


## Article

# Locative Inversion in Old English Embedded Clauses

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**Abstract:** A grammatical construction resembling Present-Day English locative inversion has already been found in Old English, with a fronted prepositional phrase prompting V2 word order, both in main and subordinate clauses. It has been demonstrated that several discourse-related factors influence the positioning of objects, fronted locatives, finite verbs and subjects in subordinate clauses. One of the main aims of the present paper is to provide a quantitative and qualitative analysis of the locative inversion construction in Old English subordinate clauses. The Old English data for this study were obtained from the *York–Toronto–Helsinki Parsed Corpus of Old English Prose*, and they were analysed using *Corpus Studio*. The results were compared with those for main clauses, and discourse-related factors such as PP anaphoricity or subject type were analysed in order to find the motivation for the existence of this alternation of word orders. PP anaphoricity proved not to be a determining factor in triggering finite verb inversion, while other factors such as subject weight and subject type do seem to motivate finite verb inversion, thus yielding an embedded PP–V–S word order.

**Keywords:** Old English; locative inversion; historical linguistics; syntax; information–structure

## 1. Introduction

A great amount of the recent work on Old English word order focuses on information–structural factors as well as on syntactic ones (Van Kemenade and Los 2009; Biberauer and van Kemenade 2011; Van Kemenade and Milićev 2012; Taylor and Pintzuk 2012; Dreschler 2015). The construction known as locative inversion in present day languages has also received particular attention (cf. Bresnan 1994; Culicover and Levine 2001; Rizzi and Shlonsky 2006; Ojea 2020). In this type of construction, an adverb or prepositional phrase (PP) expressing location appears in the leftmost position of the clause, followed by the verb and with the subject postposed after the verb. It is assumed that locative inversion in Present-Day English (PDE) is only possible with intransitive, unaccusative verbs, i.e., verbs whose grammatical subject is not a semantic agent (cf. Burzio 1986; Hale and Keyser 2002), and it seems to work as an information rearranger (Dreschler 2015, p. 243) with a presentational function (Ojea 2020).

If we focus on Old English, Dreschler (2015) provides a diachronic study which includes a detailed syntactic and information–structural analysis of PP initial main clauses in Old English, concluding that among the functions of clause-initial PPs are those of local anchoring, contrast and frame-setting (2015: 265). Concerning the positioning of subjects, Dreschler (2015) argues that there is a tendency for unaccusative verbs to trigger inversions, as exemplified in (1):

- (1) *Æfter his deaðe foran eft Cartainienses an Sicilie mid scipum*  
after his death went again Carthaginians to Sicily with ships  
'after his death went against the Carthaginians to Sicily with ships'

(coorosiu, Or\_4:5.91.29.1854)

(From Dreschler 2015, p. 247, her 113)

In relation to the fronting of discourse-old constituents in Old English, López-Martínez (2019) explores the syntactic and information–structural implications of a series of sub-



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ordinate constructions with two types of clause-initial constituents, namely determiner phrases functioning as objects, as in (2) below, and prepositional phrases, as in (3). In both cases, the finite verb appears in the second position in the subordinate clause instead of in final position. That study, which focuses mainly on clause-initial objects, takes into account the discourse status of both the clause-initial element and the PP-V-S word order. In constructions like (2), with a clause-initial object and the verb in second position, we seem to be dealing with embedded topicalization, while in constructions like (3), with a clause-initial PP, finite verb inversion and the subject in the final position, subject extraposition appears as the most plausible explanation. Furthermore, most of these constructions with a PP-V-S structure display an adjunct of space or time in the initial position, resembling those constructions with locative inversion in Present-Day English.

- (2) *swa hit healdað Grecas*  
*swa*  
 as it keep Greeks  
 ‘as the Greeks keep it’  
 (æLS[Basil]:142.546) (López-Martínez 2019, p. 64, his 29.a)

- (3) *Forðæm eac wæs ðæt ðe beforan ðæm temple stod*  
 Because also was that before the temple stood  
*æren ceac onuppan twelf ærenum oxum*  
 brass cauldron upon twelve brass oxen  
 ‘Because it also was that a brass cauldron upon twelve brass oxen stood before the temple’  
 (CP:16.105.1.687) (López-Martínez 2019, p. 66, his 33)

One of the main objectives of this paper is to provide a more detailed analysis of initial PPs in subordinate clauses, paying particular attention to the informational–structural implications of verb inversion and late subjects. By presenting a qualitative and quantitative study of subordinate constructions with clause-initial PPs, both with and without finite verb inversion, the present work explores the possible motivations for the existence of these types of word order in Old English. Looking at the discourse status of clause-initial PPs, their anaphoricity will prove not to be a determining factor to trigger finite verb inversion in this type of construction. On the contrary, other factors such as subject weight and subject type seem to motivate finite verb inversion, thus yielding an embedded PP-V-S word order.

The structure of this paper is the following. Section 2 provides a series of theoretical considerations on Present-Day English, and Section 3 focuses of the syntax of Old English as a V2 language. Section 4 includes a description of the materials and methods, and Section 5 provides the results of the main query. Section 6 provides a detailed quantitative and qualitative analysis of the syntactic and informational–structural status of clause-initial PPs, the finite verbs and their subjects, paying special attention to late subjects. Finally, Section 7 presents some conclusions.

## 2. Locative Inversion in Present-Day English

Levin and Rappaport Hovav (1995, p. 218) present what they consider to be the main properties of the construction known as “locative inversion” in Present-Day English, which they illustrate with (4) below:

- (4) In the distance appeared the towers and spires of a town which greatly resembled Oxford. (L. Bromfield, *The Farm*, 124)  
 (Levin and Rappaport Hovav 1995, p. 218, their 1)

Among those properties, they mention its noncanonical “PP V NP” word order, the presence of a locative or directional PP in “preverbal position”, and the fact that the verb must be intransitive and more particularly unaccusative. Those unaccusative verbs, according to them, include mainly verbs of appearance, existence, directed motion and

manner of motion (p. 220). Similarly, [Webelhuth \(2011\)](#) presents the following list of properties for the locative inversion construction:

- (5) a. Unusual word order: [PPLocAUX\*V LOG-SUBJ]
- b. The main verb must be intransitive.
- c. The sentence must not be negated.
- d. The logical subject must not be an anaphoric pronoun.
- e. The relative familiarity constraint.
- f. The “Displaced speech” effect

([Webelhuth 2011](#), p. 83)

We can see how Levin and Rappaport and Webelhuth agree on the intransitivity of locative inversion. Concerning the relative familiarity constraint in (5e), [Webelhuth \(2011\)](#) refers to [Birner \(1996, p. 90\)](#) and the discourse constraint which implies that “[t]he preposed element in an inversion must not be newer in the discourse than the postponed element.” As regards the “Displaced speech” effect, [Webelhuth \(2011, p. 86\)](#), building on [Drubig \(1988\)](#) and [Bolinger \(1977\)](#), defines it as an effect displayed by locative inversion which implies that the speaker or writer has “privileged sensory access to the situation that is described.” The data retrieved prove that these properties apply to embedded clauses in Old English as well, with subjects conveying new information and clauses with a presentational sense in most cases.

There are, however, some restrictions concerning the availability of locative inversion in embedded clauses. Consider the following examples from [Sasaki \(1998\)](#):

- (6) a. That Bill rushed into the Oval Office is believed.
- b. \*That into the Oval Office rushed Bill is believed.
- c. It is believed that Bill rushed into the Oval Office.
- d. It is believed that into the Oval Office rushed Bill.

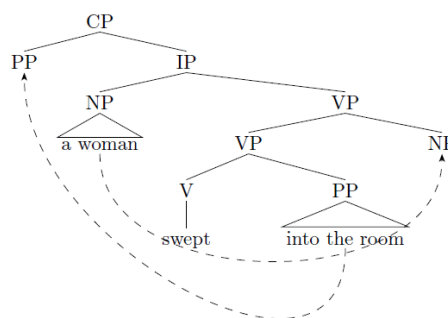
(Adapted from [Sasaki 1998](#), p. 54, his 5)

Observing the evidence in (6), Sasaki proposes that locative inversion in embedded clauses is restricted to those which are in a CP selected by a bridge verb, as in (6c). Bridge verbs are those that allow for complementizer deletion ([Van Kemenade 1997, p. 328](#)). This restriction thus renders (6b) ungrammatical. Furthermore, Sasaki points out that locative inversion cannot take place in a clause without a complementiser, even after a bridge verb, as seen in (7) below. Old English data, however, prove that locative PPs can be fronted in embedded clauses in this language in contexts other than CPs selected by bridge verbs, including adverbial and relative clauses.

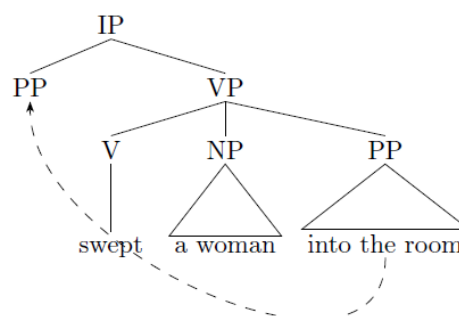
- (7) a. Mary said that Bill rushed into the Oval Office.
- b. \*Mary said into the Oval Office rushed Bill.

Syntactically, authors such as [Postal \(1977, 2004\)](#), [Chomsky \(2008\)](#) and [Ojea \(2020\)](#) assume that the locative PP moves to CP and that there is a covert expletive in Spec-TP. [Kim \(2003, p. 3\)](#) presents the two main traditional analyses of locative inversion in terms of movement: the topicalization approach, as shown in (8) below (cf. [Bowers 1976](#); [Newmeyer 1987](#); [Rochemont and Culicover 1990](#)), and the unaccusative approach, illustrated in (9) (cf. [Coopmans 1989](#); [Hoekstra and Mulder 1990](#)).

(8)



(9)



In the topicalization approach, the PP moves into a topic position as the specifier of CP, and the subject NP moves to a VP-adjoined position. On the other hand, in the unaccusative analysis, the NP is the object of an unaccusative verb and the locative PP moves into a subject position. If we assume the notion outlined in Fischer et al.'s work (2000, p. 109) that the non-final V position in the embedded clause bears no relation to topicalization, since it is a main-clause phenomenon, we could deem the topicalisation analysis problematic if we want to account for locative inversion constructions in Old English embedded clauses.

Reviewing the unaccusative approach, Kim (2003, pp. 7–9) indicates that the PP, which moves to the Spec-IP position, displays some subject properties. For instance, in relation to raising, we can find cases of a locative PP working as the subject of a raising verb, as is in (10) below.

- (10) a. Over my windowsill seems to have crawled an entire army of ants.  
b. On the hill appears to be located a cathedral.

(Kim 2003, p. 7, his 18)

Kim (2003, pp. 8–9) also argues that in the unaccusative approach, the postverbal NP displays object properties as it is generated as the object of an unaccusative verb. This is demonstrated, for example, by the fact that adverbs cannot appear between the verb and the NP as the NP is generated as the complement of the verb, and nothing can intervene between them, as seen in (11):

- (11) a. In front of us walked Dana proudly.  
b. \*In front of us walked proudly Dana.

(Kim 2003, p. 9, his 28)

We must now consider the issue of the left periphery of the clause in relation to the syntax of Old English as a V2 language and clause-initial PPs.

### 3. V2 in Old English

From a syntactic point of view, Old English has traditionally been regarded as a V2 language, with the finite verb generally following an initial constituent in the main clauses (Fischer et al. 2000, p. 15). Fischer et al. distinguish different word order patterns for V2 sentences (2000: 105–108). The subject commonly appears as the first constituent of the main clause, with the finite verb following it, as seen in (12) and (13) below:

- (12) **We habbað** hwæðere þa bysne on halgum bocum  
 we have nevertheless the examples in holy book  
 ‘We have, nevertheless, the examples in the holy book’  
 (ÆCHom I, 33.474.33)

- (13) **Se Hælend wearð** þa gelomlice ætiwed his leornung-cnihtum  
 the Lord was then frequently shown his disciples  
 ‘The Lord then frequently appeared to his disciples’  
 ÆCHom I, 15.220.21  
 (From Fischer et al. 2000)

When the first constituent in a main clause is not the subject, the finite verb often follows it, resulting in subject–verb inversion. This is the case with the so-called “operators”, i.e., question elements as in (14) below, the negative *ne* as in (15), and the adverbials *þa* and *þone* as in (16). Inversion can take place with both nominal and pronominal subjects.

- (14) **Hwi** wolde God swa lytles þinges him forwyrnan?  
 why would God so small thing him deny  
 ‘Why should God deny him such a small thing?’  
 (ÆCHom I, 1.14.2)

- (15) **Ne** sceal he naht unalifedes don  
 not shall he nothing unlawful do  
 ‘He shall not do anything unlawful’  
 (CP 10.61.14)

- (16) **Þa** wæs þæt folc þæs micclan welan ungemetlice brucende  
 then was the people the great prosperity excessively partaking  
 ‘Then the people were partaking excessively of the great prosperity.’  
 (Or 1.23.3)

Verb–subject order can occur when the first constituent is a non-subject if the subject is a full determiner phrase (DP), as in (17), but if the subject is a pronoun, as in (18), inversion is not possible in most cases:

- (17) On twam þingum hæfde God þæs mannes sawle gedodod  
 in two things had God the man’s soul endowed  
 ‘With two things God had endowed man’s soul’  
 (ÆCHom I, 1.20.1)

- (18) Forðon we sceolan mid ealle mod & mægene to Gode gecyrran  
 therefore we must with all mind and power to God turn  
 ‘Therefore we must turn to God with all our mind and power’  
 (HomU19 (BIHom 8) 26)

As regards embedded clauses, most authors such as Fischer et al. (2000, pp. 107–9) agree on the fact that the movement of the finite verb is more restricted and consider preposed constituents such as topics and question elements followed by the finite verb to be “a main-clause phenomenon.” It is accepted, however, that the subject in embedded clauses always precedes the finite verb, “except in special constructions such as passives”, and that “regular topics followed by the finite verb as in main clauses do not appear in

this position.” Generally speaking, they illustrate the canonical S-Vfin-XP-V word order of embedded clauses, as shown in (19) below:

- (19)    *Þæt    hi        mihton    swa        bealdlice    Godes    geleafan    bodian*  
           that    they    could        so        boldly        God’s    faith        preach  
           ‘that they could preach God’s faith so boldly’

(ÆCHom I, 16.232.23)

In relation to V2 in embedded clauses, [Salvesen and Walkden \(2017\)](#) refer to the difference between CP-V2 and IP-V2 languages: in a CP-V2 language, the landing site for the finite verb is  $C^0$  (via  $I^0$ ), while in an IP-V2 language, it does not move any higher than  $I^0$  (cf. [Van Kemenade 1997](#); [Pintzuk 1991](#); [Kroch et al. 2001](#)). [Salvesen and Walkden \(2017\)](#) propose what they label the “split hypothesis” based on [Travis \(1984, 1991\)](#) and [Zwart \(1991, 1993\)](#): it presupposes that the position of the finite verb depends on the nature of its preceding XP, i.e., the finite verb rises to  $C^0$  when the first constituent of the clause is “a nonsubject”, whereas it remains in Spec-IP when the subject is in the initial position ([Salvesen and Walkden 2017](#), p. 170).

[Salvesen and Walkden \(2017\)](#), p. 173) argue that CP-V2 languages, or asymmetric V2 languages, can be divided into those that prohibit embedded V2 “whenever the complementizer is present”, such as German, and those which allow embedded V2 “with an overt complementizer only in specific contexts”, such as Mainland Scandinavian. Those contexts in which embedded V2 is allowed are usually complement clauses of the so-called ‘bridge’ verbs. In their study, [Salvesen and Walkden \(2017\)](#) find “only a handful of non-accidental counterexamples” of embedded V2 in Old English, which leads them to affirm that embedded V2 in Old English is completely ruled out.

[Haeberli \(2001\)](#), pp. 204–5), among others, assumes two potential landing sites for finite verbs (C with clause-initial operators like *þa* ‘then’ and Agr with clause-initial non-operators, like DPs or PPs), as well as two positions for subjects (a high position reserved for pronominal subjects and a lower position for full DP subjects), as illustrated in (20) below. To account for the asymmetry found in subordinate clauses, in which the canonical word order is V-final, [Haeberli \(2001\)](#), p. 223) assumes that the complementiser in this type of clause is generated in Fin and that the finite verb moves only to T, as summarized in (21):

- (20)    [CP [XP] C [AgrP **SU1** Agr [TP **SU2** ...]]]  
 (21)    [C [**SU1** [TP **SU2** (...) V (...) ]]]

(Adapted from [Haeberli 2001](#))

However, [Biberauer and van Kemenade \(2011\)](#), p. 18) suggest that the structure in (20) and (21) does not account for a series of informational–structural factors, which are particularly relevant for the placement of subjects. In order to reflect such factors, Biberauer and van Kemenade propose the structure illustrated in (22) below, with the higher subject position located within an articulated complementizer phrase (CP). We must note that higher subject positions are reserved for discourse-old subjects (and also pronominal objects), while the lower position is reserved for discourse-new subjects. This supports the idea in [Pintzuk \(1993\)](#) and [López-Martínez \(2019\)](#) that clause-initial elements other than the subject could occupy a higher position in the clause in Old English, even in subordinate clauses. If we are to assume this analysis applies to embedded clauses with fronted PPs, it is precisely that higher position which would be occupied by the fronted locative, thus providing a generative solution for this kind of construction.

- (22)    [CP XP C [FP **Discourse-Old Subj** (**SU1**) F [TP **Discourse-new Subj** (**SU2**) T ... ]]]

(Adapted from [Biberauer and van Kemenade \(2011\)](#))

Focusing on those clause-initial PPs in Old English main clauses, [Dreschler \(2015\)](#) shows that they generally function as local anchors, with additional functions such as

contrast and frame-setting. It seems that in main clauses, both the type of verb and the type of PP influence verb inversion in constructions which resemble locative inversion in PDE, and the information status of subjects is considered to be “a less important factor for subject placement” (Dreschler 2015, p. 242). Thus, inversion after clause-initial PPs occurs with unaccusative verbs, ascribed to the fact that unaccusative subjects originate as the internal argument in the VP and remain in that position. The present study tests whether this is the case for clause-initial PPs in embedded clauses with finite verb inversion.

#### 4. Materials and Methods

As mentioned earlier, the present paper aims at providing a quantitative and qualitative study of subordinate clauses with clause-initial PPs in Old English, both with and without finite verb inversion (including main verbs, be, have and modals) and to explore the possible informational–structural factors which may motivate these types of word order. To do so, an Old English dataset was compiled from the *York–Toronto–Helsinki Parsed Corpus of Old English Prose* (Taylor et al. 2003), a corpus of 1.5 million words comprising 100 Old English prose texts of all types and genres. The search engine used to analyse the dataset was *Corpus Studio* (Komen 2009). For the sake of replicability, the code used for the query is included in the Appendix A.

Making use of the software Cesax (Komen 2012), the data obtained by *Corpus Studio* (Komen 2009) generated an Excel file with a list of every individual example, which discriminated each type of embedded word order and allowed for a fine analysis of each type of preposed PP, subject and verb type.

#### 5. Results

The query submitted included two types of word order<sup>1</sup>: subordinate clauses with a clause-initial locative PP and the finite verb in final position (henceforth, PP-S-V word order), as seen in (23) below, and subordinate clauses with a clause-initial PP and the finite verb in second position (henceforth, PP-V-S), as repeated in (24). Temporal PPs were also included, since examples containing this type of element also fell under the category of presentational shared by locatives.

- (23) Sua sua    *mid*    *liðre*    *wisðlunga*    *mon*    *hors*    *gestilled*  
 So that    with    softer    whistles    man    horses    calm  
 ‘so that the horses are calmed still with softer whistles’  
 (CP:21.161.12.1098)
- (24) Forðæm    eac    wæs    *ðæt ðe*    *beforan*    *ðæm*    *temple*    *stod*    *æren*  
 Because    also    was    that    before    the    temple    stood    brass  
*ceac*    *onuppan*    *twelf*    *ærenum*    *oxum*  
 cauldron    upon    twelve    brass    oxen  
 ‘Because it also was that a brass cauldron upon twelve brass oxen stood before the temple’  
 (CP:16.105.1.687)

The query yielded a relatively even distribution of both types of word order, as illustrated in Table 1 below, with 255 tokens of embedded PP-S-V word order and 333 tokens of embedded PP-V-S word order. We must bear in mind that V2 is rare among all subordinate clauses with a PP in Old English, including those in which the PP follows the verb.

**Table 1.** OE query distribution.

PP-S-V	PP-V-S	Total
255 (43.4%)	333 (56.6%)	588 (100%)

Figure 1 below shows the evolution of both types of word order throughout the four sub-periods in which the YCOE divides the Old English period. We can observe that an

embedded PP-V-S word order (i.e. with finite verb inversion) was more numerous than that without inversion in the O2 and O3 sub-periods, particularly in O3, while the situation was inverted in the last sub-period, with embedded PP-S-V above its competing word order:

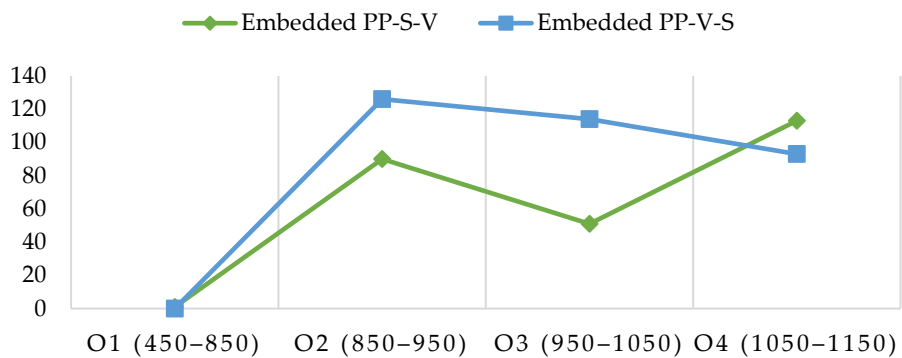


Figure 1. Initial PPs in embedded clauses through OE periods.

Bearing this in mind, the following section will examine the syntactic and informational-structural status of clause-initial locatives in these two types of configurations while also trying to assess the motivation for their distribution.

6. Discussion

As seen in the previous section, both embedded clauses with clause-initial locatives with and without inversion were abundant in Old English, with an apparently even distribution. Examples (23) and (24) above illustrate a clear difference in use between these two competing word orders: while (23) places the PP in the clause-initial position in the embedded clause for emphasis (i.e., it is with gentler whistles, *mid liðre wisðlunga*, that horses are calmed), with the subject ‘man’ *mon*, (24) is clearly presenting a scene, that of the front surroundings of a temple, following both the “displaced speech” effect described by [Webelhuth \(2011\)](#) for PDE and the relative familiarity constraint, with a subject conveying new information (‘a brass cauldron upon twelve brass oxen’).

This section now analyses the data obtained for the present study, paying particular attention to the status of clause-initial PPs in embedded clauses in Old English, together with the main verbs and their subjects. The data are analysed looking for syntactic and information-structural factors that may influence the positioning of the finite verb and the subject in these types of clauses.

6.1. PP Anaphoricity

In her study of clause-initial PPs in main clauses in the Old English *Orosius* and *Lives of Saints*, [Dreschler \(2015, p. 253\)](#) concludes that many of those clause-initial PPs are discourse-old and contain a link to the preceding discourse, functioning as local anchors, while less frequent but relevant patterns serve as frame-setting and contrast devices. In order to assess the situation in embedded clauses, the anaphoricity of clause-initial PPs, both with and without finite verb inversion was examined by analysing the elements immediately following the preposition. These elements are bare demonstratives (25), demonstratives which are part of a DP (26), bare pronouns (27) and pronouns which are part of a DP (28). Finally, PPs followed by a non-anaphoric element were also included (29)<sup>2</sup>. We need to bear in mind the fact that the Old English demonstrative could often function as a definite determiner instead of a true demonstrative.

- (25)
- |                |              |              |             |            |           |            |             |           |
|----------------|--------------|--------------|-------------|------------|-----------|------------|-------------|-----------|
| <i>forþon</i>  | <i>hit</i>   | <i>gewis</i> | <i>is,</i>  | <i>þæt</i> | <i>in</i> | <i>þam</i> | <i>beop</i> | <i>þa</i> |
| Because        | it           | certain      | is          | that       | in        | that       | are         | the       |
| <i>cwylmde</i> | <i>æfter</i> | <i>þam</i>   | <i>dome</i> |            |           |            |             |           |
| tormented      | after        | the          | judgement   |            |           |            |             |           |
- ‘...because it is certain that the bodily inclined will be tormented in that after judgement’  
(GDPref\_and\_4\_[C]:30.304.7.4517)

- (26) *Is            ðæt            ec            sæd            þætte    in            ðere    stowe,   þer            hio*  
 Is            that            also        said        that        in            the        place    where    they  
*ofslegne weran,    weolle    an            welle*  
 slain        were        sprang    a            well  
 ‘It is also said that in the place where they had been slain a well sprang forth’  
 (Bede\_5:11.418.19.4207)
- (27) *forþon þe    hie    wiston    þæt    on    hire    eardode    se    heofonlica    cyning*  
 because    they    knew    that    in    them    dwelled    the    heavenly    king  
 ‘...because they knew that the heavenly king dwelled inside of them’  
 (HomU\_18\_[BlHom\_1]:11.148.135)
- (28) *for ðan ðe    ðurh    heora    bodunge    is    þes    middaneard    gebiged    to    ðam*  
 because    through    their    preaching    is    this    world            turned    to    the  
*soðum        geleafan*  
 true            faith  
 ‘...because this world is turned to the true faith through their preaching’  
 (+ACHom\_II,\_40:302.93.6882)
- (29) *for þan ðe    on    eastdæle    is    þæs    dæges    angin*  
 because    in    east            is    the    day’s    beginning  
 ‘...because the beginning of the day is in the east’  
 (+ACHom\_I,\_8:247.162.1522)

Table 2 below shows that 47.5% of the clause-initial PPs in embedded clauses with both word order types have no demonstratives or pronouns following the preposition, with mainly new material occupying that position. Concerning clauses with an anaphoric element following the preposition, those with a demonstrative within a DP represent 28% of the total. The data suggest that most initial PPs in embedded clauses have a frame-setting function. We cannot dismiss, however, a fair amount of examples which function as a link to the previous discourse, with anaphoric elements such as demonstratives and pronouns within the clause-initial PP.

**Table 2.** Anaphoricity of initial PPs in embedded clauses.

PP Anaphoricity	PP-S-V	PP-V-S	Both Types
P + Dem	11 (4.3%)	3 (0.9%)	14 (2.4%)
P + Dem DP	69 (27.1%)	95 (28.5%)	164 (27.9%)
P + Pro	16 (6.3%)	28 (8.4%)	44 (7.5%)
P + Pro DP	38 (14.9%)	25 (7.5%)	63 (10.7%)
P + No Dem/Pro	121 (47.5%)	182 (54.7%)	303 (51.5%)
<b>Total</b>	<b>255 (100%)</b>	<b>333 (100%)</b>	<b>588 (100%)</b>

Looking at the distribution of anaphoric elements within each type of word order, an even distribution can again be observed, with no sharp differences between clauses with and without verb inversion. The main conclusion that can be drawn from this fact is that the anaphoricity of the initial PP does not influence the positioning of the finite verb in the clause. Given that the anaphoricity of the clause-initial locative is one of the defining elements of locative inversion, this is an extremely surprising factor. Therefore, other clausal elements such as the subject or the finite verb itself should be examined in order to find any motivation for the positioning of the latter.

## 6.2. Subject Length

In relation to the status of subjects, the first variable that was analysed was their length in terms of number of words. The subjects of embedded clauses with clause-initial PPs were divided into five categories: subjects with one word, two words, three words, four words and more than four words. Table 3 below shows the distribution of subjects according to this categorisation in both types of word order.



lexical verbs, all of them unaccusative (*weaxan* ‘grow’ twice and *cuman* ‘come’). The rest are examples of *be*, *have* and modals. These examples could be analysed as light inversion if we follow Culicover and Levine (2001). Looking at heavy subjects (four words or more), we find 131 instances of embedded locative inversion, with 30 lexical verbs. Although verbs like *weaxan* ‘grow’ and *cuman* ‘come’ also appear in this configuration, we can find unergative verbs such as *utgan* ‘go out’ or *ge-hyran* ‘hear’, and even transitive verbs like *ricsian* ‘rule’, thus being eligible to fall under the category of heavy inversion.

Unlike in main clauses with initial PPs and inversion, subject length seems to play a key role in inversion in subordinate clauses. This idea requires us to analyse the informational status of subjects in the dataset.

6.3. Subject Type

The last variable taken into account for the present analysis of subjects was subject type, based on the labels applied by the YCOE parsing, in order to assess their informational status. As observed in Table 4 below, the majority of subjects in embedded clauses with PP-S-V word order are pronominal, i.e., highly anaphoric material. Full NP subjects, quantified NPs and bare subjects are not abundant with this type of word order. Concerning an embedded PP-V-S word order with verb inversion, there are several key differences in the distribution of subject types. To begin with, we must note the abundance of NP subjects introduced by a demonstrative, which amount to more than a third of the data. Furthermore, there is a complete absence of pronominal subjects and a low number of bare demonstratives, which suggests that anaphoric elements do not motivate subject extraposition in this context. This also agrees with Webelhuth’s (2011) fourth property of locative inversion in PDE (i.e., that the logical subject must not be an anaphoric pronoun).

Table 4. Subject type in embedded clauses with clause-initial PPs.

Subject Type	PP-S-V	PP-V-S	Both Types
Anchored NP	23 (76.7%)	7 (23.3%)	30
Bare	21 (42.9%)	28 (57.1%)	49
Dem	6 (66.7%)	3 (33.3%)	9
Dem NP	44 (26.7%)	121 (73.3%)	165
Full NP	29 (37.2%)	49 (62.8%)	78
Indep NP	8 (20.5%)	31 (79.5%)	39
Pro	64 (100%)	0 (0%)	64
Pro NP	2 (100%)	0 (0%)	2
Proper	12 (48%)	13 (52%)	25
Quant NP	27 (31.4%)	59 (68.6%)	86
Unknown	19 (46.3%)	22 (53.7%)	41
Total	255 (43.4%)	333 (56.6%)	588

Returning to the abundance of NP subjects introduced by a demonstrative, we need to consider the fact that the Old English demonstrative could function as a definite article, as is the case of *seo sunne* in (33) below:

- (33)

*for þan ðe*
*on*
*nontide*
*asihð*
*seo*
*sunne*

because
at
ninth hour
sets
the
sun

‘because the sun sets at the ninth hour’

(+ACHom\_II\_5:44.97.958)

A nominal element introduced by a definite article, like *seo sunne* (‘the sun’) in (20), does not need to be mentioned in the preceding discourse, and the information is identifiable by the hearer upon its first mention. Even though the subject in (20) is not long or heavy, its status as identifiable can motivate its extraposition, prompting the PP-V-S word order of the embedded clause.

6.4. Verb Type and Type of Clause

Returning to [Webelhuth's \(2011\)](#) principles of locative inversion in PDE concerning the main verb, it is necessary to remember that the finite verb must be impersonal and unaccusative. In order to establish whether this was the case in Old English embedded clauses with PP-V-S word order<sup>3</sup>, finite verbs in the dataset were divided into four categories, namely 'be', 'have', modal verbs and lexical verbs. We must bear in mind that in the case of auxiliary 'be', 'have' and modal verbs, it is the unaccusative nature of the non-finite verbs in the dataset that meets the requirement for locative inversion. Table 5 below shows that the majority of finite verbs occupying the second position of embedded clauses with clause-initial PPs are forms of *be*. Lexical verbs are relatively common, while forms of *have* and modal verbs are scarce.

**Table 5.** Finite verb type in embedded clauses with clause-initial PPs and verb inversion.

Verb Type	PP-V-S
Be	235 (70.6%)
Have	2 (0.6%)
Modal	25 (7.5%)
Lexical	71 (21.3%)
<b>Total</b>	<b>333 (100%)</b>

In the case of forms of 'be', the most common in the dataset, they appear both as a copulative construction, as exemplified in (34) below, or as part of a passive one, as in (35). Copulative forms of 'be' and passives are some of the unaccusative contexts under which we would expect locative inversion to take place. We can relate this to [Light's \(2012\)](#) study on Early New High German, in which she argues that many copular clauses are existential/presentational, a context that strongly favours the extraposition of the subject. [Light \(2012, p. 176\)](#) suggests that subjects can be extraposed to express a narrow focus, as well as to provide "default accent on the subject", frequently in presentational contexts with subjects which are new to the discourse.

Concerning lexical verbs, which amount to over a fifth of the examples, the analysis of the dataset reveals that they are also unaccusative. Lexical verbs following the initial PP are usually unaccusative or convey a change in state, as is the case of *cymeð* in (36).

- (34)    *se*            *rihtwisa*    *is*            *heofen*    *gehaten*    *for þan ðe*    *on*    *rihtwisum*  
the            righteous    is            heaven    called    because    in    righteous  
*mannum*    *is*            *Godes*    *wunung*  
men            is            God's    dwelling  
'the righteous is called heaven because God's dwelling is inside righteous men'  
(+ACHom\_I\_19:327.64.3674)

- (35)    *for þan þe*    *þurh*            *þa*    *twa*    *þing*    *byð*    *þæt*    *eadige*    *lif*    *begeotan*  
because    through    those    two    things    is    the    blessed    life    infused  
'because the blessed life is infused through those two things'  
(Alc\_[Warn\_35]:5.5)

- (36)            *þæt*            *ofer*            *eow*            *cymeð*    *micel*            *storm*            &            *hreonis*  
that            over            you            comes    great            storm            and            tempest  
'that a great storm and a tempest will come over you'  
(Bede\_3:13.200.2.2024)

It can be concluded that, together with the informational status of subjects and subject length, the status of the finite verb as unaccusative does motivate the fronting of PPs in locative constructions in embedded clauses in the same way it does in main clauses. However, we must bear in mind [Sasaki's \(1998\)](#) notion that locative inversion in PDE is only possible in embedded clauses selected by bridge verbs. [Van Kemenade \(1997, p. 328\)](#)

defines bridge verbs as those that allow complementiser deletion, which can happen with ‘that’ in complement clauses. If Old English followed the bridge verb restriction Sasaki proposes for PDE, we would only find embedded locative inversion in complement clauses. We must therefore analyse the different types of clauses in which this structure appears in Old English. Figures 2 and 3 below show the distribution of clause type in embedded PP-S-V and PP-V-S clauses, respectively.

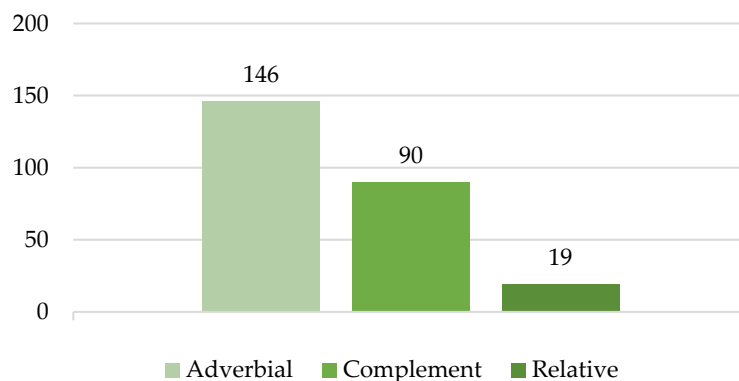


Figure 2. Embedded PP-S-V clause type.

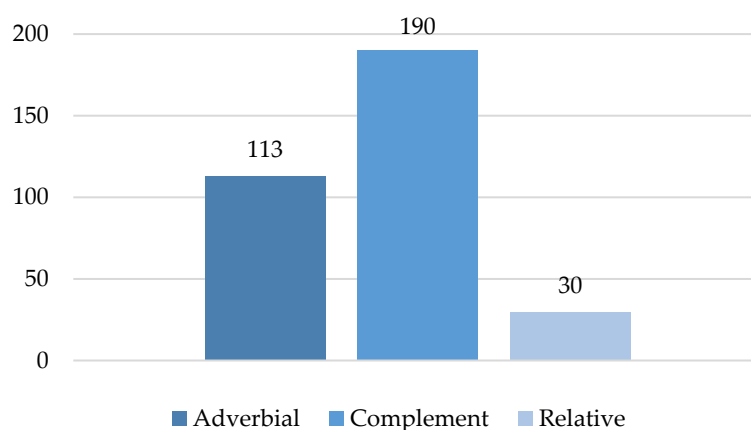


Figure 3. Embedded PP-V-S clause type.

While embedded clauses without finite verb inversion are adverbial in the majority of cases, most of those with PP-V-S word order are complement clauses, with a minority of relative clauses. Complement clauses in the dataset are indeed selected by bridge verbs such as ‘say’, ‘think’ or ‘know’. Nevertheless, there are 113 instances of adverbial clauses, which are not introduced by a verb, as in (34), with *gehaten* preceding an adverbial clause introduced by *for þan ðe*. Thus, inversion in subordinate clauses with initial PPs is not restricted to complement clauses after bridge verbs in Old English.

## 7. Conclusions

The present paper was intended to assess the existence of a construction equal to locative inversion in embedded clauses in Old English. The analysis of the selected dataset proved that initial PPs can indeed appear in Old English embedded clauses with finite verb inversion, yielding PP-V-S word order. Numerous similarities were found with locative inversion constructions in PDE, such as the need for the verb to be intransitive and unaccusative and for the subject not to be an anaphoric pronoun. Looking at the anaphoricity of both initial PPs and late subjects, the relative familiarity constraint also applied, with most of the late subjects being new or retrievable information, always newer than the preposed element in the PP. Finally, the displaced effect is definitely at work in

this type of clause, which, in most cases, have a frame-setting function where the speaker has privileged access to the situation.

Even though anaphoricity does play a key role in this frame-setting function, it does not seem to be key in differentiating embedded clauses with clause-initial PPs with and without inversion. Unlike what happens with main clauses, where the type of verb was the key factor motivating inversion, subject length and type appears to play a much clearer role in subordinate clauses, with long and heavy subjects triggering finite verb inversion. Finally, the data suggest that locative inversion in embedded clauses is not restricted to those clauses selected by bridge verbs, as is the case in PDE, with a significant number of adverbial clauses displaying verb inversion after an initial PP. In conclusion, embedded clauses with clause initial PPs were a productive construction in Old English, resembling locative inversion in PDE. Most of the restrictions that have survived in PDE already applied, with the particular exception of that of bridge verbs. This could lead to future research concerning the implications for a syntactic model that would accommodate this type of construction.

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## Appendix A

Code used for the main query, using *Corpus Studio* (Komen 2009):

```
<TEI>
{
  (: Look for subclauses :)
  for search in //eTree[ru:matches(@Label, _subIP)]
  (: Look for PPs in initial position that are not empty :)
  let firstelement := search/child::eTree[ru:matches(@Label, _firstelement)
    and tb:PrecedingElement1(self::eTree)
    and not(exists(child::eLeaf[@Type="Star"])]][1]
  (: Determine the element immediately following the object :)

  let sbj := search/child::eTree[ru:matches(@Label, _subject)
    and not(exists(child::eLeaf[@Type="Star"])]][1]
  let verb := search/child::eTree[ru:matches(@Label, _finiteverb)][1]
  (: Determine order of constituents :)
  let punct := search/child::eTree[ru:matches(@Label, ". | ,") ]
  let order := if (ru:relates(sbj, firstelement, "iFollows")) then "Obj-Sbj"
    else if (ru:relates(verb, firstelement, "iFollows")) then "Obj-Verb"
    else if ((ru:relates(punct, firstelement, "iFollows")) and (ru:relates(sbj, punct,
    "iFollows")))) then "Obj-Sbj"
    else if ((ru:relates(punct, firstelement, "iFollows")) and (ru:relates(verb, punct,
    "iFollows")))) then "Obj-Verb"
    else ()
  (: Create a database :)
  let db := tb:MakeaDatabase(firstelement, sbj, verb, order)
  (: Make sure this clause has a preposition and the right order :)
  where (
    exists(firstelement)
    and exists(sbj)
    and exists(order)
  )
}
```

```
(: Return the main clause :)
return ru:back(search, db, order)
}
</TEI>
```

## Notes

- <sup>1</sup> This was part of a wider query, which included both fronted objects and PPs in subordinate clauses, with and without an inversion of the finite verb. Only data concerning fronted PPs were analysed for the present study.
- <sup>2</sup> These distinctions were based on Dreschler (2015).
- <sup>3</sup> The nature of the dataset did not allow for the obtainment of data concerning embedded clauses with fronted PPs without finite verb inversion.

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