

# Locative prepositions, predicate inversion and Full Interpretation\*

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## Abstract

This paper studies the relation between the two structures in which Greek locative Prepositions participate. I investigate the possibility that Complex Preposition structures derive from the structure in which the locative is followed by a genitive clitic via Predicate Inversion, and reject it in view of the fact that the locative can appear stranded. I consider it more possible for the genitive clitic structure to derive from the Complex Preposition structure via omission of the light P. Support for this idea is offered by the fact that the former structure is not available when the light P of the corresponding Complex Preposition is not ‘light’.

**Keywords:** locative prepositions, light prepositions, predicate inversion, Full Interpretation

## 1. Introduction

The main purpose of this work is to investigate the relationship between the two structures in which Greek locative P(reposition)s appear, in particular, whether one derives from the other and, if yes, which one from which. We refer to the structure in which the locative P is followed by the light Ps *se* or *apo*, followed by a DP with accusative Case (namely, the Complex Preposition structure, which we also call *Frame A*) and the structure in which the locative P is followed by a clitic that carries genitive (which we call *Frame B*).

The first possibility to investigate is whether Frame A derives from Frame B via the process of Predicate Inversion. This possibility arises because of the claim in Terzi (2005b) that Frame B is the instantiation of a possession structure (in which the locative is the modifier of an empty noun *Place* and the genitive clitic is the possessor of this noun) with the possessor inverting around the possessum, and resulting in lexicalization of the light Ps, which are therefore considered parallel to the *linkers* discussed by den Dikken & Singhapreecha (2004).

The other possibility is for frame B to derive from frame A, after omission of the light P. We are led to this option by observing that there are no Frame B counterparts for those Complex Prepositions in which the light P carries semantic content (Terzi 2005b). We assume that it is impossible for these light Ps to be omitted for reasons of Full Interpretation, hence the unavailability of Frame B in these cases.

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## 2. The facts

Greek Locative Ps may participate in larger syntactic frames known as Complex Prepositions. The latter consist of an element referring to location, (1a, b), (but also to time and manner), and are followed by a smaller Preposition (light P), which is followed by a DP with accusative Case (Theophanopoulou-Kontou 1992, 2000). The first elements have been referred to as adverbials or substantive Ps in the traditional literature (see Theophanopoulou-Kontou 1992, 2000 for Greek and Campos 1991 for Spanish, respectively) and are the main focus of the present study.

- (1a) Kathisa piso apo ti Maria. *Frame A*  
 sat.<sub>1S</sub> behind *apo* the Mary.<sub>ACC</sub>  
 ‘I sat behind Mary.’
- (1b) Epesa epano sto Yianni.  
 fell.<sub>1S</sub> on *se*-the John.<sub>ACC</sub>  
 ‘I fell on John.’ (‘I run into John’)

The light Ps that follow the substantives are limited in number: *apo* or *se* (*se* often contracted as *s*)<sup>1</sup> are used with locatives, *apo* with temporals, *me* with others (Theophanopoulou-Kontou 1992). The presence of light Ps is obligatory.

- (2a) \*Kathisa piso ti Maria/tis Marias.  
 sat.<sub>1S</sub> behind the Mary.<sub>ACC</sub>/the Mary.<sub>GEN</sub>  
 ‘I sat behind Mary.’
- (2b) \*Epesa epano to Yianni/tou Yianni.  
 fell.<sub>1S</sub> on the John.<sub>ACC</sub>/the John.<sub>GEN</sub>  
 ‘I fell on John.’

In the absence of the light P the grammaticality of the above is rescued if the substantive P is followed by the corresponding clitic, which now carries genitive Case, (3). Light Ps cannot be followed by clitics in Greek (and in a number of other languages, see Abels 2003).

- (3a) Kathisa piso tis. *Frame B*  
 sat.<sub>1S</sub> behind she-CL.<sub>GEN</sub>  
 ‘I sat behind her.’
- (3b) Epesa epano tou.  
 fell.<sub>1S</sub> on he-CL.<sub>GEN</sub>  
 ‘I fell on him.’

An additional property of Greek locative Ps (not shared by light Ps either) is that they can appear stranded, (4a), or stand on their own, (4b). Campos (1991) mentions similar behavior of Spanish locative Ps, which gives the (superficial) impression of Preposition stranding.

<sup>1</sup> *Se* can also be found uncontracted (on the indefinite determiner, for instance). It introduces the goal argument of Prepositional ditransitives, the beneficiary in benefactive constructions, and it may serve as a directional/goal P (see Anagnostopoulou 2003, 2005). *Apo* is less studied: it is the preposition of the *by*-phrase of passives, and a directional/source P.



c) A full DP was possible in earlier stages of the language in both the postadjectival position and following the locative, namely, both starred options in (7) were grammatical. Furthermore, both structures seized to exist at similar stages in the history of Greek, that is, between the 12<sup>th</sup> and 15<sup>th</sup> centuries (see Alexiadou (2005) and Theophanopoulou-Kontou (2000) for nominals and locatives, respectively).

d) Further evidence that the clitic following the locative is the one that occupies the postadjectival, rather than the postnominal (i.e. the post *Place*) position in (5) is offered by the fact that it is subject to animacy restrictions. Only postadjectival clitics are subject to animacy restrictions in the nominal domain (8) (see Alexiadou & Stavrou (2000) for a detailed study).

- (8a) o trelos tou odigos  
the crazy his driver  
'his crazy driver' (i.e. the driver of Mr. X but *not* the driver of the car)
- (8b) o trelos odigos tou  
the crazy driver his  
'his/its crazy driver' (i.e. either the driver of Mr. X or the driver of the car)
- (9a) ?\*I Eleni perimene brosta apo tin eklisia<sub>i</sub> ke i Maria piso tis<sub>i</sub>.  
the E. was-waiting in front of the church and the Mary behind she-CL.GEN
- (9b) I Eleni perimene brosta apo tin eklisia<sub>i</sub> ke i Maria piso apo afti<sub>i</sub>.  
the E. was-waiting in front of the church and the M. behind *apo* she-PRON.ACC

Returning to (5), I further hold that it is the complement of a locative functional head to the specifier of which the locative moves, (10)<sup>4</sup>:

- (10) ... [<sub>PPLoc</sub> epano<sub>i</sub> [<sub>PLoc</sub> 0 [<sub>SC</sub> [<sub>DP</sub> ∅ [<sub>NP</sub> t<sub>i</sub> tou<sub>j</sub> *Place*]] [<sub>PP</sub> ∅ [<sub>DP</sub> t<sub>j</sub> ]]]]]]  
on he-CL.GEN

### 3.1.2 Similarities between Greek locatives and English 'here' and 'there'

The empty noun *Place*, as well as the structure associated with it, is reminiscent of the unpronounced PLACE proposed by Kayne (2004) for the locatives 'here' and 'there' in English. Kayne (2004) claims that English 'here' and 'there' are demonstratives that modify an empty noun PLACE with an empty determiner. The examples in (11) are the overt manifestation of the structure he proposes:

- (11a) this here place  
(11b) that there place

Greek *edo* 'here' and *eki* 'there' are similar in this respect to their English counterparts:

- (12a) afto edo to meros  
this here the place  
'this here place'
- (12b) ekino eki to meros  
that there the place  
'that there place'

<sup>4</sup> See den Dikken (2003) and Botwinik-Rotem (2004) for recent accounts of the nature of the head P<sub>Loc</sub> along the functional vs lexical dimension.

Greek locative Ps also behave similarly, in the sense that they may modify an overt *Place* as well.

(13a) to kato meros  
the under place

(13b) to brosta meros  
the in front place

The counterparts of (13) are ungrammatical in English however, demonstrating that, by contrast to the Greek locatives, English locatives are not in any obvious manner the modifiers of an empty PLACE.

(14a) \*this/the under place

(14b) \*this/the in front place

### 3.2 Frame A (*The Complex Preposition structures*)

As for the Complex Preposition structures in which Greek locatives participate, I propose that they have the structure in (15) (with movement of the locative to P<sub>Loc</sub>):

(15) ... [P<sub>Loc</sub> [P<sub>Loc</sub> 0 [SC [DP ̸ [NP epano Place]] [PP apo/se [DP to Yianni ]]]]  
on apo/se the John<sub>ACC</sub>

The difference between (5) and (15) is that the P that heads the small clause is now lexical (and the Case of the DP that follows is accusative rather than genitive). The immediate question that arises, which constitutes the main issue that this paper addresses, is how (5) and (15) relate? A *tentative answer* is that Frame A derives from Frame B via Predicate Inversion that has the effect of lexicalizing the P that heads the small clause, resulting to *se* or *apo*. I investigate this possibility immediately below.

## 4. Complex Prepositions and Predicate Inversion

### 4.1 Predicate Inversion

Predicate inversion is a process via which a predicate inverts around its subject. Subject-predicate relationships are syntactically projected in the form of a small clause and predicate inversion often results in lexicalizing the head of the small clause (den Dikken 1995, 1999; den Dikken & Singhapreecha 2004).

(16a) I consider [SC [DP John] [DP my best friend]].  
(also ‘I consider John to be my best friend’)

(16b) I consider my best friend to be John.  
(but not ‘I consider my best friend John’)

Den Dikken (1995) proposes that possessive constructions also involve the underlying structure of a small clause, featuring the possessum as the subject of a PP predicate, headed by a dative preposition or its null allomorph.

(17) [SC [ possessum] [P<sub>DAT</sub> [possessor]]]

Inversion of the null-headed dative PP with its subject results in lexicalizing a *linker*, such as *de* in Chinese for instance, (18), along with numerous similar cases crosslinguistically (den Dikken & Singhapreecha 2004).

- (18) wo *de* shu  
 I DE book  
 ‘my book’

#### 4.2 Does predicate inversion relate Frame A with Frame B?

With the above in mind one wonders whether (15), namely, *Frame A*, derives from the structure proposed for *Frame B*, (5), via Predicate Inversion that runs as follows

- (19a) [<sub>SC</sub> [<sub>DP</sub> ∅ [<sub>NP</sub> epano Place]] [<sub>PP</sub> ∅ [<sub>DP</sub> tou Nikou ]]]]  
 (=ex. 5) Predicate Inversion of the possessor  
 (19b) [<sub>FP</sub> [<sub>PP</sub> P ∅ tou Nikou]<sub>i</sub> [<sub>F</sub> (=apo/se) [<sub>SC</sub> [<sub>DP</sub> epano Place ] t<sub>i</sub> ]]]]  
 remnant movent of the possessum  
 (19c) [<sub>XP</sub> [<sub>DP</sub> epano Place]<sub>j</sub> [<sub>X</sub> [<sub>FP</sub> [<sub>PP</sub> P ∅ tou Nikou]<sub>i</sub> [<sub>F</sub> (=apo/se) [<sub>SC</sub> t<sub>j</sub> t<sub>i</sub> ]]]]]]  
 movement of the linkers *apo/se*  
 (19d) [<sub>XP</sub> [<sub>DP</sub> epano Place]<sub>j</sub> [<sub>X</sub> *se/apo*<sub>k</sub> [<sub>FP</sub> [<sub>PP</sub> P ∅ to Niko]<sub>i</sub> [<sub>t<sub>k</sub></sub> [<sub>SC</sub> t<sub>j</sub> t<sub>i</sub> ]]]]]]

and results in (19d), which is the linear order of (15).

A merit of this approach is that it can explain the role of *se* and *apo*, which can therefore be considered linkers. One can even go a step further and propose that Predicate Inversion is triggered precisely by the need to lexicalize the light Ps, which subsequently serve as Case assigners for the inner DP.

A problem that this idea faces, however, is that if the structure of *Frame A* is indeed as in (19d), then extraction of the light PP should be ungrammatical, as it is not a constituent – but this is not the case, (4b). Taking this fact into consideration, we turn to a potential alternative, by focusing on the properties of light Ps again.

### 5. The Light Prepositions

Some of the locative Ps may be construed either with *se* or with *apo*, (20), in forming Complex Prepositions, while others may only be construed with *apo*, (21):

- (20) a. (*epano se/apo* ‘on’/‘above’, b. *mesa se/apo* ‘inside’/‘from within’,  
 c. *brosta se/apo* ‘in front of’, d. *konda se/??apo* ‘near’, e. *dipla se/apo* ‘besides’  
 (21) a. *kato apo/\*se* ‘under’, b. *ekso apo/\*se* ‘outside’, c. *piso apo/\*se* ‘behind’,  
 d. *makria apo/\*se* ‘away’, e. *aristera apo/\*se* ‘left’, f. *deksia apo/\*se* ‘right’

Some of the locatives that allow for either type of light Ps have a different interpretation depending on the light P. *Epano*, (20a), is such an instance. The most appropriate English translation for *epano se* is ‘on’.

- (22) To pouli ine/kathete epano sto Yianni.  
 the bird is/is-sitting on *se*-the John  
 ‘The bird is/is sitting on John.’

By contrast, *epano apo* means ‘above’ or ‘over’.

- (23) To pouli ine/petai epano apo to Yianni.  
 the bird is/is-flying on *apo* the John  
 ‘The bird is/is flying over/above John.’

As expected, only the second type of Complex Preposition can be modified by a degree phrase such as ‘20 cms’:

- (24a) \*To pouli kathete 20 ekatosta epano sto Yianni.  
 the bird is-sitting 20 cms on *se*-the John  
 ‘The bird is sitting 20 cms on John.’  
 (24b) To pouli petai 20 ekatosta epano apo to Yianni.  
 the bird is-flying 20 cms on *apo* the John  
 ‘The bird is flying 20 cms above John.’

If the PP headed by *se* is replaced by the structure in which its object DP appears as a genitive clitic that follows the locative, the result is the grammatical sentence below:

- (25) To pouli kathete epano tou.  
 the bird is-sitting on he-CL.GEN  
 ‘The bird is sitting on him.’

By contrast, the PP introduced by the light P *apo* cannot be replaced by the structure in which the locative is followed by the genitive clitic, (26).

- (26) \*To pouli petai 20 ekatosta epano tou.  
 the bird is-flying 20 cms on he-CL.GEN  
 ‘The bird is flying 20 cms above him.’

Locative substantives from the list in (21), namely, locatives that are construed only with *apo*, cf. (27) below, may also be followed by a clitic, (28).

- (27) O Yiannis stekete akriivos/20 ekatosta piso apo ti Maria.  
 the John is-standing precisely/20 cms behind *apo* the Mary  
 ‘John is standing precisely/20 cms behind Mary.’  
 (28) O Yiannis stekete akriivos/20 ekatosta piso tis.  
 the John is-standing precisely/20 cms behind her  
 ‘John is standing (precisely/20 cms) behind her.’

A way to express the different behavior of the *apo* headed PPs when following locatives such as *epano* ‘on/above’ vs *piso* ‘behind’ is to say that *apo* is specified for the feature [distant] in the former, while in the latter it is not specified (for [distant], or for any other feature). Hence, *apo* cannot be omitted when following *epano*, because this would lead to a violation of Full Interpretation (Chomsky 1986, 1995, 2000). If *apo* is not omitted, the option for the locative to be followed by a (genitive) clitic does not arise, hence (26) is ungrammatical.

Notice that the clitic option becomes available for *epano* construed with *apo* when *apo* precedes the locative instead (hence, the clitic is able to follow it). Compare (26) earlier, with (29) below, in which *apo* precedes the locative substantive.<sup>5</sup>

- (29) To pouli petai 20 ekatosta apo epano tou.  
 the bird is-flying 20 cms *apo* epano he-CL.GEN  
 ‘The bird is flying 20 cms above him.’

Another locative from the list in (20), whose interaction with *se* and *apo* is similar to that of *epano*, (20a), is *mesa* ‘inside/in’, (20b). While the interpretation of *mesa se* is ‘inside/in’, (30), the interpretation of *mesa apo* is ‘from inside’, (31), with *apo* contributing a *directional/source* meaning (construed only with verbs of motion).

- (30) I bala ine mesa se ena megalo kouti.  
 the ball is in *se* a big box  
 ‘The ball is inside a big box.’  
 (31) O skilos vgike mesa apo ena megalo kouti.  
 the dog came-out in *apo* a big box  
 ‘The dog came out of/from inside a big box.’

The examples below demonstrate that while the genitive clitic option is available with *mesa se*, (32b), it is not with *mesa apo*, (33b). The ungrammaticality of (33b) is expected if we consider *apo* to be specified for [direction]. Notice that the genitive clitic option becomes available again if *mesa* is preceded by *apo*, (33c).

- (32a) To moro itan akomi mesa stin kilia tis/sti Maria.  
 the baby was still in *se*-the belly her/*se*-the Mary  
 ‘The baby was still inside her belly/inside Mary.’  
 (32b) To moro itan akomi mesa tis.  
 the baby was still inside her-CL.GEN  
 ‘The baby was still inside her.’  
 (33a) To moro argise na vgi mesa apo tin kilia tis/ti Maria.  
 the baby delayed to come-out in *apo* the belly her/the Mary  
 ‘The baby delayed to come out from inside her belly/ Mary.’  
 (33b) \*To moro argise na vgi mesa tis.  
 the baby delayed to come-out in her-CL.GEN  
 ‘The baby delayed to come out from inside her.’  
 (33c) To moro argise na vgi apo mesa tis.  
 the baby delayed to come-out *apo* in her-CL.GEN  
 ‘The baby delayed to come out from inside her.’

Thus, we are led to the following claims concerning the light Ps *se* and *apo*.

*Se* is specified neither for [direction/source] nor for [distance], regardless of the locative that precedes it<sup>6</sup>. A consequence of this property of *se* is that it may be omitted.

<sup>5</sup> The possibility of the light P *apo* preceding the locative substantive is available for locatives from both (20) and (21), and for both, the genitive clitic and the Complex Preposition structures. See Terzi (2005b) for detailed discussion.

This gives rise to the structure in which the locative may be followed by the (genitive) clitic, that is, to Frame B.

*Apo* may also be unspecified, as in (20c), (20d), (20e). In these instances the corresponding genitive clitic structure (Frame B) is available. However, *apo* may be also be specified for [distance], or for direction/source]. If this is the case, its presence is required, hence Frame B is not an option, (26), (33b)<sup>7</sup>. The escape hatch provided for Frame B in the latter cases is for *apo* to precede the locative, as in (29) and (33c).

## 6. Conclusions

In section 4 of this paper we entertained the possibility that *Frame A*, in which Greek locatives participate, derives from *Frame B* via Predicate Inversion which results in lexicalizing *se* or *apo*. We rejected this view however, as it cannot explain the ability of the locative to be stranded (when the light PP has moved via *wh*-movement).

Subsequently, after a close investigation of the properties of *se* and *apo*, we concluded that it is reasonable to think that the structure in which the light Ps are lexical (Frame A) is the basic one. When *se* and *apo* are devoid of semantic content, they may be omitted leaving the option for Frame B open. On the other hand, when *apo* carries specialized semantics, its omission is not possible, therefore Frame B does not become available.

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<sup>6</sup> Anagnostopoulou (2003, 2005) also holds that *se* is unspecified for directionality. See also Terzi (2005a, 2005b) for additional support. It is presumably this status of *se* that allows it to also be omitted in the structures studied by Ioannidou (2005).

<sup>7</sup> The situation is reminiscent of English facts from the double object construction and the Prepositional frame of ditransitives (Pesetsky 1995). Pesetsky claims that the ungrammaticality of double object constructions such as \**Mary pulled Sue the trunk* (vs *Mary pulled the trunk to Sue*) and \**Mary pushed John the boulder* (vs *Mary pushed the boulder to John*) is due to the specialized semantics of *to*, the presence of which is required to assign a theta role to the goal when the selecting predicate denotes the presence of an external agent at all stages of motion.

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