event whose occurrence is simultaneously denied. By denying the occurrence of the event understood to be perceived by the covert experiencer, broad focus in LI is rendered infelicitous.

Possible counter examples are those instances involving narrow contrastive foci for which negation takes place at either the DP level or sentential level (§2.5), depending on the language in question. However, these are in fact unproblematic for the covert perceiver/observer because the occurrence of an appearance event is not denied, but rather simply a sub-part of its theme. This is clearly visible in the contrast in (61) and (62).

- (61) a. #Out the well did not/had not emerged a small girl.  
 b. Out of the well emerged not a small girl but a vampire frog.
- (62) a. #In the corner wasn't sitting the boy.  
 b. ??In the corner wasn't sitting the boy, but a Bajoran monk.  
 c. In the corner was sitting not the boy, but a Bajoran monk.

We now turn to the distribution of aspect/tense markers in LI in English.

#### 4.4 *The perceiver rules out present perfect*

I would now like to make clear how the evidential flavour given by the covert perceiver/observer derives the restriction against the present perfect in sentences such as (63).

- (63) #Down the hill has rolled the ball.

A central concept relevant to LI and the effects of the covert experiencer is an approach to tense as being referential/pronominal tense, as opposed to existential / quantificational (Partee, 1973). That is, expressions of tense and pronouns resemble one another in that indexical, anaphoric, and bound variable interpretations are possible with both. Explicitly, when tense is used pronominally, a past sentence presupposes a contextually salient interval that serves as its reference time. In contrast, in an existential use of past, the sentence quantifies over a (yet unfamiliar) interval serving as the reference time.

An elucidating insight comes from work by Zhao (2019) on the competition of interest between the present perfect and simple past. Firstly, it is a long-standing observation that the present perfect is incompatible with past temporal adverbs (Klein, 1992).

- (64) # Last year, I have been to Sweden.

In brief summary, Zhao (2019) proposes that the present perfect is incompatible with referential/pronominal use when a salient past time is clearly understood as already making up part of the context.

This is relevant inasmuch as LI appears correlated with the availability of pronominal tense which the present perfect cannot provide. How then does this relate to the covert experiencer? LI sentences are necessarily interpreted against a context in which a past time serving as the reference time is salient, namely, the running time  $t(e)$  of the presupposed perception event  $e$ . In essence, the perceiver/observer argument forces pronominal tense use in the same way as past temporal adverbials. Thus, LI requires pronominal tense use because of  $Exp_{LOC}$ , which is incompatible with the present perfect.

Therefore, returning to the infelicity of (63), it is infelicitous because the presupposed observing-the-hill event provides a salient time interval serving as the reference time, which in turn induces a pronominal use of past tense. However, as we have now established, the present perfect cannot convey the pronominal use.

In contrast, the French or Italian periphrastic perfect can always have the pronominal use required by LI without any problematic aspectual content. This explains the felicity of the examples in (65).

- (65) a. *Dans la salle est entré un garçon.* **French**  
 In the room is entered a boy  
 Intended: 'Into the room came a boy.'
- b. *Nella stanza è entrato un ragazzo.* **Italian**  
 In-the room is entered a boy  
 Intended: 'Into the room came a boy.'

## 5. The argument structure of LI

It is well known that LI is closely tied to unaccusativity (Birner, 1994; Bresnan, 1994; Collins, 1997; Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995; Roberts, 2010; Stowell, 1981). We have already discussed that the lower generation point of the DP subject under  $v$  facilitates LI, as it does for inversions involving copulas, passives or the like under a true expletive *there*. Likewise, we have until now followed straightforward assumptions that both the DP-subject and the spatial XP, i.e. "the locative" are merged as arguments of a small clause (Hoekstra & Mulder, 1990; Roberts, 2010). In this section, we explore the following three core issues.

Firstly, we return to potentially problematic cases of manner-of-motion and activity unergative verbs in LI, which Levin and Rappaport Hovav (1995) have argued are coerced into unaccusative structure. We will argue that using syntactic tests regarding the constituents of the Small Clause demonstrates that such verbs are indeed also coerced as unaccusatives of

existence.

Secondly, we propose more exact SC-structures for the two core readings possible in LI; that is, directed/speaker-oriented motion (including appearance/coming into existence) and a stative existential reading, the latter of which often encodes a reading along the lines of existence in particular location which is optionally in a particular mode of motion.

Finally, we propose a tentative syntactic account of the locus or rather the derivational point of origin of *Exp*<sub>LOC</sub>.

### 5.1 The unergative problem: testing unaccusativity for manner and activity verbs

Levin and Rappaport Hovav (1995, 251-2) show that English LI involves not only unaccusatives but also unergative internally caused verbs of emission, agentive manner-of-motion verbs, verbs of internal bodily motion, and a few activity verbs, e.g., *work* and *play*. For example, consider the unergative manner-of-motion verb *swim* which can appear in LI with two different readings: (66a) shows an uncontroversial case of coercion of to an unaccusative structure depicting directed motion (Hoekstra & Mulder, 1990; Levin & Rappaport Hovav, 1995), while (66b) gives an existence reading.

- |      |    |                                       |                 |
|------|----|---------------------------------------|-----------------|
| (66) | a. | Into the sea cave swam the fish       | DIRECTED MOTION |
|      | b. | Inside the bowl <b>swam</b> the fish. | EXISTENTIAL     |

Consider also the activity verb *play* in LI in (67). We take this sentence to allow the existential paraphrase ‘there is a playing child in the garden’ as opposed to an agentive manner reading.

- (67) In the garden was playing a child.

Two possible approaches to the syntax of non-prototypically unaccusative verbs in LI are available: i) all instances involve coercion to an unaccusative structure (Roberts, 2010); ii) only directed-motion predicates become unaccusative, while all other instances of unergatives retain agentive structures, e.g. the DP subject is an external argument Levin and Rappaport Hovav (1995).<sup>9</sup> However, an uncoerced unergative verb should not be capable of participating in LI because an external argument DP-subject is the closest goal to  $\phi$  and D properties of T’s EPP property. Levin and Rappaport Hovav (1995) must assume then that uncoerced unergatives in LI involve a dislocated and right-branching late focus position on VP for the subject DP.

In this discussion, we present strong evidence that LI depicting located motion with manner-of-motion verbs like ‘swim’ or activity verbs like ‘play’ are indeed best analysed as being coercion into an unaccusative vP structure. To these ends, we will now apply a range of tests examining the position and properties of the late DP.

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9. This distinction relates also to later ideas about manner-result complementarity (Levin & Rappaport Hovav, 2013); that is, directed motion permits a result reading and thus closes off a manner interpretation, while the existential reading does not exclude manner interpretation.

5.1.1 *No agentive external argument for Manner-of-motion and activity unergatives in LI.* We will now test Manner-of-motion and activity unergatives in LI to see if i) an agentive external argument is present, and ii) the merge site of the late DP falls within a small clause under *v*.

Unaccusative verbs are typically incompatible with agent-oriented adverbs (including manner adverbs), control into purpose clauses, and instrumental modification (Alexiadou et al., 2015; Alexiadou, Gehrke & Schäfer, 2014; Schäfer, 2008). Let us check these properties in turn.

**No agent-oriented adverbs in LI:** Note the contrast below between the transitive and unaccusative use of *sink*.

- (68) a. The boat was sunk on purpose.  
 b. \*The boat sank on purpose. (Schäfer, 2008, 116)

Consider now the two sentences in (69) and (70); in the non inverted sentences in (69a) and (70a) the agent-oriented adverb ‘deliberately’ is completely acceptable, yet in the inversion structure it is infelicitous (69b) and (70b).

- (69) a. The children **deliberately** swam/were swimming inside (within) the cave.  
 b. (#deliberately) Inside the cave (#deliberately) swam/were swimming (#deliberately) the children (#deliberately).  
 (70) a. The children **deliberately** played inside the cave.  
 b. (#deliberately) Inside the cave (#deliberately) played/were playing (#deliberately) the children (#deliberately).

The infelicity of (69b) and (70b) with an agentive adverb can be understood as evidence of coercion of unergatives to an unaccusative structure encoding existence. Specifically, the unavailability of agent-oriented adverbs suggests that no agentive external argument has been merged in the syntax (Alexiadou et al., 2015; Bhatt & Pancheva, 2006; Schäfer, 2008).

**No manner adverbials or instrumentals in LI:** Further evidence supporting the absence of any agent is the incompatibility of inversion with manner adverbials (71, 72) and modification by an XP denoting an instrument (73, 74).

- (71) a. The children **clumsily** swam/were swimming inside (within) the cave.  
 b. (#clumsily) Inside the cave (#clumsily) swam (#clumsily) the children (#clumsily).



- (72) a. The children **clumsily** played/were playing inside the cave.  
 b. (#clumsily) Inside the cave (#clumsily) played/were playing (#clumsily) the children (#clumsily).
- (73) a. The children swam/were swimming **with armbands** inside (within) the cave (**with armbands**).  
 b. (#with armbands) Inside the cave swam/were swimming the children (**#with armbands**).
- (74) a. The children played/were playing in the garden **by throwing a ball**.  
 b. In the garden, the children played/were playing **by throwing a ball**.  
 c. In the garden played/were playing the children (**#by throwing a ball**).

**No control into purpose clauses in LI:** Finally, one last piece of evidence that typically agentive unergatives participating in LI lack an agent is as follows: a typical diagnostic for implicit agents in structures known to lack an overt agent is to test if control into purpose clauses are allowed (Bhatt & Pancheva, 2017; Roeper, 1987), e.g., modification via *in order to*. If control into a purpose clause is impossible, it suggests that the absence of a Voice layer and the lack of any agent (Alexiadou et al., 2015, 2014); this is evident in the contrast between the unmarked anticausative use of *sink* and the passive version, which involves an implicit agent:

- (75) a. The boat was sunk to collect the insurance.  
 b. John sank the boat to collect the insurance.  
 c. \*The boat sank to collect the insurance. (adapted from Roeper, 1987)

Control into purpose clauses is completely acceptable in the canonical order:

- (76) a. The children swam inside (within) the cave, **in order to find the Cavefish**.  
 b. The children played/were playing in the garden, **in order to keep busy**.

However, in LI control into purpose clauses is severely degraded.

- (77) a. ?? Inside the cave swam/were swimming the children, **in order to find the Cavefish**.  
 b. ?? In the garden played/were playing the children, **in order to keep busy**.

The infelicitous or degraded nature of agent-oriented adverbs, manner adverbs, instrumentals, and control into purpose clauses with typically unergative verbs giving existential readings in LI count as strong evidence for coercion as unaccusatives across the board in LI. We now move on to test the v-internal properties of the late DP.

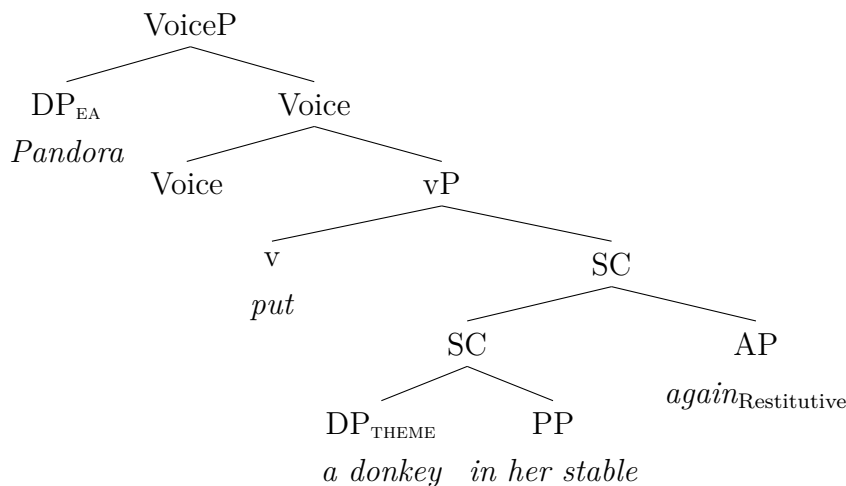
5.1.2 *Coerced existential unaccusatives and again.* We now present evidence that the late DP subject of unergatives always remains in situ within a Small Clause under v.

In short, there is a difference between transitive and unaccusative verbs associated a change-of-state or change-of-location readings related to the interpretation of indefinite themes (Alexiadou & Schäfer, 2011; Dobler, 2008a, 2008b; Schäfer, 2008; von Stechow, 1996). For example, in the change-of-state example (78a) only a repetitive reading is available, yet a restitutive reading is available in (78b) involving a change of location.

- (78) a. Repetitive  
 Pandora scrubbed a donkey clean again = Pandora scrubbed a different donkey.<sup>10</sup>
- b. Restitutive  
 Pandora put a donkey in her stable again = Pandora returned her stables to the state of containing a donkey.<sup>11</sup> (see Alexiadou & Schäfer, 2011, 108)

This contrast stems from a hierarchical difference relating to the position of *again* taking wide scope over vP and SC (repetitive) or narrow scope over a SC only (restitutive). A restitutive relates to a result state which is only available when the theme is merged in a SC (79) (see discussion in Alexiadou & Schäfer, 2011; Dobler, 2008a, 2008b; von Stechow, 1996), but is never available with an indefinite if the theme is merged as a direct complement of the verb.

- (79) *Transitive change-of-location predicate*



(adapted from Alexiadou & Schäfer, 2011, 110)

This discussion relates to LI inasmuch as a SC-internal DP-subject can be diagnosed if it is indefinite and compatible with a restitutive reading in the presence of a late *again*. Therefore,

10. It may be the case that Pandora has repeated the cleaning of a Donkey she has previously washed, yet with the indefinite object, there is no reading that she is returning a particular Donkey to a state of being clean

11. A repetitive reading is also available along the lines of ‘Pandora repeated the putting of a Donkey in her stables’; a repetitive reading always accompanies a restitutive one, but not vice versa

if manner-of-motion verbs and some activity verbs in LI are coerced into an unaccusative structure, a restitutive reading should be available (in addition to a repetitive one) with an indefinite subject in the appropriate context.

For consistency, we consider first the manner-of-motion verb ‘swim’. Strikingly, restitutive *again* is compatible with a non-dynamic existential reading of ‘swim’, in which the logical subject DP is indefinite. (80). This is further evidence for unaccusative coercion in all contexts of LI involving manner-of-motion unergatives.

- (80) Context: *The sea caves of Cornwall were once revered for their rich aquatic life, yet the Torrey Cannon oil spill of 1967 changed everything and the caves were left barren. But I couldn't believe my eyes when I visited the caves this summer.*

**LI:** Inside the caves were swimming fish again!

Moreover, a restitutive reading is also possible with (81) in LI with an indefinite subject DP, indicating that ‘play’ has also been coerced into an unaccusative structure with an existential reading, i.e. exist in a state of play.

- (81) Context: *For 40 years, the playground on the corner of the street was loved by all the children, but after the population became largely infertile, the playground stood empty. But this summer, I saw something incredible.*

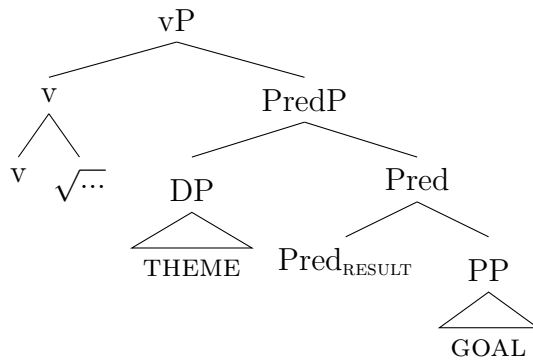
**LI:** On the playground was playing a child again!

In sum, we have presented arguments that all types of unergatives in LI are coerceable to unaccusative structure, beyond those expressing directed motion (contra Levin & Rappaport Hovav, 1995). This removes a theoretical hurdle in the analysis of different lexical-semantic verb classes in LI, since a low subject will always facilitate inversion as long as i) the spatial XP can be topicalised for information-structural reasons, and ii)  $Exp_{LOC}$  is present in the derivation. We now turn to be more explicit about the structure of the small clause and the locus of  $Exp_{LOC}$ .

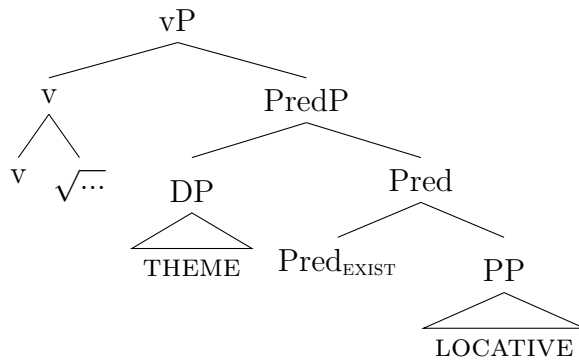
## 5.2 *The structure of the small clause in LI: figure-ground results and states*

In current theory, small clauses are often considered as predication phrase (prP/PredP) (Bowers, 1993, 2010) headed by Pred. The job of the head then is to mediate the relationship between the subject, the predication and the event denoted by the verb. Alternatively, others have chosen to employ the terms such as ResultP (Alexiadou & Schäfer, 2011) or ResP (Folli & Harley, 2019) focusing on the association between SC-structures and the depiction of results, going back to Hoekstra (1988). We do not consider the exact labels to be important yet. We take the general position that the head can be thought of as introducing a figure in its specifier and a ground as its complement within the context of a change of location or existence in a location (see Irwin, 2012, 2018). We might abstractly envision this variation in SC as follows:

(82) a.

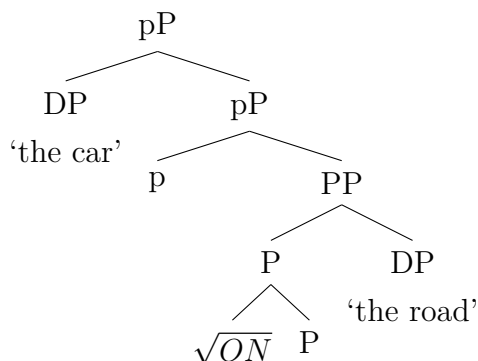


b.



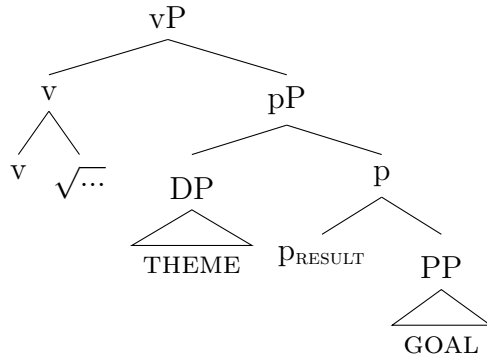
Let us entertain the idea that PredP in the context of LI is in fact a type of pP, in line with the general observation that the SC-structure of change-of-location/appearance events for verbs such as *arrive* and *occur* has also been considered as variations of prepositional structures (Acedo-Matellán, 2016; Acedo-Matellán & Mateu, 2014; Hale & Keyser, 1998, 2000; Mateu & Acedo-Matellán, 2012) which mark the relationship between figure and ground ((Svenonius, 2003, 2007; Wood, 2015; Wood & Marantz, 2017)). The head p introduces an external argument in its specifier, the figure, while mapping the relationship between the figure and the preposition P introducing the ground as the complement of P (83). Note that the claim is not that all small clauses are pPs, simply those denoting some spatio-deictic constellation. The possible points of variation, however, for unaccusatives verbs taking spatial arguments are the dynamism of the finer structure of pP, i.e., the encoding of path/goal/place.

(83)

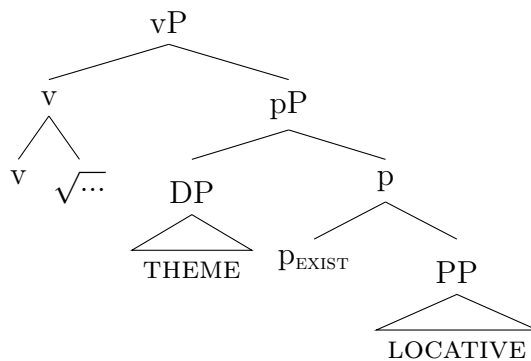


We can thus translate result or existence small clause predicates as shown below:

(84) a.



b.

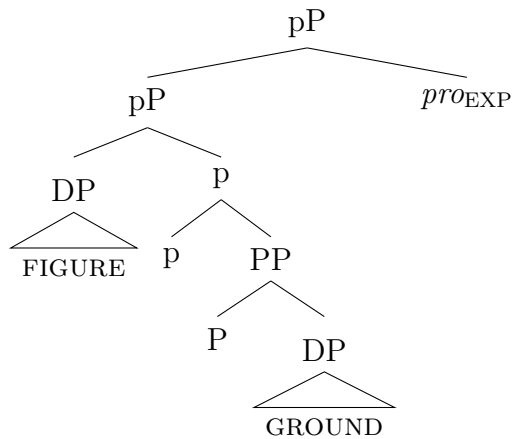


With this discussion in mind, We would like to be more explicit about the Merge site of  $Exp_{LOC}$ .

### 5.3 The position of the experiencer

From a semantic perspective, locative and thetic inversion structures have been argued to involve a perspectival shift onto the location as opposed to the participant (Bentley, Maria Ciconte & Cruschina, 2015; Borschev & Partee, 1998; Partee & Borschev, 2008), which places the emphasis of the utterance on the result and/or location of an event and not the internal dynamism of the event itself. This is important for LI and the Merge site of  $Exp_{LOC}$  inasmuch as it can be taken as evidence that the covert perceiver scopes only over the result state or state and not internal dynamics of the event introduced by v. In this sense,  $Exp_{LOC}$  resembles restitutive *again* which was posited by Alexiadou and Schäfer (2011) to occupy a high adjunct position in a result denoting SC. We thus tentatively assume the analysis in (85) for the internal structure of the pP.

(85)



An advantage of placing  $Exp_{LOC}$  above the pP structure is that it neatly accounts for raising of  $pro_{EXP}$  to T instead of the DP semantic subject. In short, the adjunct position in which  $Exp_{LOC}$  is merged is more local to T than spec,pP where the DP semantic subject is merged. Consequently, when T probes for  $\phi$  and D, it will first see  $pro_{EXP}$  before the full DP. We might assume then that in the presence of an overt weak pronoun, the pronouns requirement to move to the designated specifier position in Spec,TP (Cardinaletti & Starke, 1999; Roberts, 2010) can overcome purely syntactic intervention effects. How is this possible? One option is that weak pronouns have an advantage due to their phonological content. Alternatively, it is likely that the naturally topic and definite status of personal pronouns requires that they first move to the left edge of vP (see for example Belletti, 2004; Diesing, 1992; Jayaseelan, 2001; Kiss, 1998) and are thus a closer goal than  $Exp_{LOC}$ .

Let us finally link the position of  $Exp_{LOC}$  to the following observations:

- a.  $Exp_{LOC}$  is only licensed in inversion - the evidential context in which it is licensed is linked to inversion.
- b. When in situ,  $Exp_{LOC}$  gives rise to DE.
- c. It does not appear to have any impact on Case.

We take (a) as evidence that  $Exp_{LOC}$  is not selected *per se* by particular classes of unaccusative verb but rather it is licensed by their lexical semantics in combination with the event at hand; the event being partially encoded by both the pP and the verb. For this reason, it would be prudent to draw a comparison with other non-selected experiencers, i.e., affected experiencers (Bosse, Bruening & Yamada, 2012). For example, like the covert perceiver, an affected experiencer must also be sentient and aware (Bosse et al., 2012); however, this correlates to a property of experiencers more widely.

Concerning observation (b), we already discussed that the  $Exp_{LOC}$  must fall below v in situ, which according to our generalization should trigger DE, i.e. two internal arguments of v in

situ are associated with DE. We do not posit a low applicative-like head (see Pyllkänen, 2008) between *v* and *pP* as applicatives do not trigger DE and are typically associated with possession.

Turning to (c), we might ask why *Exp<sub>LOC</sub>* in a high adjunct position of *pP* does not affect Case assignment. Within a dependent approach to Case (Alexiadou & Anagnostopoulou, 2001; Bobaljik, 2008; Marantz, 1991; McFadden, 2004; Preminger, 2011, 2014, among others), the presence of *Exp<sub>LOC</sub>* in a position closer to *v* than the DP could force assignment of accusative Case on the semantic subject. Since, inverted pronouns are ruled out and full DPs are not case marked in English, testing this is particularly difficult. However, there is likewise no reason to assume that the overt DP subject is not nominative. We assume, however, that Case is assigned via computationally identical Case features in the sense of Chomsky (2000) and Alexiadou and Anagnostopoulou (2001) in a dependent manner, yet *Exp<sub>LOC</sub>* does not bear any Case features and as such has no effect on Case assignment. Even under a dependent approach, we could assume that *Exp<sub>LOC</sub>* is orthogonal to Case in the same way as expletive *there*.

## 6. A synchronic analysis

We have now presented an extensive discussion of both the clausal and argument-structural properties of LI. Let us summarize the key points proposed so far according to each syntactic domain.

### The CP

- a. The spatial XP can be understood as a Subject of Predication (SoP) (Bentley & Cruschina, 2018; Cardinaletti, 2004; Sluckin et al., 2021) - a Sentence/Aboutness Topic, in other words, (Frey, 2004; Gundel, 1985).
- b. The spatial XP moves directly to a topic position in the C-domain, e.g. Spec,CP.

### The TP

- a. The EPP on T is satisfied by a silent syntactically active expletive-like element in Spec,TP (see Bruening, 2010; Coopmans, 1989; Postal, 2004).
- b. Where *there* appears after a preposed locative, it is a resumptive pronoun which satisfies EPP.
- c. *there* + V inversions are in fact instances of LI (see also Hartmann, 2008).

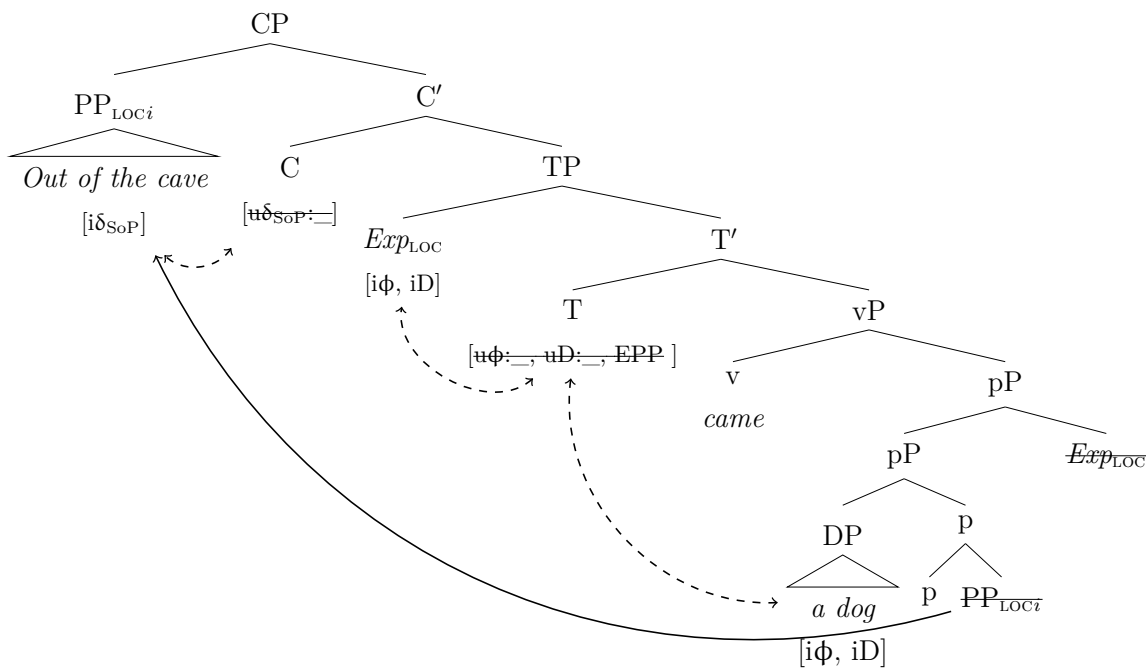
### The vP

- a. The silent expletive-like element is a covert perceiver/observer argument, i.e. a covert logophoric pronoun we have called *Exp<sub>LOC</sub>*.

- b.  $Exp_{LOC}$  is generated optionally as the highest argument in a pP small clause scoping over the figure and ground.
- c.  $Exp_{LOC}$  is licensed by a combination of the lexical semantics of the verb, the pP, and of course the context.
- d. All unergatives in LI are coerced into an unaccusative vP structure.

We consequently adopt the analysis in (86) for a straightforward instance of LI. Following the precedent set by Miyagawa (2017), we refer to information-structural syntactic features as  $\delta$ -features. For LI, we use  $[\delta_{SoP}]$  to denote the feature SoP as an independent feature specification (see also Mohr, 2005; Sluckin, 2021) as opposed to a dedicated head (see Cardinaletti, 2004).

(86) **A Full derivation of English LI**



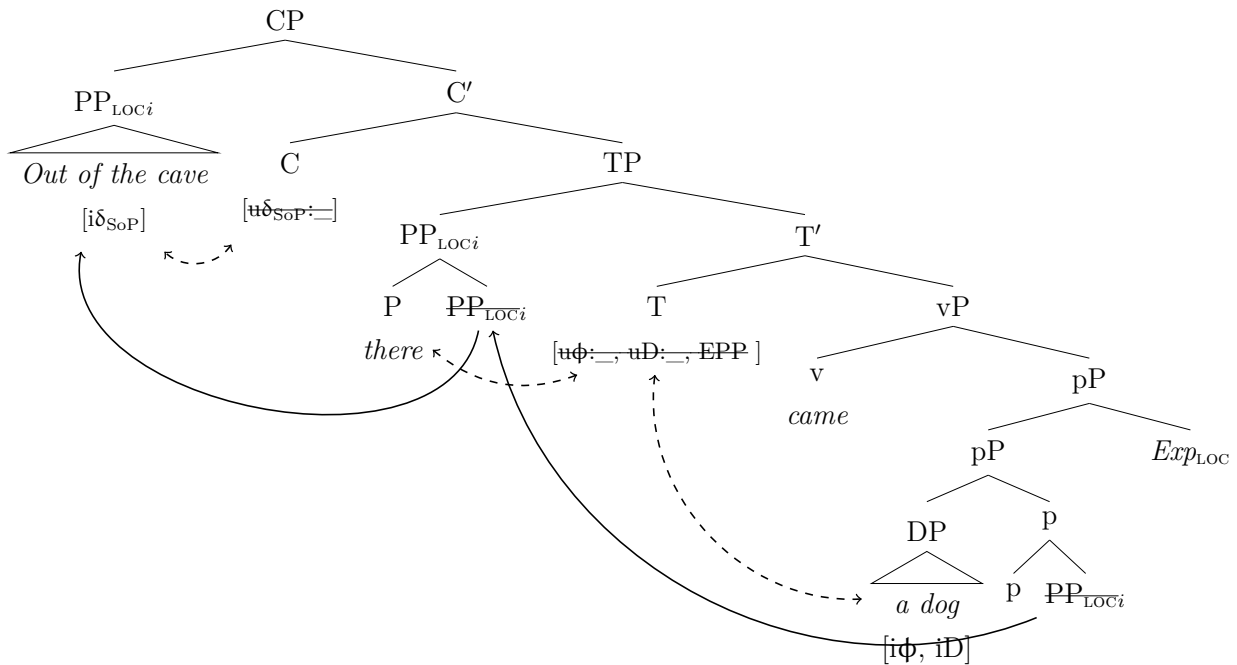
Let us explain this derivation step by step: movement is shown with black lines, while Agree relations are shown with dashed lines. Firstly, T will probe downwards and find the closest appropriate goal available for movement to satisfy the EPP. That goal is  $Exp_{LOC}$ . However, we assume that  $Exp_{LOC}$  does not trigger agreement on the finite verb for the same reason as *there*, i.e. it is +D but  $\phi$ -deficient, perhaps hosting an underspecified person or number feature (see Chomsky, 1995);<sup>12</sup> the eventive and evidential semantic specification of  $Exp_{LOC}$  is not syntactically relevant. T will subsequently agree downward with the low DP-subject in vP triggering verbal inflection where necessary. Either subsequently, or simultaneously if C and T probe together (Chomsky, 2008), the  $[u\delta_{SoP}]$  feature on C will probe downwards and find its valued goal on P within the pP, which will then topicalize the entire PP to Spec,CP.

12. Sluckin (2021) shows that French LI can optionally show 3.SG agreement between the locative and the finite verb suggesting some  $\phi$  content.



Finally, we reconsider the analysis for a sentence with both a preposed locative and *there*, since these sentences have the same interpretational value yet show DE. The analysis is given in (87).

(87) A preposed PP + *there*



As discussed in section 3, DE arise when two arguments remain below *v* within the small clause; we take these to be the low DP-subject and *Exp*<sub>LOC</sub>. Although *Exp*<sub>LOC</sub>, *there* is a weak pronoun and necessarily moves to Spec,TP, following Roberts (2010). In this case, *Exp*<sub>LOC</sub> remains in situ preserving the international effects and triggering DE. We must stipulate that covert arguments are orthogonal to weak or strong status. As for the mechanism by which *there* lands Spec,TP and the PP in the C-domain respectively, we employ a big-PP, in the same style as a Grewendorfian big-DP (Grewendorf, 2002a, 2002b, 2009); that is, T targets *there* which pied pipes the entire big-PP into Spec,TP. The spatial PP is then free to move from Spec,TP to Spec,CP.<sup>13</sup>

13. An alternative is that if T and C probe simultaneously *a la* Chomsky (2008), T probes *there* triggering simple A-movement, while C probes the embedded spatial PP triggering A'-movement to Spec,CP.

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