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**Author**

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Explorations of (Greek) Pseudo-relatives

A thesis submitted in partial satisfaction of the  
requirements for the degree Master of Arts  
in Linguistics

by

Nikolaos Angelopoulos

2015



## ABSTRACT OF THE THESIS

Explorations of (Greek) Pseudo-relatives

by  
Nikolaos Angelopoulos

Master of Arts in Linguistics

University of California, Los Angeles, 2015

Professor Hilda Koopman, Chair

This thesis explores the syntactic and semantic properties of complement pseudo-relatives in Greek, and proposes a new analysis that further refines the structure that has been proposed for them in Cinque (1992). A crucial part of the argumentation relies on the distribution of the complementizer *pu*, which occurs in restrictive relative, complement factive and pseudo-relative clauses. More concretely, I argue based on the distribution of *pu* that we can unify the three constructions in which it occurs by making use of a unique syntactic configuration namely, a relative clause (à la Kayne 1994): *pu* occurs (i) in headed restrictive relative clauses where it is selected by a D-head which can be overt (ii) in factive clauses which are analyzed as relatives where the D-head that selects *pu* is null and, which get a factive interpretation because they contain a null noun FACT and (iii) in pseudo-relatives which are treated as restrictive relative clauses with an eventive interpretation due to a null event noun denoting a scene that occurs in them. I motivate all the subparts of the structure proposed for complement pseudo-relatives and I further show that it is more precise than previous analyses (cf. Cinque 1992) in accounting for their distributional and interpretational properties.

The thesis of Nikolaos Angelopoulos is approved.

Domique Sportiche  
Timothy Stowell  
Hilda Koopman, Committee Chair

University of California, Los Angeles

2015

## TABLE OF CONTENTS

|     |   |       |
|-----|---|-------|
| 1.  | Introduction .....  | 4-6   |
| 2.  | Italian and Greek Pseudo-relatives: Cinque (1992).....                              | 7-25  |
| 3.  | <i>Pu</i> in Greek Relative, Complement Factive and<br>Pseudorelatives Clauses..... | 26-31 |
| 4.  | PRs as DPs.....   | 31    |
|     | 4.1 Syntactic Evidence.....   | 32    |
|     | 4.2 Semantic Evidence.....  | 32-38 |
|     | 4.3 Some notes on the interpretational properties of<br>Pseudo-relatives.....       | 38-43 |
| 5.  | The Event noun in Greek PRs.....  | 44-45 |
|     | 5.1 Cross-linguistic Evidence.....  | 45-47 |
|     | 5.2 Predicate Restrictions .....  | 48-51 |
| 6.  | Pseudorelatives as Restrictive Relative Clauses.....                                | 52-62 |
| 7.  | Interim Conclusion.....   | 62-63 |
| 8.  | Semantic Properties of the Complements of Perception Verbs.....                     | 64    |
|     | 8.1 Perception Reports: Barwise (1981).....   | 64-67 |
|     | 8.2 The puzzle.....   | 67-68 |
|     | 8.3 Semantic Analysis.....  | 68-73 |
|     | 8.4 Some notes on Distributive Readings in Pseudo-relatives...                      | 73-74 |
|     | 8.5 Some more notes on the assumption of the D-head in CPs...                       | 74-77 |
| 9.  | Residual Issues.....  | 77-78 |
| 10. | Conclusion.....   | 78    |
| 11. | List of References.....   | 79-86 |

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## 1. Introduction

Many familiar languages such as Greek or Italian exhibit the syntactic behavior illustrated in (1-3), where three tensed embedded clauses with three different meanings are formed with an identical complementizer.

(1) Idha            enan   adra   pu/   o   opios   iche   makria   malja  
saw-1Sg.        a        man   that   the who   had long   hair  
‘I saw a man who had long hair’

(2) Metaniono   pu   efigha        noritera  
regret-1Sg.    that   left-1Sg.    earlier  
‘I regret leaving earlier’

(3) Idha            ton   Yani   pu/ \*o   opios        etreche  
saw-1Sg.        the   Yani   that the who        run-3Sg.+Past.+Imp.  
‘I saw Yani running’

*Greek*

More concretely, the complementizer *pu* in Greek introduces (i) restrictive relative clauses as in (1) denoting the set of individuals who have long hair (ii) complement factive clauses which have a factive interpretation as in (2) describing the fact that somebody left and (iii) pseudo-relative clauses (henceforth PRs) which look string identical with restrictive relatives but they differ in that they have an eventive interpretation as in (3) describing an event of Yani running. Pseudo-relatives also differ from restrictive relative clauses in that they cannot contain relative pronouns (cf. 3) and their head can cliticize (4 vs. 5).



(4) Ton idha pu etreche  
 him-Cl. saw-1Sg. that run-3Sg.+Past.+Imp.  
 ‘I saw him running/ an event of him running’ PR

(5) \*Ton idha o opios iche makria malia  
 him-Cl. saw-1Sg. the who had long hair  
 ‘I saw him who had long hair’ Rel. Clause

Considering the distribution of *pu*, we may be tempted to think that all these meanings in Greek are conveyed by making use of just one configuration that is made available by this complementizer. But what kind of configuration could it be? I suggest that this configuration is a relative clause. More concretely, I propose that *pu* needs to be analyzed as a C-head that is always selected by a D-head, a configuration which, essentially, is reminiscent of Kayne’s (1994) analysis for relative clauses. On the basis of this correlation, I show, in what follows, how Greek conveys the meanings of the embedded clauses in (1-3) by making use of a relative clause: *pu* occurs (i) in headed restrictive relative clauses where the definite D-head that selects it can be overt (6) (ii) in relatives with a silent D which get a factive interpretation due to the presence of a null noun FACT in Spec-CP (7) and (iii) in headed restrictive relative clauses which have an eventive interpretation though due to a DP with a silent determiner and a silent event noun denoting a *scene* or *sound* which merges on the top of them (8).

### *Headed Relative Clauses*

(6) [<sub>DP D</sub> the [<sub>CP NP</sub> boy [<sub>C' pu</sub> boy is running]]]

### *Factive Clauses*

(7) [<sub>DP D</sub> ∅ [<sub>CP NP</sub> FACT [<sub>C' pu</sub> Gianni is running]]]

### *Complement Pseudo-relatives*

(8) [<sub>DP D</sub> ∅ [<sub>NP N</sub> SCENE/ SOUND [<sub>DP D</sub> the [<sub>CP Gianni</sub> [<sub>C' pu Gianni</sub> is running]]]]]

I focus on the structure of complement PRs, and I motivate all its subparts as follows: (i) PRs as DPs: I show that *pu* in complement PRs is indeed selected by a D-head based on the following facts: PRs have the distribution and the scopal properties of DPs (ii) evidence for the null event noun in PRs: I provide cross-linguistic evidence favoring the assumption that PRs do indeed include a null event noun which essentially, gives rise to their event interpretation (iii) PRs are derived by movement: this argument finds support in one previously unnoticed type of PRs in Greek which exhibits syntactic effects also seen in restrictive relatives. These effects can be explained only if we invoke a raising analysis à la Kayne (1994).

Additionally, I propose following Cinque (1992) that PRs can have one more structure, apart from (6), in which they occur in an adjunct position. Unlike (8), this structure can license movement of the head of the PR, e.g. cliticization, accounting, thus, for the facts illustrated in (4).

Finally, I provide a semantics for complement PRs and I show in the spirit of Moulton & Grillo (2014 a,b) how the proposed analysis accounts for one more property of PRs namely, the transparency.

The structure of the thesis is as follows. In section 2 I first introduce Cinque's (1992) analysis for Italian PRs and subsequently, I compare their properties to Greek. I show that only the structure where PRs are analyzed as adjuncts appears to be well motivated in Cinque (1992); his analysis of complement PRs runs into some problems, calling for further refinement. To this end, in section 3 I propose a new analysis for complement PRs based on the properties of the complementizer that introduces them (cf. 8). In the following sections I motivate all the subparts of the proposed structure. In section 4 I provide evidence that *pu* in PRs is selected by a definite D-based on the following considerations: (i) PRs have the distribution of DPs (ii) they work as the clausal analogue of definite DPs in terms of their interpretation. Section 5 discusses evidence based on cross-linguistic data that shows that there is indeed a null event noun in their structure. In section 6, I discuss a type of a complement PR in Greek that has not been explored in the past and provides evidence supporting the view that PRs are derived by movement like restrictive relative clauses under a raising analysis. Section 7 and 8 provide a semantics for PRs based on the proposed syntactic analysis. The analysis will be shown to be able to account for two semantic properties of PRs: (i) they are transparent complement clauses (ii) they block distributive readings (cf. Moulton & Grillo 2014 a,b). Section 9 summarizes the thesis.

## 2. Italian and Greek PRs: Cinque 1992

The aim of this section is threefold: (i) to present a thorough introduction to the properties of Italian PRs as they have been discussed in Cinque (1992) (ii) to examine if these properties can be replicated in Greek and (iii) to evaluate Cinque's analysis.

To start with, Cinque (1992) disentangles the properties of Italian PRs proposing that they can have three different structures and subsequently, he probes the structural, the distributional and the interpretational properties of each one of the three proposed configurations. His proposal that Italian PRs are structurally ambiguous is based on a variety of distributional and interpretational evidence as listed below.

First, Italian PRs can follow predicates (9-12) with different selectional properties namely, verbs of perception, verbs of the *incontrare*-‘meet’/ *sorprendere*-‘catch’ class or certain verbs of emotion<sup>1</sup> such as *sopportare*-‘stand’. Essentially, only verbs of perception may select a propositional complement (CP), in addition to a referring expression (DP) (13-14).

(9) Ho visto Gianni che usciva dal cinema  
have seen Gianni that was leaving-3Sg. the movies  
‘I saw Gianni leaving the movies’

(10) Ho incontrato Gianni che usciva dal cinema  
have met Gianni that was leaving-3Sg. the movies  
‘I met Gianni leaving the movies’

---

<sup>1</sup> Psych predicates such as *like*, *hate* or *admire* cannot be followed by PRs.

- (11) Hanno coltro Mario che rubava  
they caught Mario that was stealing  
‘they caught Mario stealing’
- (12) Non sopporto Maria che fuma in casa mia  
not I stand Maria that is smoking in house my  
‘I cannot stand Maria smoking in my house’
- (13) a. Ho visto Gianni DP individual  
have seen Gianni
- b. Ho visto che hai lasciato CP-proposition  
have seen that you left
- (14) a. Ho incontrato/ coltro Gianni DP individual  
have met catch Gianni
- b. \*Ho incontrato/ coltro che... CP-proposition  
have met catch that

The propositional nature of PRs following perception predicates is apparent in contexts such as the following (15-16). The PR in (15) can be resumed by the *pro* form ‘ciò che’ which, as Cinque argues, can resume only propositions in Italian.

(15) Ciò che ho visto è [<sub>PR</sub> Mario che scriveva nel sonno]

That which I have seen is M. that was writing while asleep Cinque (1992:(11a))

(16) \*Ciò che ho invitato è [<sub>Rel. Clause</sub> Mario che scriveva nel sonno]

That which I have invited is M. that was writing while asleep

The fact that PRs behave like propositions lends support in Cinque's analysis to the claim that PRs can be CPs. CPs have an event interpretation, PRs hence differ from restrictive relative clauses in that they do not refer to an individual but rather, to an event.

Greek PRs, as is also the case with Italian PRs, can follow predicates with different selectional properties (17-20). Nonetheless, Greek does not have any *pro* form similar to the Italian 'ciò che' which resumes only propositions.

(17) Ton idha pu pighene spiti tus  
him I saw that was going home of-their  
'I saw him going to their home'

(18) Ton sinadisa pu pighene spiti tus  
him I met that was going home of-their  
'I met him going to their home'

(19) Ton epiasan pu ekleve mia trapeza  
him they caught that was stealing a bank  
'They caught him stealing a bank'

(20) Dhen ton adecho pu kapnizi mesa sto spiti  
 not him stand that is smoking in at-the house  
 'I cannot stand him smoking in the house'

(21) a. Idha ton Yani  
 I saw the Yani

b. Idha oti efighes  
 I saw that you left

(22) a. Sinadisa ton Yani  
 I met the Yani

b. \* Sinadisa/ Sinelava / Adecho oti...  
 I met I arrested I stand that

Second, Italian PRs give rise to two types of readings: a direct and an indirect perception reading. In the direct perception reading, the head of the PR needs to be directly perceived and this is the reading which is usually available when the head cliticizes or passivizes. Consider the following examples:

(23) Ho visto il vento che muoveva le foglie  
 I saw the wind that was moving the leaves

- (24) %il vento, lo abbiamo visto che muoveva le foglie  
 the wind it-Cl. we saw that was moving the leaves  
 (Cinque 1992:(99))

(23) has an indirect perception reading since the head of the PR, i.e. the air, cannot be directly perceived since the air is not visible. In (24), where the head is cliticized, the reading which is forced is the one where the air needs to be seen but since it is not visible, the example sounds odd.

The same effects can also be observed in Greek PRs (25-26).

- (25) Evlepa ton aera pu fisuse  
 I was seeing the wind that was blowing

- (26) %**ton** evlepa pu fisuse  
 him I was seeing that was blowing

Third, Italian PRs are possible in all and only those contexts in which a small clause (SC) is possible (Cinque 1992). Consider some of the contexts:

- (27) a. Small clauses in existential contexts

SC C' è qualcuno disposto ad aiutarci  
 there is someone willing for help  
 'there is someone willing to help'



PR C' è qualcuno che sta salendo le scale  
 there is someone that is climbing the stairs  
 'there is someone climbing the stairs'

(27) b. Small clauses in locative contexts

SC Maria è la arrabiata più di prima  
 Maria is there angry more than before  
 'Maria is there more angry than ever'

PR Maria è la che piange più di prima  
 Maria is there that crying more than before  
 'Maria is there crying more than ever'

Greek PRs, exhibit the same syntactic behavior with Italian PRs based on the following two considerations: PRs can be coordinated with SCs (28) and the two have identical distribution (29-35).

(28) Evlepa [sc ton Y. thlimeno] ce [PR ton A. pu jeluse]  
 I was seeing the Y. sad and the A. that was laughing  
 'I was seeing Y. sad and A. laughing'

(29) Adjectival SCs in existential contexts<sup>2</sup> (see Moro 1993):

SC Iparchi pada kapjos [<sub>sc</sub>PRO [ikanos ja afti ti doulja]]  
 there is always somebody skillful for this the job  
 'there is always somebody skilful for this job'

<sup>2</sup> For the description of the types of small clauses, I use the terms used in Cinque (1992).

PR Iparchun anthropi [<sub>sc</sub>PRO[pu mas akun] afti ti stigmati  
 there are people that us hear this the moment  
 ‘There are people hearing us now’

(30) SCs with absolute ‘with’ construction (see McCawley 1983):

SC Me [<sub>sc</sub>to Y. [arosto]], dhen borume na fighume  
 with the Y. sick not we can na leave  
 ‘With Y. sick, we cannot leave’

PR Me [<sub>sc</sub>to Y. [pu sinechizi na klei]], dhen borume na pame puthena  
 with the Y. that continues na cry not we can na go anywhere  
 ‘With Y. that continues crying, we cannot go anywhere’

(31) Complement SCs

SC Dhen ton antecho ntimeno sa karagiozi  
 not him-CL. stand dressed like Mr.Punch  
 ‘I cannot stand him being dressed like Mr.Punch’

PR Dhen ton antecho pu kapnizi mesa sto spiti  
 not him-CL. stand that is smoking in the house  
 ‘I cannot stand him smoking in the house’

(32) Adjunct SCs predicated of an object (see Chomsky 1986b)

SC Efagha tin pizza [<sub>SC</sub>PRO [zesti]]  
I ate the pizza-FEM. hot  
'I ate the pizza hot'

PR ?Tin efagha [<sub>SC</sub> PRO [pu itan akoma zesti]]  
Her I ate that was still hot  
'I ate it that it was/ while it was still hot'

(33) SCs in locative contexts (see Kayne 1975)

SC Echume ce ton Yorgho edo [<sub>SC</sub>PRO[thimomeno]]  
We have and the Yorgho here angry  
'Yorghos is here with us angry'

PRs Echume ce ton Yorgho edo  
we have and the Yorgho here  
[<sub>SC</sub> PRO [pu mas to pezi thimomenos]]  
that is pretending angry  
'Yorghos is here with us pretending to be angry'

(34) SCs subjects of copulative verbs (see Safir 1983)

SCs [scO Yorgos [me peruka]] ine ja pola jelia  
the Yorgos with wig is for many laughs  
'Yorghos wearing a wig is very funny'

PR [scTo fegari [pu lampi apopse]]  
the moon that is shining tonight  
  
ine ena iperocho theama  
is a wonderful sight  
'The moon shining tonight is a wonderful sight'

(35) SCs in incredulity contexts (see Akmajan 1984)

SC [scO Yanis [piomenos]]? Apokleiete  
the Yanis piomenos no way  
'Yanis being drunk? No way'

PR \*O Yanis pu ine piomenos? Apokliete  
the Yanis that is drunk no way  
'Yanis being drunk? No way'

In (35), Greek PRs do not show the same distribution with SCs. This behavior though should not be taken as an argument against the correlation between SCs and PRs

because it can be reduced to an intrinsic property of the Greek complementizer *pu*.

Specifically, *pu* cannot occur in root clauses<sup>3</sup>.

(36)

|                                       | <i>Pu</i> -PRs | Italian PRs (cf. Cinque 1992) |
|---------------------------------------|----------------|-------------------------------|
| SC in existential contexts            | YES            | YES                           |
| SCs with absolute ‘with’ construction | YES            | YES                           |
| SCs in locative contexts              | YES            | YES                           |
| SCs subjects of copulative verbs      | YES            | YES                           |
| Adjunct SCs predicated of an object   | YES            | YES                           |
| Complement SCs                        | YES            | YES                           |
| SCs in incredulity contexts           | NO             | YES                           |

Cinque (1992) argues based on the distribution of Italian PRs that they are SCs. This conclusion can safely be extended to Greek (cf. 36). Considering though that perception predicates can take only SC-complements while predicates of the *meet* class can take only an adjunct SC (37), Cinque further claims that PRs need to be treated accordingly.

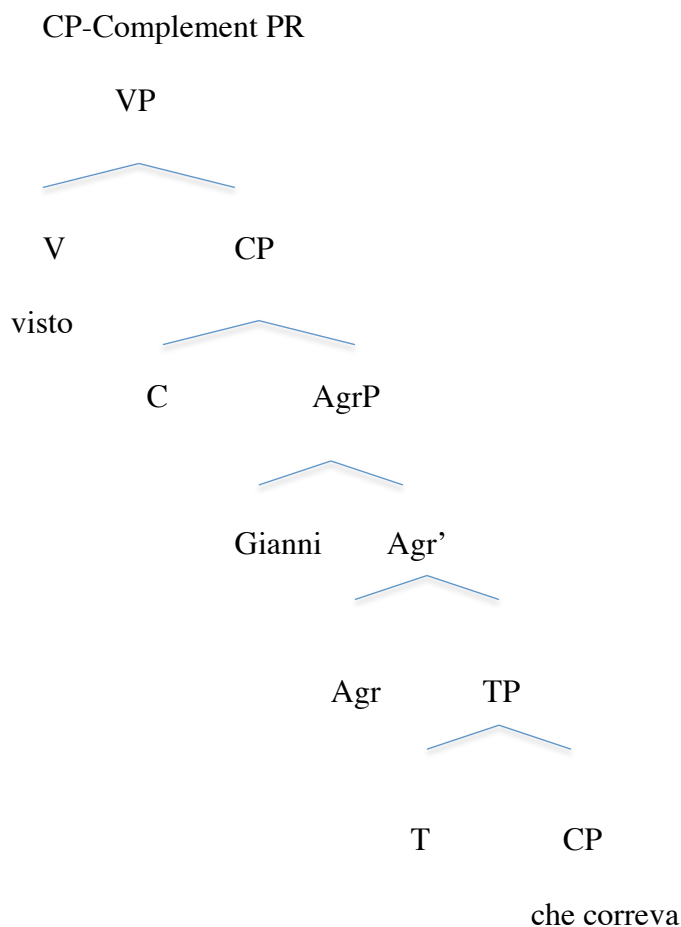
- (37) a. Ho visto [<sub>SC</sub> Gianni arrabbiato]  
 I saw Gianni angry  
 ‘I saw John angry’

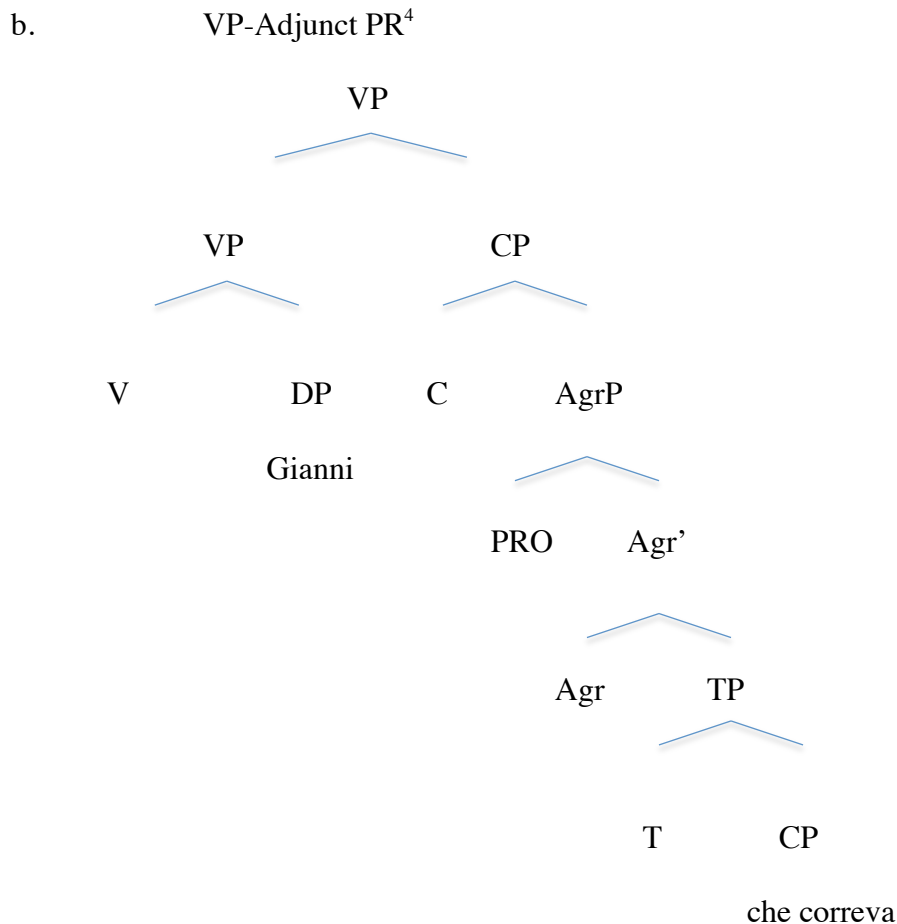
<sup>3</sup> The complementizer *pu* in Greek will be shown later to occur only in contexts where it can be selected by a definite D-head such as in restrictive relative clauses. The fact that it cannot occur in root clauses can be reduced to the absence of a D-head in this context.

- b. Ho [<sub>VP</sub> [<sub>VP</sub> sorpreso Gianni] [<sub>SC</sub> PRO ubriaco]]  
 I caught Gianni drunk  
 ‘I caught Gianni drunk’

PRs following perception predicates are analyzed as complement SCs where the CP introduced with the complementizer *che* is predicated of the head which base generates in Spec-AgrP (38a). PRs following verbs of the *incontrare* type occur in a VP-adjunct position and work as CP predicates predicated of PRO (38b). Moreover, Cinque argues that CP predicates, as opposed to AP or PP predicates, require the presence of Tense (hence TP) potentially due to their progressive interpretation. If T must match the tense features of a higher C-head (like finite T must match *that* in English), then the complete small clause should a CP.

(38) a.





Note that nothing prevents PRs following perception predicates from entering both structures illustrated in (38) considering that this type of verbs allow both DPs and propositional CP complements (cf. 13). On the other hand, PRs following predicates of the *incontrare*-‘meet’ or the *sorprendere*-‘arrest’ type which disallow CP complements (cf. 14) can have only the VP-adjunct structure illustrated in (38b).

The head of PRs in Cinque’s analysis can move e.g. cliticize or passivize only from the VP-adjunct structure in (38b). The structure in (38a) disallows movement of the head because it would leave a trace in (the highest) Spec-CP which would not be head governed (the C-head is inert for proper head government cf. Koopman-

<sup>4</sup>The structure in (38b) is simplified. The DP ‘Gianni’ moves higher than the VP-adjunct in later steps of the derivation, thus, licensing PRO.

Sportiche 1985)<sup>5</sup>. Now, if the head of PRs can cliticize only from the VP-adjunct structure, the interpretational distinction between direct and indirect perception shown in (25-26) can be seen as a derivative of theta-marking. The subject directly sees the denotation of a DP if and only the perception verb assigns the Theme theta-role to that DP. This requires the DP to be the object of the verb as in the VP adjunct structure. On the other hand, the “indirect perception” arises because the object of the perception verb is not the individual-denoting DP but rather a CP-complement PR as in (38a)<sup>6</sup>.

Further evidence that PRs can enter the two different structures illustrated in (38) comes also from that fact that they can have two different interpretations i.e. eventive/ non-eventive. In CP-complement PRs (cf. 38a), the string ‘DP che IP’ forms a constituent which refers to an event. (38a) hence, has the following interpretation: I saw the event of Gianni running. On the other hand, in VP-adjunct PRs (38b), the ‘DP che IP’ string is not a constituent. The head DP is an independent constituent which is neither contained within the PR nor directly merged with it. PRs of this type lack an event interpretation because neither the head nor the PR refer to an event. The PR in this case is rather construed as a time adverbial and the whole formation has the interpretation of an *individual* while he/she is performing the action described by the predicate of the PR e.g. I met somebody while he was doing something. This difference in the interpretation can be seen reflected in the resumption properties of the two constructions. Consider the following examples from Greek:

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<sup>5</sup> The top C-head in (38a) is in fact needed in Cinque’s analysis in order to explain via ‘head-government’ why this structure blocks movement of the head.

<sup>6</sup> In the analysis I will develop here, the indirect perception reading arises because the verb’s theta-role is assigned to an XP denoting an event.



(39) Afto pu idhes itan o Yannis pu etreche  
 this that heard-2Sg. was the Yannis that was running-3Sg.  
 ‘what you saw was Yanni running’ CP-Complement PR

(40) \*Afto pu sinadises itan o Yannis pu etreche  
 this that meet-2Sg. was the Yannis that was running-3Sg.  
 ‘what you met was Yannis running’ VP-adjunct PR

The neuter demonstrative pronoun ‘*afto*’ in Greek can stand for the CP-complement PR in a cleft-construction as in (39) because it refers to the event described by the string ‘DP pu IP’. On the other hand, (40) is ungrammatical because the ‘DP pu IP’ string in the VP-adjunct PR in (40) refers to the individual denoted by the DP i.e. masculine conflicting, thus, in gender with the neuter pronoun *afto*.

Note also that the constituency facts predicted by the two structures in (38) can find support in both Italian and Greek. Consider the following examples (41-42) where the head can be fronted with the PR only when the string head+PR is a complement of perception predicates:

(41) Italian

a. Mario che fuma vorrei vedere  
 M. that is smoking I would like to see

b. \*Mario che fuma vorrei cogliere  
 M. that is smoking I would like to catch

(42) Greek

a. Ton Y. pu kapnizi, thelo na do

The Y. that smokes I want na see

‘Y. smoking, I want to see’

b. \*Ton Y. pu kapnizi, thelo na piaso

The Y. that smokes I want na catch

‘Y. smoking, I want to catch’

Finally, Italian PRs give rise to two types of agreement when they occur in the subject position of a verb. The verb can agree with the head of the PR and this gives rise to plural agreement in cases such as in (43) or it can (presumably) agree with the event that the whole clause expresses and this gives rise to singular agreement (44). These effects cannot be observed in Greek though because the form of the copula for 3SG and 3PL person is identical.

(43) [<sub>PR</sub>**Gianni e Maria** che ballano il tango] **sono** uno spettacolo da non perdere.

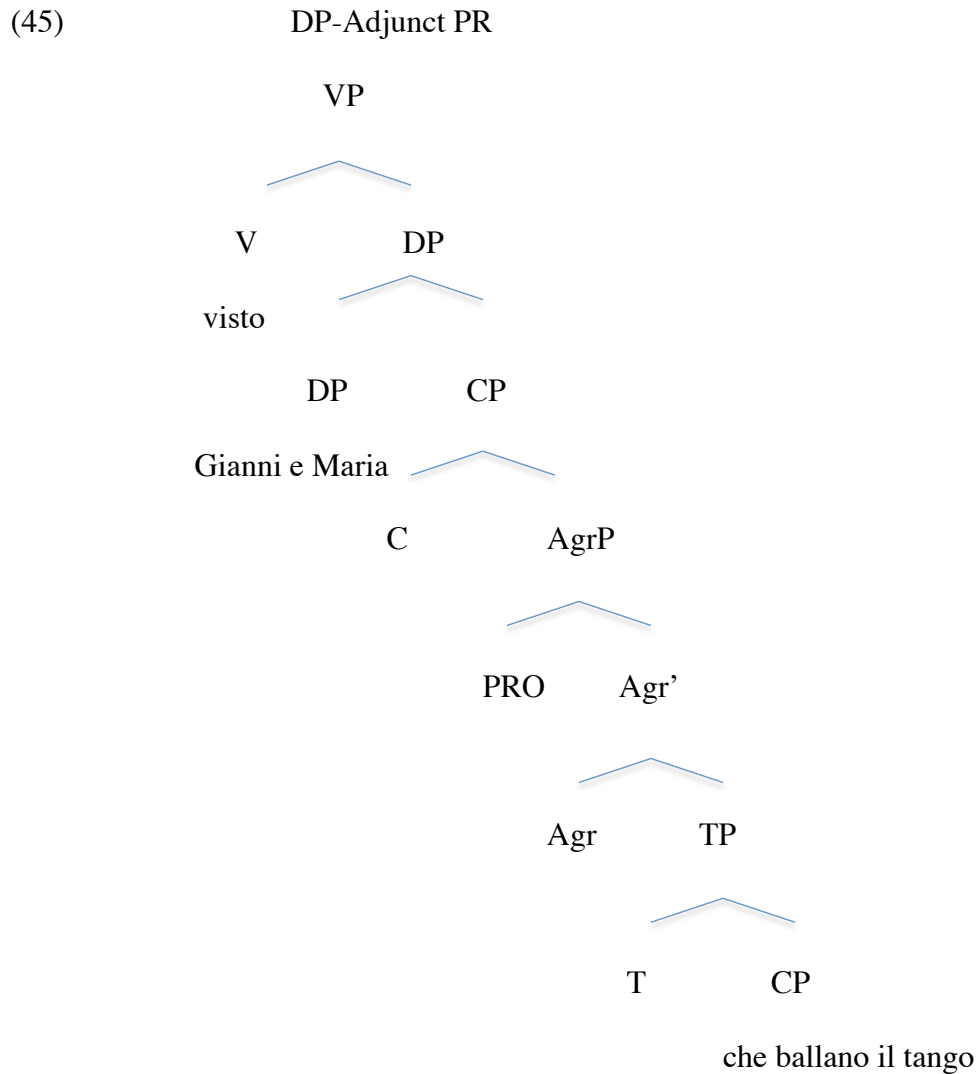
‘G. and M. dancing the tango are a sight not to be missed’ Cinque (1992: (33b))

(44) [<sub>PR</sub>**I minatori che picchiano degli student inermi**] **e** uno spettacolo che fa star.

‘The miners that beat up defenceless students is a sight that makes one feel bad’

Cinque (1992: (30))

In order to account for the agreement facts illustrated in (43-44), Cinque argues that we need to introduce one more structure for PRs (45).



The verb *sono*-‘they are’ has plural agreement in (43) because it agrees with the DP-adjunct PR. It has singular agreement though in (44) because it agrees with the event denoted by the CP-Complement PR.

Essentially, despite the rich empirical basis in Cinque’s analysis, the syntactic/semantic evidence that he uses to motivate each one of the three structures that PRs can enter (repeated below simplified as (46)) is in some cases not sufficient.

(46)

- a. [<sub>VP</sub> v visto [<sub>SC</sub> Gianni che correva]] CP-Complement PR
- b. [<sub>VP</sub> [<sub>VP</sub> v visto <sub>DP</sub> Gianni] [<sub>SC</sub> PRO che correva]] VP-Adjunct PR
- c. [<sub>VP</sub> v visto [<sub>DP</sub> <sub>DP</sub> Gianni] [<sub>SC</sub> PRO che correva]] DP-Adjunct PR

An empirical problem is that the claim that the *pro* form *ciò che* resumes only propositions (CPs) is not valid. *Ciò che* in Italian can also resume non-propositional elements (47) such as inanimate DPs (corresponding to what I propose is the null event noun in complement PRs). Consequently, the fact that it can resume PRs should not be taken as a conclusive piece of evidence showing that PRs are CPs, i.e. the syntactic category of CP-complement PRs (46a) might need to be reconsidered.

- (47) <sub>DP</sub> L' amore è      ciò    che                    ho    sentito.  
The love is      this    that                    I have felt  
‘The love is what I have felt’

Moreover, the assumption that CP-complement PRs (cf. 46a), as opposed to restrictive relatives, have an event interpretation due to their propositional nature runs into some problems, calling for further refinement. In more recent work, Moulton & Grillo (2014 a,b) show that Italian complement PRs (see detailed discussion in section 8) are not propositional. The question, thus, about the source of the event reading of complement PRs (cf. 46a) needs to be revisited.

Another problem is that some properties of certain types of PRs are motivated on the basis of spurious notions, e.g. ‘head government’, which have been abandoned

in the Minimalist Program. It is for instance unclear how, in the absence of ‘government’, one could account in current terms for the fact that CP-Complement PRs (46a) block movement of their head.

Finally, one more problem is that the interpretation that Cinque assumes for the DP-adjunct PR does not appear to exist. Specifically, the DP-adjunct structure in Cinque’s analysis is assumed to bring about the meaning of an individual (in a stage) e.g. (43) is interpreted as ‘Gianni and Maria, when they dance’. Nevertheless, Moulton (2014: (22)) argues that if the DP-adjunct PR denotes an individual, we would expect that it should be able to bind reciprocals as in (48) contrary to the fact:

- (48) \*Gianni e Mario che si vestono da soldati si infastidiscono l’un l’altro  
G. and M. that dress as soldier bother each other.  
‘G. and M. dressing as soldiers bother each other.’

To sum up, Cinque (1992) provides important insight about the syntax of PRs such as that they behave like small clauses or that they can have more than one structure i.e. CP-complement PRs, VP- and DP adjunct PRs (cf. 46). Nonetheless, out of the three proposed structures, only VP-adjunct PRs and their properties, e.g. they allow cliticization of the head of PRs, are well motivated in his analysis and can be maintained in both Greek and Italian. DP-adjunct PRs do not appear to exist while the syntactic category, the structure and the properties of CP-complement PRs need to be reconsidered on the basis of more solid syntactic evidence motivated independently of spurious notions. In what follows, I take for granted the existence of VP-adjunct PRs as they have been assumed in Cinque (1992) and I focus solely on complement PRs following perception verbs. I propose a new analysis for this type of PRs which is

based on previously unnoticed data from Greek and essentially, is motivated by the syntactic properties of the complementizer which introduces PRs. The overarching argument is that if we capture the core structure of this complementizer by probing its syntactic properties, we can provide an analysis which is capable of unifying complement PRs with two more constructions that this complementizer introduces namely, headed relative and factive clauses.

Before I discuss the unified account, note that I will be referring to complement PRs from now and on as 'PRs'.

3. *Pu* in Greek Relative clauses, Factive complements and PRs

Besides PRs (49), the complementizer *pu* introduces restrictive relative (50a) and factive complement clauses (50b) in Greek.

(49) Idha ton Yani pu etreche  
saw-1Sg. the Yani that run-Pst.Imp.  
'I saw Yani running'

(50) a. To pedhi pu idhes ine filos mu  
the child that saw-2Sg. is friend of-mine  
'the child that you saw is friend of mine'

b. Thimame pu dhiavaze poli  
remember-1Sg. that was studying-3Sg. a lot  
'I remember that he was studying a lot'

Considering the distribution of *pu*, there at least two questions that are raised: (i) how should we account for the environments in which *pu* occurs? (ii) Is there a unified analysis possible? One such analysis, as already noted, seems to be available if only we pay attention to the syntactic properties of *pu*.

To start with, *pu* appears to be inherently related to factivity. Consider the following minimal pair with the declarative complementizer *oti*:

(51) a. O Yanis anisichi pu efighes  
the Yanis worries that you left  
'Yanis worries about the fact that you left'

- b. O Yanis anisichi oti efighe  
 the Yanis worries that you left

‘Yanis worries about the fact that you left’ (from Roussou 2012)

The clause content of the clause is presupposed in (51a) meaning that the subject in the embedded clause has indeed left; with the complementizer *oti* though, it is not clear whether the subject has left or not (no presupposition).

Furthermore, clauses introduced with *pu* can never be preceded by a definite article as opposed to clauses introduced with *oti* (cf. Roussou & Roberts 2001).

- (52) a. \*to *pu* efighe me ksafniase  
 the that left-3Sg. me surprised

‘approx. the fact that she left surprised me’

- b. to *oti* efighe me ksafniase  
 the that left-3Sg. me surprised

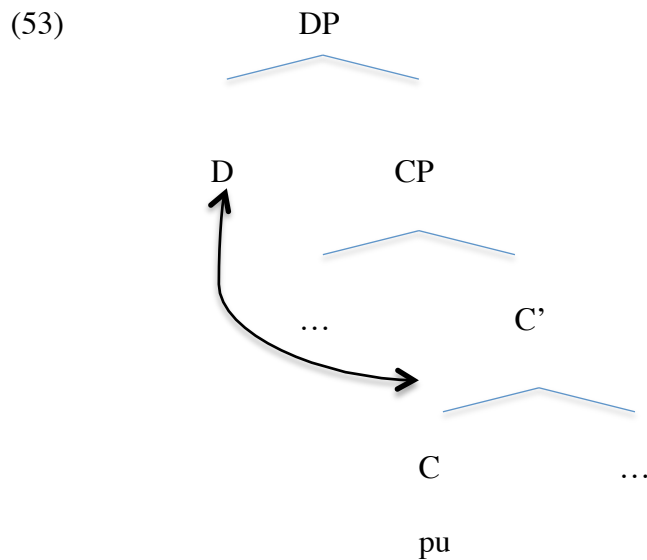
‘approx. the fact that she left surprised me’

These properties of *pu* have been captured in the literature (cf. Christidis 1986, Roussou 2010 and Roussou & Roberts 2001 a.o.) by assuming that it is the equivalent of a definite determiner at the clausal level. In particular, *pu* has been assumed to undergo C-to-D movement where D is a definite head (cf. Roussou & Roberts 2001). Definite determiners carry an existential presupposition, factivity therefore which has traditionally been connected to presupposition (cf. Kiparsky & Kiparsky 1970) is attributed in *pu*-clauses to the definiteness property of this complementizer.



Additionally, *pu*-clauses cannot be preceded by a definite article since the D-head is occupied by *pu* itself.

I will assume in the spirit of Roussou & Roberts (2001) that *pu* is indeed (always) related to a definite D-head. Nonetheless, I will not encode this relation in terms of C-to-D movement but I will rather adopt an analysis where *pu* is a C-head that needs to be local to a definite D-head which selects it (cf. 53). This local relation makes *pu* behave as a definite determiner, thus, blocking merger of an additional determiner before *pu*-clauses.



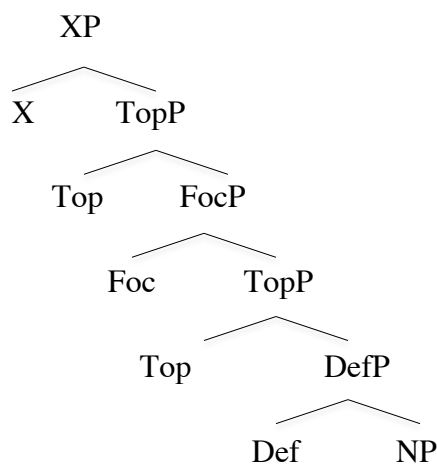
Essentially, (53) is reminiscent of Kayne (1994) who proposes that relative clauses are CPs whose C-head is selected by an ‘external’ D-head. Now, in the light of this correlation, I argue that it makes sense to assume that Greek conveys the meanings of the three embedded clauses in (49-50) by making use of a relative clause as follows:

(54) Headed relatives:  $[_{DP} D \text{ the } [_{CP} NP \text{ boy } [_{C'} pu \text{ boy is running}]]]$

(55) Factive clauses:  $[_{DP} D \emptyset [_{CP} NP \text{ FACT } [_{C'} pu \text{ Gianni is running}]]]$

*Pu* occurs in headed relative clauses where the definite D can be overt<sup>7</sup> (54) or in relatives with a silent definite D which get a factive interpretation due to the presence of a null noun FACT in Spec-CP (55) (see also Kayne 2008 for a similar analysis of English constructions of the type *the fact that...*). Concerning PRs, I would like to suggest that they are headed restrictive relative clauses as in (54) which have an event interpretation though due to the fact that they contain one additional DP layer with a silent determiner and a null event noun which denotes either a *scene* or *sound*. Another difference I propose between restrictive relative clauses under a raising analysis (cf. Kayne 1994) and PRs is that the element which moves in PRs is not a NP. Assuming a richly articulated D-region as in Ntelitheos (2004) (see 56), I argue that what moves in PRs is an element which includes some of the projections of the D-region (57).

(56)



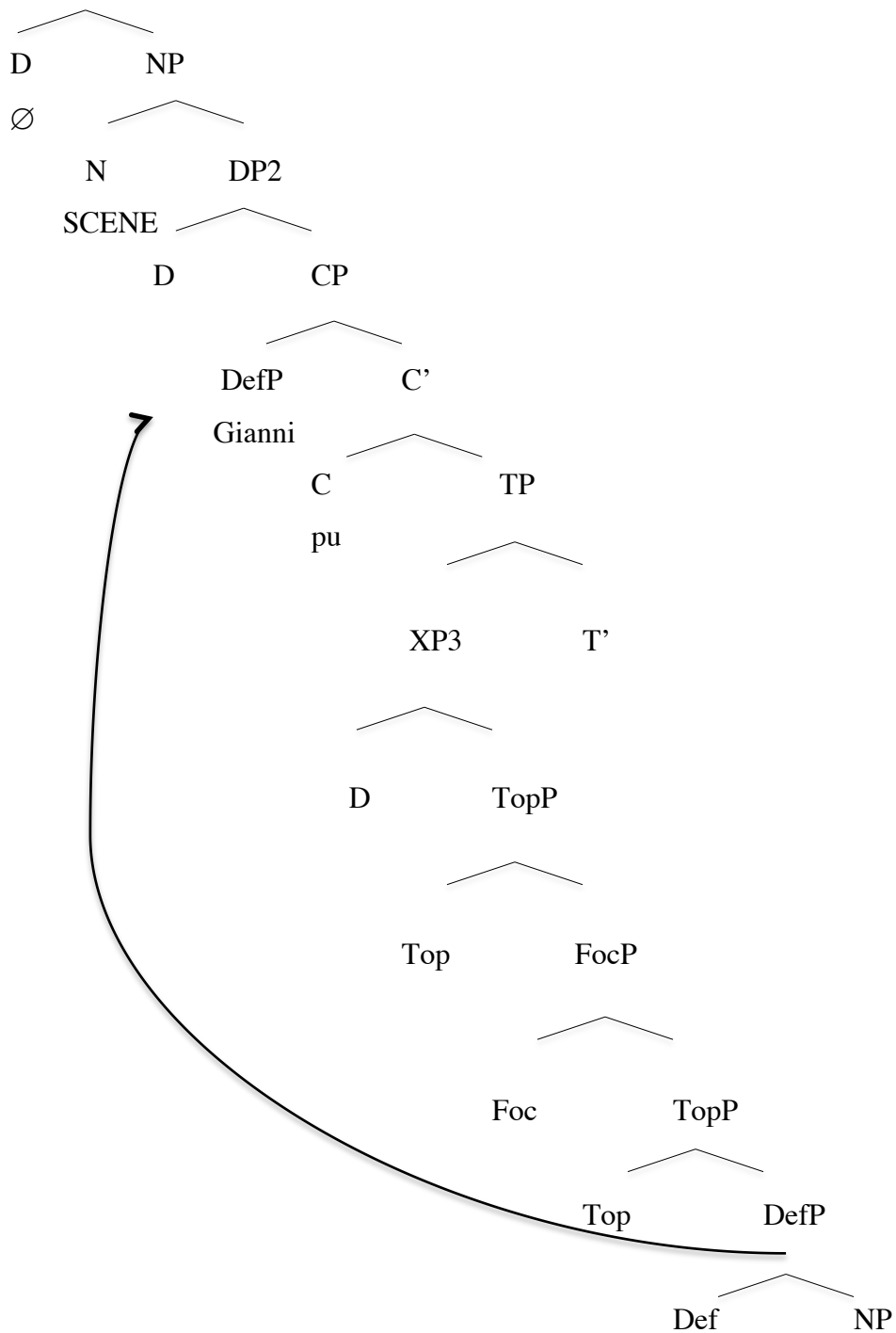

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<sup>7</sup> Under this analysis, if the head of the relative clause is a definite DP, the topmost definite D is overt and what moves is a NP (1). On the other hand, if the head of the relative is an indefinite DP, the topmost D is covert and the indefinite moves as a DP (2) (see Alexiadou & Anagnostopoulou 2000).

(1) [<sub>DP</sub> D the [<sub>CP</sub> NP boy [<sub>C</sub> that ~~boy~~ is running]]]

(2) [<sub>DP</sub> D∅ [<sub>CP</sub> DP a boy [<sub>C</sub> that ~~a-boy~~ is running]]]

(57) DP1



Now, if we want to establish (57), we need first, to motivate all its sub-parts and second, to show how this structure accounts for the properties of Greek and Italian PRs as discussed in the previous section. I start by showing in section 4, that, as is the case in relative and factive clauses, *pu* in PRs is indeed related to a definite

D-head based on the following considerations: (i) PRs have the distribution of DPs (ii) PRs is the clausal analogue of definite DPs in terms of their interpretation. This analysis has the clear advantage that it does not need to reside in ‘government’ to account for the fact that the head of the PR cannot move from this structure. Movement of the head is blocked due to the definiteness constraint. In section 5, I put forward arguments supporting the claim that PRs have a null noun denoting a *scene* event, and due to which PRs have an event interpretation. Evidence supporting the existence of the null noun in PRs is drawn from two constructions in Greek and Korean. These two constructions have the event noun *scene* appear overt and essentially, are subject to the same restrictions with PRs. I show how these restrictions are related to the semantics of this noun which is present (overt or covert) in these constructions. Moreover, in section 6, I provide some new data that motivate an argument for a movement analysis of Greek PRs (*contra* Cinque 1992) like restrictive relative clauses à la Kayne (1994). Finally, having established (57), I will, then, show how a movement analysis for PRs can also capture the fact that they behave like SCs.

#### 4. PRs as DPs

##### 4.1 Syntactic Evidence

Unlike CPs and SCs, Greek PRs can occur in clefted positions which in general allow only DPs (see Moulton & Grillo 2014 a,b for Italian).

(58) Itan [PR o theos pu su miluse] afto pu akuses  
it was the god that you was talking this that heard-2Sg.  
'It was God talking to you, what you heard'

(59) Itan [DP o Jorghos] aftos pu efteghe se afti ti periptosi  
it was the Jorghos he that was fault to this the case  
'It was Jorghos's fault in this case'

(60) \*Itan [CP oti tha pas sto party] afto pu iksera  
it was that will you go to-the party this that I knew  
'It was that you will go to the party, what I knew'

(61) \*Itan [SC ton Yani nekro] afto pu ithela na dho  
it was the Yani dead this that I wanted to see  
'It was Yanis dead what I wanted to see'

##### 4.2 Semantic Evidence

Moulton (2014) and Moulton & Grillo (2014 a,b) argue in the spirit of recent approaches (cf. Iatridou 2004) that PRs are the clausal analogue of certain types of

(in)definites. Moulton (2014) proposes that Italian PRs are definite event descriptions although in more recent work, Moulton & Grillo (2014 a,b) argue against this hypothesis and put forward arguments supporting that they are specific indefinite event descriptions i.e. choice functional indefinites. I will argue that Greek PRs are definite event descriptions, an interpretation that Greek PRs have due to *pu* which works as a definite determiner at the clausal level.

To start with, Moulton & Grillo (2014a,b) argue that Italian PRs behave as the specific-indefinite DPs in the nominal domain since first, they carry an existential presupposition and second, they exhibit island escape/ wide scope properties (cf. Reinhart 1997 a.o.). Consider the following examples from Moulton & Grillo (2014a,b) first which show that Italian PRs carry an existential presupposition:

(62) *Conditionals:*

Se Maria vedesse Gianni che balla, si arrabierebbe  
 If Maria see.cond. G. that dance si get angry  
 ‘If Maria could see G. that dance she would get angry’ *\*but Gianni has never danced and never will’*

(63) *Negation*

\*Dato che Lea non ha mai ballato Max non ha  
 given that Lea not has never danced Max not has  
 mai visto Lea che ballava il tango  
 never seen Lea that danced the tango  
 ‘Given that Lea has never danced, Max has never seen Lea dancing tango’

Greek PRs carry an existential presupposition as well as I show below:

(64) *Conditionals:*

Ean i Maria evlepe ton Yani pu choreve, tha thimone  
If the Maria saw the Yani that was dancing, would get angry-3Sg.

#ala o Yanis dhen echi chorepsi ce ute prokite  
but the Yanis not has danced and not he will  
'If Maria would see Yani dancing, she would get angry but Yani has never  
danced and never will' *Greek*

(65) *Negation:*

\*Dhedomenou oti o Yanis dhen echi chorepsi pote i Maria  
given that the Yanis not has danced never the Maria  
dhen echi dhi pote ton Yani pu chorevi  
not have seen never the Yani that is dancing *Greek*  
'Given that Maria has never danced, Yanis has never seen Maria dancing'

In (62-65), the presupposition that PRs carry projects higher than negation and conditionals thus give rise to the following interpretation: 'there is an event of Yani's dancing that if Maria would see it, she would get angry'. Nevertheless, the existence of the event of Yani's dancing in this case contradicts with the continuation '*but Yanis has never danced and never will*' and as a result, the examples sound odd.

As regards the island escape/wide scope behavior of Italian PRs, Moulton & Grillo (2014a) argue that it is evidenced by cases such as (66). Note that Greek PRs exhibit the same behavior (67).

(66) Ogni professore ha esultato quando ha visto Gianni che barava allesame.  
Every professor has exulted when he has seen G. that cheat at the exam.  
'Every professor exulted when he saw G. cheating at the exam.'

(67) Kathe kathgitis aporise otan idhe ton Yani pu antegrife  
every professor exulted when he saw the Yani that was cheating  
'Every professor exulted when he saw Y. cheating'

The two sentences have a meaning where the PR takes wide scope over the *when*-clause island i.e. there is a single cheating of Gianni.

In order to account for the island escape behavior of PRs, Moulton & Grillo adopt a choice-function analysis. In particular, they assume as in Matthewson's (1999) account for specific indefinites in the nominal domain that a choice function is introduced with an existential at the highest level. The interpretation of the examples in (62-63) is derived hence, as follows:



(68) *Conditionals*

$\exists f[\text{CH}(f) \ \& \ [\text{saw}(\text{Maria})(f(\{s : \text{G. is dancing in } s\})) \rightarrow \text{Maria would get angry}]]$

‘There is a function  $f$  and if Maria were to see the situation of G. dancing picked out by that choice function, she would be angry.’

(69) *Negation*

$\exists f[\text{CH}(f) \ \& \ \neg \text{saw}(\text{G})(f(\{s : \text{Mary is dancing the tango in } s\}))]$

‘There is a function  $f$  and Gianni saw the situation picked out by that choice function.’

Notably, while Moulton & Grillo’s examples regarding the high-scopal/island escape properties of Italian PRs are correct, they provide only one argument against treating PRs as definite DPs. Note that definite DPs are well known for the existential presupposition they carry and their island escape behavior as well (cf. Beghelli & Stowell 1997). Their argument is as follows:

(70) Context: the Barbarians attacked every night during the last week, but Aurelio was only present on Thursday.

a. #Aurelio ha visto *l’attacco* dei Barbari.

Aurelio has seen the’attack of.the Barbarians.

‘Aurelio saw the attack of the Barbarians.’

b. Aurelio ha visto i Barbari che attaccavano.

Aurelio has seen the Barbarians that attack.impf.

‘Aurelio saw the Barbarians attacking.’

If PRs were definite event descriptions, they should be able to occur in the same context where an event nominal preceded by a definite article, e.g. *the attack*, can occur. The event nominal *l'attacco* though is not licit in the context above because it forces a reading where Aurelio saw all the sub-parts of the attack i.e. the attacks of every night are included. On the other hand, the PR can occur in this context, therefore Moulton & Grillo conclude that PRs are not definite DPs.

Nevertheless, the examples in (70) do not form a real minimal pair since it is not clear why PRs need to correspond to the noun *the attack*. The alternative I proposed here is that PRs correspond to *scenes*. Scenes are brief events (see discussion in the section for the interpretational properties of this noun in PRs) so somebody in the context above could just have seen a small portion of the attack on Tuesday, and this could count as *the scene*. This definite DP can replace the nominal 'the attack' above, and surface in this context. Hence, the PR appears to be synonymous with a definite DP along these lines.

(71) Context: the Barbarians attacked every night during the last week, but Aurelio was only present on Thursday and:

- a. idhe<sub>DP</sub> tin skini tis epithesis ton varvaron  
 he saw the scene of-the attack of barbarians
- b. idhe<sub>PR</sub> tus varvarus pu epitithodan  
 he saw the barbarians that they were attacking

To conclude, I take (71) along with the syntactic properties of the complementizer *pu* which arguably behaves like a definite determiner<sup>8</sup> to show that Greek PRs are definite event descriptions.

#### 4.3 Some notes on the interpretational properties of PRs

If Greek PRs behave like definite event descriptions, a question which is raised is how specific or non-specific indefinite event descriptions are expressed in Greek. I argue that if we look at the complementation system of Greek, we will see that both options are available.

Greek, apart from *pu*, has two more complementizers namely, *oti* and *na*. *Oti* is used to introduce propositions after attitude verbs; it corresponds to the English complementizer *that* (72). As regards *na*, Greek does not have infinitives or subjunctive but instead uses finite complements headed by *na* (73).

(72) Pistevo      oti      dhen      ine      alithja  
I believe      that      not      is-3Sg true  
'I believe that this is not true'

(73) Thelo      na      figho  
I was      na      leave-3Sg.  
'I want to leave'

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<sup>8</sup> Note that as Moulton (2014), there are no unique event requirements in PRs. They might describe multiple events. I assume that the status of *pu* as a definite determiner here is clause to that of MAX operator which picks the most salient situation in the context.

*Na-* and *oti-*clauses can occur as complements of perception verbs, like PRs introduced with *pu*.

- (74) a. Evlepa ton Stoltidi na ine kurasmenos  
 I was seeing the Stoltidi na is tired  
 ‘I was seeing Stoltidis being tired’
- b. Evlepa ton Stoltidi oti itan kurasmenos  
 I was seeing the Stoltidi that was tired  
 ‘I was seeing Stoltidis being tired’

These two constructions have all the syntactic properties that characterize PRs such as that they allow a proper name to work as their head (cf. 74), they allow its cliticization (75a-b) and they block individual level predicates (75c-d):

- (75) a. Ton idha na ...  
 him I saw na ...
- b. Ton idha oti ...  
 him I saw that ...
- c. \*Evlepa ton Stoltidi na ine eksipnos  
 I was seeing the Stoltidi na is smart  
 ‘I was seeing Stoltidis being smart’
- d. \*Evlepa ton Stoltidi oti itan eksipnos  
 I was seeing the Stoltidi that was smart  
 ‘I was seeing Stoltidis being smart’

What is interesting about *na*-clauses is that they appear to have low scopal properties as those of non-specific indefinites (cf. Diesing (1992)). Consider the following minimal pair with *pu*-PRs:

- (76) a. Dhen ton icha dhi na kurazete  
not him had seen na is getting tired  
=I had not seen any event of him getting tired  
¬ there is a specific event of him getting tired but I had not seen  
this event
- b. Dhen ton icha dhi pu kurazotan  
not him had seen that was getting tired  
=there is a specific event of him getting tired but I had not seen  
this event  
¬ I did not see any event of him getting tired

*Na*-clauses (76a) do not carry an existential presupposition and scope lower than negation as is also the case with Italian infinitives (77) (cf. Moulton & Grillo 2014a,b). On the other hand, *pu*-PRs (76b) which, as already noted, behave like definites carry an existential presupposition which projects over negation.

(77) *Negation*

Dato che Lea non ha mai ballato Max non ha  
given that Lea not has never danced Max not has

mai visto Lea ballare il tango  
never seen Lea dance the tango

‘Given that Lea has never danced, Max has never seen Lea dancing tango’

As regards *oti*-clauses, it appears that they carry an existential presupposition

(78) as is the case with definites or specific-indefinites (cf. Reinhart 1997 a.o.).

(78) Dhen ton icha dhi oti kurazotan

not him had seen that was getting tired

=there is a specific event of him getting tired but I had not seen this event

¬ I did not see any event of him getting tired

The next question that is raised is if *oti*-clauses correspond to specific indefinite or definite DPs. Specific indefinite DPs have in general been argued in the literature (see Partee 2005 for a review) to carry an existential presupposition as is also the case with definite DPs. Nonetheless, specific indefinites differ from definites as follows: when a hearer comes across a definite and finds an entity that satisfies this description from the context, he can conclude that this entity is the unique one that the speaker is talking about. On the other hand, when a hearer comes across a specific indefinite and finds an entity that satisfies the description, he is not sure whether this entity is the

one that the speaker is talking about. He has to consider the possibility that there might be another entity which can satisfy the description (cf. Yeom 1998)

Essentially, although distinctions of this sort are hard to identify in the complementation system, we might be able to see that *oti*-clauses appear to match the properties of specific indefinites more than *pu*-PRs. Consider the following minimal pair which could illustrate this point:

- (79) a. Evlepa          tin      katastasi      *oti*      chirotereve  
I was seeing   the      situation      that      was getting worse  
'I was seeing the situation getting worse'
- b. Evlepa          tin      katastasi      *pu*      chirotereve  
I was seeing   the      situation      that      was getting worse  
'I was seeing the situation getting worse'

When a hearer comes across (79b), he can identify an event/situation which satisfies the description from the context and he might be able to conclude that it is the one that speaker had in mind. On the other hand, when a hearer encounters the *oti*-clause in (79a), it appears that he can identify an event/situation which satisfies the description from the context but it is not so clear as in (79b) whether he can conclude that it is the one that the speaker has in mind. He might have to consider the possibility that there might be another event, i.e. a set of events, which can satisfy the description. Consequently, *oti*- appears to behave like a specific indefinite in the sense that it (potentially) ranges over a set of events. Although this conclusion needs to be based on more concrete evidence, note that it appears to match Roussou's (2010)

analysis where she argues that *oti* in propositional CPs behaves like an indefinite in the sense that it ranges over a set of propositions like *oti* in perception verb complements which ranges over a set of events.

Finally, if the assumption that in Greek complementation system there appears to be a clausal analogue for all the types of nominals (definites, specific and non-specific indefinites) is correct, one might be wondering if the Italian complementation system behaves alike. Note first that, Italian has only one complementizer i.e. *che*. This complementizer appears to play the role of both *pu* and *oti* in the sense that it shows up in all the contexts that the two Greek complementizers do such as in factive and relative clauses or in plain propositions. Consequently, it makes sense to assume that Italian PRs which are introduced with the complementizer *che* can have the interpretational properties that the two Greek complementizers give rise to depending on what the context may favor; they might behave like definite event descriptions (cf. Moulton 2014) as is the case with *pu*-PRs but they can also behave like specific indefinite event descriptions (cf Moulton & Grillo 2014a,b) as is the case with *oti*-clauses. Moreover, the infinitival constructions in Italian which, as already noted, correspond to Greek *na*-clauses have low scopal properties (cf. 76) like non-specific indefinites. Consequently, the Italian complementation system is no different from the Greek one in terms of the interpretational properties it makes available.

(80)

| Event Descriptions | Non-Specific Indefinite | Specific Indefinite | Definite       |
|--------------------|-------------------------|---------------------|----------------|
| Greek              | <i>na</i> -clauses      | <i>oti</i> -clauses | <i>pu</i> -PRs |
| Italian            | Infinitives             | PRs                 | PRs            |



## 5. The event noun in Greek PRs

This section aims to put forward arguments supporting that PRs include a null event noun denoting a *scene* or *sound* in their structure which essentially, gives rise to their event interpretation. Evidence favoring the presence of the null event noun in PRs will be drawn from two constructions in Greek and Korean. The null noun in question appears overt in these two constructions which, as will be discussed in the next section, exhibit the same restrictions with PRs. The main argument is that the restrictions that PRs and the two constructions share are due to the aspectual restrictions which stem from the semantics of the event noun.

To start with, PRs, as already noted, have an event interpretation (cf. 39a repeated below as (81)).

- (81) Afto pu idhes itan o Yannis pu etreche  
this that heard-2Sg. was the Yannis that was running-3Sg.  
'what you saw was Yanni running'

I assume that their event interpretation stems from the presence of a null event noun *scene* which is part of their structure. Essentially, what needs to be stressed about the interpretation of the noun *scene* is that *scenes* are taken here to denote direct visual aspects and not acting scenes or places where an incident occurred. Cases of the noun *scene* denoting visual aspects are commonly used in Greek:

- (82) Fere ti skini tu atichimatos sto nu su  
Bring the scene of-the accident to-the mind of-yours  
'recall the scene of the accident'

In this case, the noun *scene* refers to a visual aspect/event that is part of somebody's experience of an accident and not to an acting scene.

Furthermore, the null noun *scene* as a variant of an event (see also discussion in Landman (2012) as to why we need to assume a variant of an event and not just a plain event in perception reports) has certain aspectual properties arising from its semantics: its time span is limited i.e. scenes are subparts of an event or stages of an event in Carlson's (1977) terms. This aspectual property of the null noun imposes a temporal restriction on the event of the PR which, as will be shown in the next section, has to be relatively short describing only transitory or impermanent situations.

## 5.1 Cross-linguistic Evidence

Kim (2009) discusses the direct perception construction (DPC) in Korean which is found in the complement position of perception predicates.

(83) The perception construction:

John-un [[totwuk-i tomangka-n]-un kes]-ul po-ess-ta.

J.-TOP [[thief-NOM run.away-IMPRF]-REL KES]-ACC see-PST-DECL

'John saw the event of the thief running away.' Kim (2009:(1-2))

It includes a relativizer *-un* and an element *-kes* which can be replaced by nouns such as *sound* (84). The status of *-kes* in Korean is a question of debate. It can in general have the meaning of nouns such as *thing* or *fact* and it has been analyzed in the literature as a pronominal element (see Chung and Kim 2003) and as a nominalizer (e.g. Kim 1984; Jo 2003) or as a complementizer (e.g. Jhang 1994). The

exact status of *-kes* is not relevant to my analysis as opposed to the properties of the constructions it can be found to occur so I will not be further concerned with it.

- (84) John-un [[totwuk-i tomangka-n]-un soli]-lul tulessta.  
J.-TOP [[thief-NOM run.away-IMPRF]-REL sound]-ACC heard  
'A/the thief was running away and John heard the sound.'

*-kes* can also be found in one more construction that Kim calls an Internally Headed Relative Clause (IHRC).

- (85) The IHRC construction:  
John-un [[totwuk-i tomangka-n]-un kes]-ul cap-ess-ta.  
J.-TOP [[thief-NOM run.away-IMPRF]-REL KES]-ACC catch-PST-DECL  
'John caught a/the thief while he (= the thief) was running away.'

Although the two constructions look string identical, they have different interpretational properties. The DPC bears an event reading, and can occur only as complement of perception verbs while IHRC does not have an event reading, and can occur as complement of verbs such as *meet*. Essentially, the two Korean constructions appear to correspond to the interpretation of the two types of PRs we discussed. Specifically, the VP-adjunct PR in Greek which does not have an event reading, and occurs as complement of verbs such as *meet* appears to correspond to the IHRC while the plain complement PR which has an event reading, and occurs as complement of perception verbs corresponds to the DPC.

Interestingly, the Korean perception construction can be found even in Greek. Consider the following examples:

(86) Idha            *tin skini*            pu    o    adras            su  
 I saw            the    scene            that    the    husband            of-yours  
  
 epathe plaka            me            ti            servitora  
 was surprised            with            the    waitress  
 ‘I saw the scene that your husband was surprised with the waitress’<sup>9</sup>

(87) Imun mprosta            ce    idha            *ti skini*            pu  
 I was    in front            and    I saw            the    scene    that  
  
 o    Yorghos            tsakonotan            me    ti    Maria  
 the    Yorghos            was having a fight            with    the    Maria  
 ‘I was there and I saw the scene that Y. was having a fight with Maria’

The structure of the examples above (henceforth DP event clauses) is identical to the structure of the Korean cases. Although Greek does not have an element like the Korean *-kes*, certain nouns such as *scene* can be found in the position of *-kes* which, as we showed, can be substituted by this type of nouns, i.e. nouns denoting perceptual aspects of the eventuality described in the embedded clause.

In the next sections, I focus only on the Direct Perception Construction of Korean and the DP event clauses in Greek and I show that they have more in common with Greek PRs.

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<sup>9</sup> Source: <https://aspros.wordpress.com/2009/02/26/το-καλωσόρισμα-του-αντώνη-η-ταβέρινα/>

## 5.2 Predicate Restrictions

The predicate of the embedded clause in the Korean constructions (Kim 2009:(15)) and the Greek DP event clauses cannot be an individual level predicate as is also the case in Greek PRs (see also Moulton 2014 for the same correlation in Italian PRs).

(88) \*John-un [[Mary-ka changnankkwuleki-i- $\emptyset$ ]-un kes]-ul poassta/tulessta.

J.-top [[M.-nom goofy.person-COP-N.PST]-REL KES]-ACC saw/heard

Intended: ‘John saw/heard Mary being a goofy person.’

### *DP event clause*

(89) a. \*Idha ti skini pu o adras su  
I saw the scene-Acc that the husband of-yours

itan eksipnos

was smart

‘I saw the scene that your husband was smart’

### *PR*

b. \*Idha ton adra su pu itan eksipnos  
I saw the husband of-yours that was smart

‘I saw your husband being smart’

Moreover, a stative predicate cannot be licensed in DP event clauses and PRs<sup>10</sup>.

<sup>10</sup> This is another property that distinguishes PRs from restrictive relative clauses. Restrictive relative clauses can have a stative or an individual level predicate.

(90)

*DP Event Clauses*

- a. \*Idha ti skini pu o adras su  
I saw the event-Acc that the husband of yours  
  
iche ena kenurjo spiti  
was having a new house  
  
'I saw the scene of your husband having a new house'

*PR*

- b. \*Idha ton adra su pu iche  
I saw the husband of-yours that was having  
  
ena kenurjo spiti  
a new house  
  
'He saw Yani having a new house'

The next question to consider is why these three constructions disallow individual level predicates. I argue that this restriction can be reduced to the presence of the null noun *scene*. This noun, as already noted, has certain aspectual properties in the sense that it is a short event i.e. it denotes a transitory situation. Consequently, individual level predicates are not allowed in PRs because they denote a permanent situation being incompatible hence, with the transitory/impermanent situation denoted by the PR. In the same line of thought, the two sentences in (89) are ungrammatical because the stative interpretation that the predicate in question gives rise to contradicts with the eventive interpretation of PRs which is due again to the presence of the null event noun.

Essentially, one could object to the claim that the restrictions of PRs illustrated in (89-90) stem from the null event noun suggesting that they come from the semantics of perception predicates. If this assumption was on the right track, PRs should not be subject to these restrictions when they occur in other contexts, not involving perception verbs. This assumption is not borne out. Consider the following examples of PRs<sup>11</sup> in absolute with constructions (cf. 30):

(91) Me [PR to Y. [pu sinechizi na klei]], dhen borume na pame puthena  
 with the Y. that continues na cry not we can na go anywhere  
 ‘With Y. that continues crying, we cannot go anywhere’

(92) \*Me [PR ton Y. [pu ine psilos]], dhen borume ...  
 with the Y. that is tall not we can

(93) \*Me [PR ton Y. [pu echi ena spiti]], dhen borume ...  
 with the Y. that has a house not we can

This type of PRs have been assumed in Cinque (1992) following McCowley (1983) to be complement PRs where the head and the PR form a constituent as is also illustrated in the bracketing. Interestingly, the predicate in (92) and (93) is an individual level and a stative predicate respectively and essentially, despite the absence of a perception predicate in the context, PRs are subject to the same restrictions.

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<sup>11</sup> In the semantic analysis I will propose in section 8, scenes are assumed to be situation types. (91), thus, has the following interpretation: *With the situation of Y. that continues crying, we cannot go anywhere.*

Finally, postulating a null noun which is interpreted as *the scene/ sound* as part of the structure of PRs has one more advantage. It explains why PRs can in general combine with nouns of this type i.e. nouns denoting perceptual aspects:

- (94) a. o ichos tis vrochis pu pefti sti skepi  
the sound of-the rain that is falling at-the roof  
‘the sound of the rain falling at the roof’
- b. i ikona tu anthropu pu petheni apo AIDS  
the image of-the human that is dying from AIDS  
‘the image of the man dying from AIDS’ *Greek*
- (95) a. le bruit de la pluie qui tombe  
the sound of the rain that is falling  
‘the sound of the rain falling’
- b. l’ image de Marie qui court  
the image of Marie that is running  
‘the image of Marie running’ *French*
- (96) a. il suono della pioggia che cade  
the sound of-the rain that is falling  
‘the sound of the rain falling’
- b. l’ immagine de Maria che correva  
the image of Maria that is running  
‘the image of Maria running’ *Italian*



## 6. PRs as Restrictive Relative Clauses

If Greek PRs are derived by movement like restrictive relative clauses under a promotion analysis (cf. Kayne 1994), we should be able to identify identical syntactic effects in PRs and restrictive relative clauses which are indisputably associated with movement. The aim of this section is exactly this: I discuss the syntactic behavior of a type of a complement PR that has not been explored in the past and I bring to light a syntactic effect in this construction which can also be seen in restrictive relative clauses. I, then, discuss how/why this effect in both constructions is related to the fact that they are derived by movement.

To start with, the head of Romance PRs has been argued (cf. Cinque 1992, Koopman & Sportiche 2014 a.o.) to correspond only to the subject of the embedded predicate.

- (97) a. Ho visto Luigi che salutava Maria  
(I) have seen Luigi that greeted Maria
- b. \*Ho visto Luigi<sub>i</sub> che Maria salutava Luigi<sub>i</sub>  
(I) have seen Luigi that Maria greeted Luigi
- (Casalicchio 2014)

Surprisingly, the head (only) in complement Greek PRs (see 98a vs. 98b<sup>12</sup>) can associate with the object of the embedded predicate as well.

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<sup>12</sup> Under the structure we have assumed for adjunct PRs (cf. 34b), the subject/ object asymmetry in this type of PRs is understandable considering that PRO cannot occur in case positions such as the object position.

(98) a. Idha tin Maria<sub>i</sub> pu (\*o Yanis) \*(ti<sub>i</sub>)  
 saw-1SG. the Maria-ACC. that the Yanis her-Cl.

filuse o Yanis  
 was kissing-3SG. the Yanis

‘I saw Maria that John was kissing her’

b. \*Sinadisa tin Maria<sub>i</sub> pu (o Yanis) ti<sub>i</sub>  
 met-1SG. the Maria-ACC. that the Yanis her-Cl.

filuse o Yanis  
 was kissing-3SG. the Yanis

‘I met Maria that John was kissing her’

Notably, clitic resumption of the head is obligatory in this construction in a way reminiscent of embedded Clitic Left Dislocation. Interestingly, there is indeed independent evidence supporting that this construction is related to Clitic Left Dislocation (CLLD) considering that it is possible only in languages which allow pre-complementizer CLLD such as Greek and Bulgarian<sup>13</sup>.

What is more interesting in this construction is that the subject in the embedded clause cannot occur in the preverbal position (cf. 98a). Greek plain object restrictive relative clauses exhibit the same property (99)<sup>14</sup>.

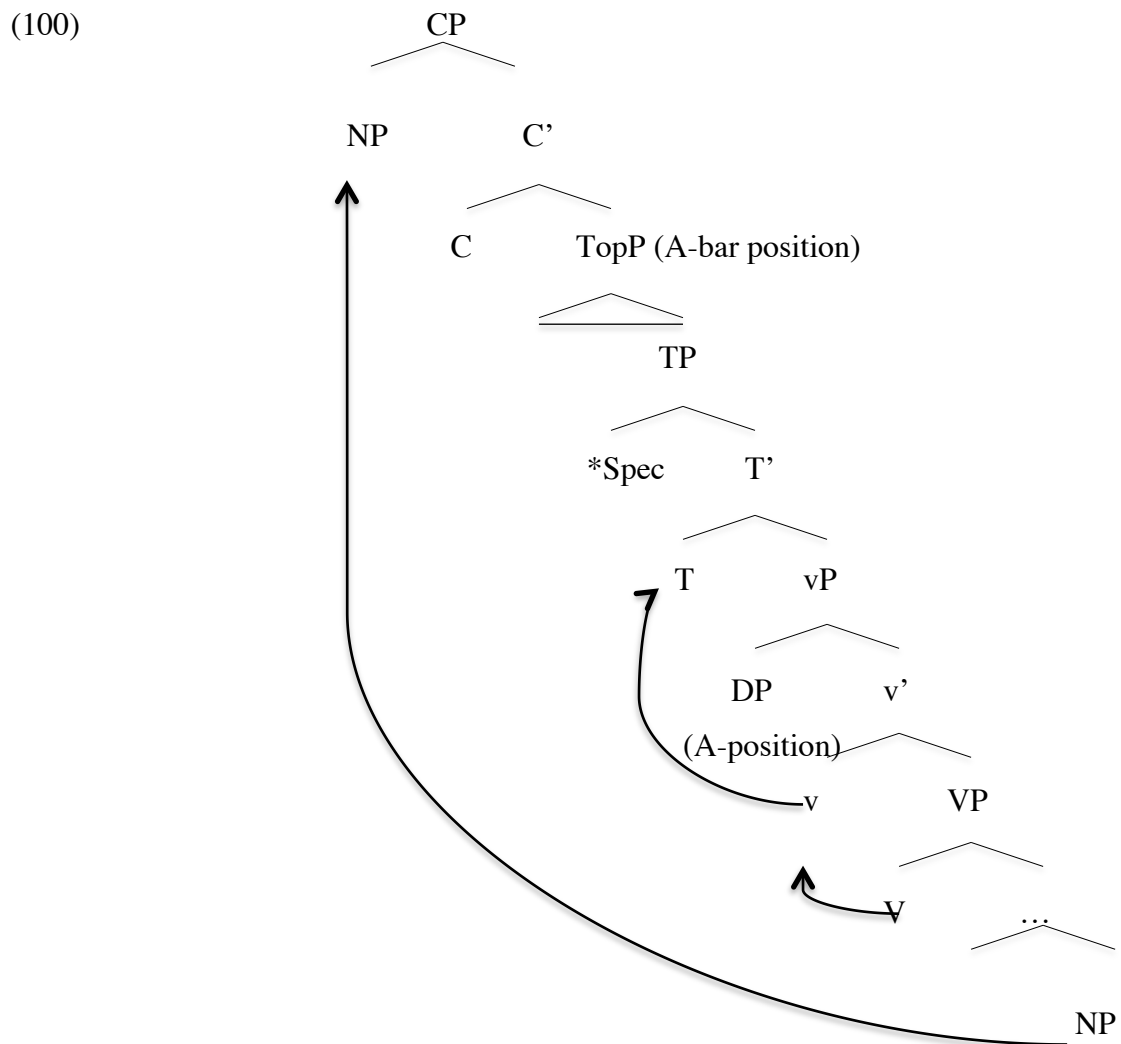
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<sup>13</sup> See Angelopoulos (2014).

<sup>14</sup> Note though that clitic resumption is not obligatory in object restrictive relatives (see Alexopoulou 2006).

- (99) Idha to koritsi pu (\*o Yanis) filise \*(o Yanis)  
 I saw the girl that the Yanis kissed the Yanis  
 'I saw the girl that Yanis kissed'

But, why is the subject not allowed to occur in the preverbal position in PRs and restrictive relatives? Could this syntactic effect provide support to the assumption that they are both derived by movement? I argue that only if we assume a movement analysis, will we be able to account for the position of the subject in the two constructions. Consider the following derivation first:



Suppose that the head of object PRs or restrictive relative clauses (cf. 98a and 99) moves from its base position to Spec-CP undergoing A-bar movement. Following Relativized Minimality (cf. Rizzi 1990), this element should not cross a filled A-bar position. Essentially, the preverbal position for subjects in Greek has been argued to be a Topic position (cf. Alexiadou & Anagnostopoulou 1998). Specifically, Alexiadou & Anagnostopoulou (1998) propose a parameterization of languages depending on (i) the way they satisfy the EPP feature on T i.e.  $X^0$  vs. XP movement and (ii) the availability of Spec-TP for subjects. Greek belongs to a type of languages in which (i) the EPP feature is satisfied via V-to-T movement and (ii) the Spec-TP position is not licensed. The only available position for subjects in a preverbal position is a topic position higher than TP. Now, considering the status of the preverbal position in Greek, it makes sense to assume that the subject in object PRs or restrictive relatives does not move to the preverbal position but it rather stays in Spec-vP/VP<sup>15</sup> in order not to induce a Relativized Minimality violation. This gives rise to obligatory subject inversion in object PRs and restrictive relatives.

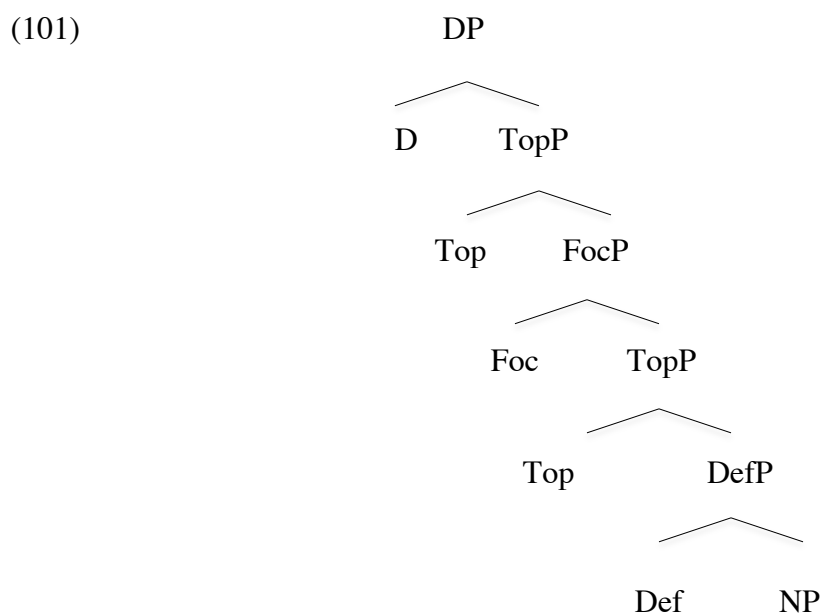
Having established that PRs are derived by movement like restrictive relatives, the next question to consider is if the amount of structure that moves in the two cases is identical. Kayne (1994: chapter 8) proposes a variant of the promotion analysis for restrictive relative clauses introduced with complementizers. Under this variant, relative pronouns are not assumed to be part of the structure. Only the head of the relative clause moves as a NP. This variant of the promotion analysis accommodates a well-known restriction in PRs namely, the fact that they cannot be formed with relative pronouns (cf. 3). Nonetheless, it cannot be directly extended to PRs. Given that PRs allow referential elements such as proper names to work as their head, it has

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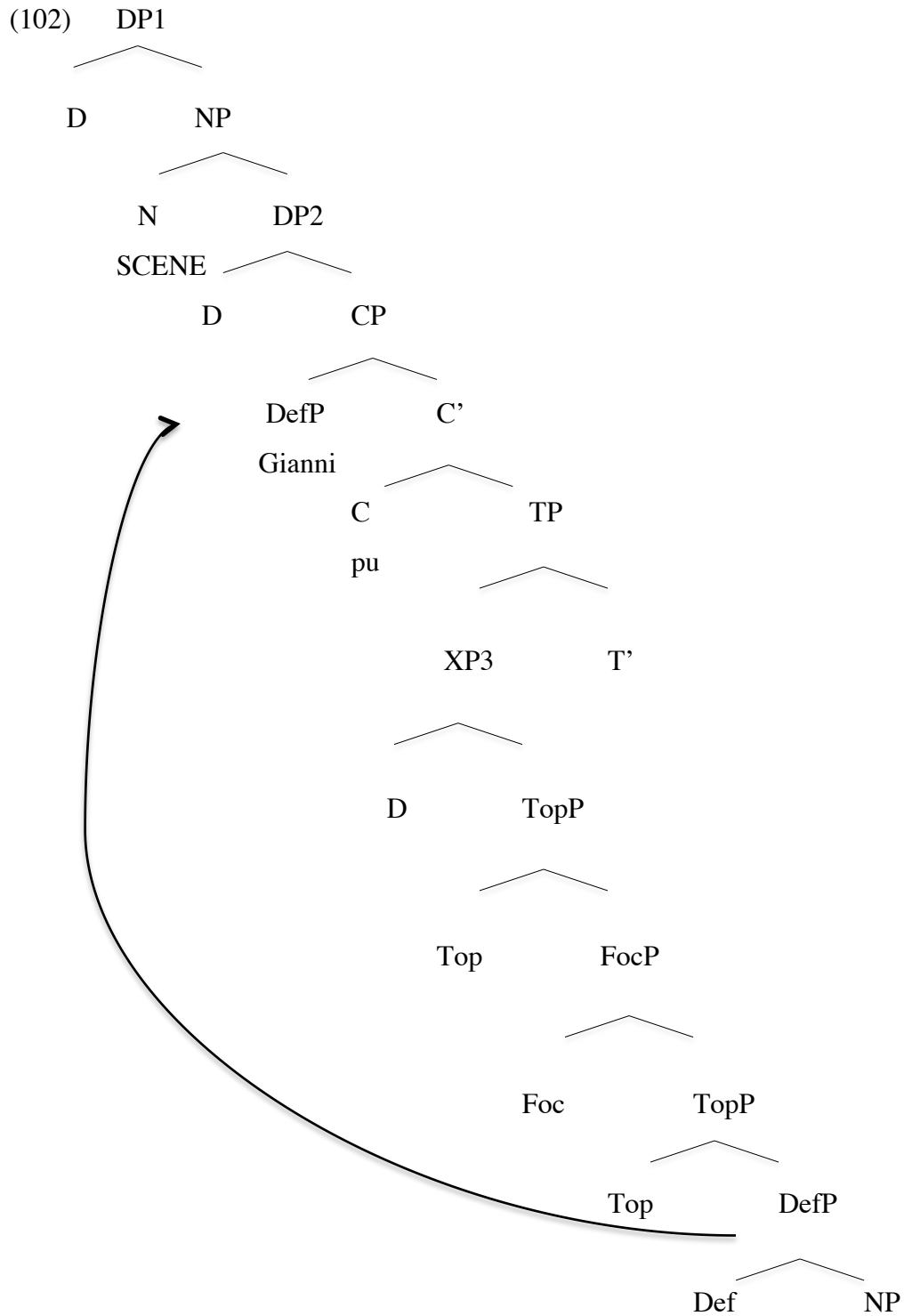
<sup>15</sup> Alexiadou & Anagnostopoulou (1998) assume VP internal subjects for Greek.

to be more than a NP that moves in PRs. In order to see the amount of structure we need to assume exactly for the head of PRs, I should first introduce some properties of the D-region as they have been discussed in the literature.

Ntelitheos (2004) and Alexiadou, Stavrou and Haegeman (2007) argue that the DP is not a unitary projection but it is rather an array of projections. This proposal accords with analogous proposals regarding the nature of the CP-layer (cf. Rizzi 1997). Specifically, Rizzi, in his seminal work on the left periphery, argues that the CP includes an array of projections which encode a number of different properties such as finiteness, topichood or focus related properties. In the same line of thought, Ntelitheos (2004) and Alexiadou, Stavrou and Haegeman (2007) propose in the spirit of Szabolcsi (1994) and Longobardi (1990) a theory which draws a parallel between CPs and DPs, and they propose that the DP region includes, like the CP region, an array of projections encoding a number of different properties such as definiteness, referentiality, specificity, deixis and discourse/pragmatic aspects such as familiarity. Consider the projections that Ntelitheos (2004) motivates in the nominal periphery:



DefP encodes definiteness, TopP is assumed to encode specificity and FocP encodes focus related effects. I will adopt for concreteness the structure of DPs as proposed in Ntelitheos (2004), and I will assume that what moves in PRs is a DefP (102).





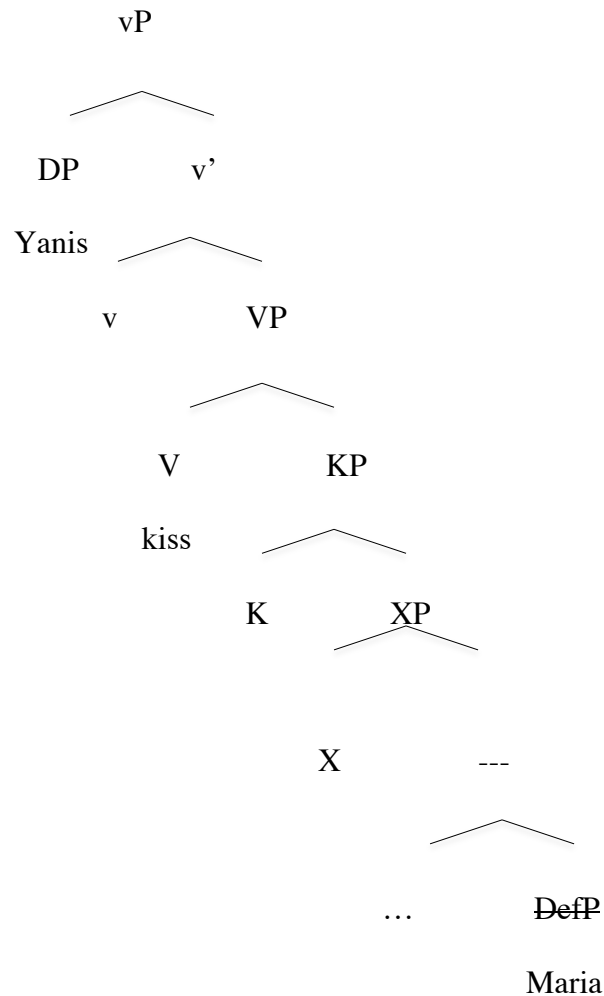
argument, if the structural relation between the two satisfies the relevant licensing condition. A nominative argument is assigned Case by the functional head, C or K, which enables it to satisfy the K Filter. On the other hand, marked structural Case is assigned by the head which antecedent-governs the K-head. Under this analysis, marked structural Cases are underlyingly empty Ks. Like all empty heads, these Ks must be antecedent-governed in order to satisfy the ECP. At s-structure, the antecedent-governor of an empty K licenses its morphological spell-out, which can be accusative, ergative, or oblique.

Essentially, since the notion of ‘government’ has been abandoned within the Minimalism Program, Bittner & Hale’s analysis needs to be updated in current terms. As regards nominals in marked case, I would like to suggest that they are KPs as in Bittner & Hale but the K-head carries case related features which need to be valued by the closest c-commanding verbal head. This process licenses the morphological spell-out of the K-head which can be accusative, ergative or oblique. On the other hand, nominals in unmarked case are assigned case by a functional head, C or K, satisfying the K-filter which we could assume in current terms to require just c-command by the closest c-commanding K or its verbal counterpart, C.

In subject PRs as in (102), the head i.e. XP3 is a bare nominal (hence K-less) which is assigned nominative case by the C-head which introduces the complementizer *pu*. On the other hand, the head in object PRs base-generates in a KP in the object position of the predicate in the PR (104). K values its features with the verbal head of the predicate of the PR licensing its morphological spell-out which in this case is accusative.



(104)



If what moves in PRs is only a portion of the XP in (102) and (104), several layers of structure including the ones bearing the case of the nominal such as K-heads are left stranded. I would like to suggest that the stranded K- layer in object PRs (cf. 98a) is spelled-out as the clitic which obligatorily occurs in this type of PRs <sup>16</sup>. On the other hand, the stranded XP layer in subject PRs is spelled-out as subject agreement on the verb. Now, since the projections bearing the case that the nominal was first assigned can be left stranded, the nominal either in subject or object PRs is free to be

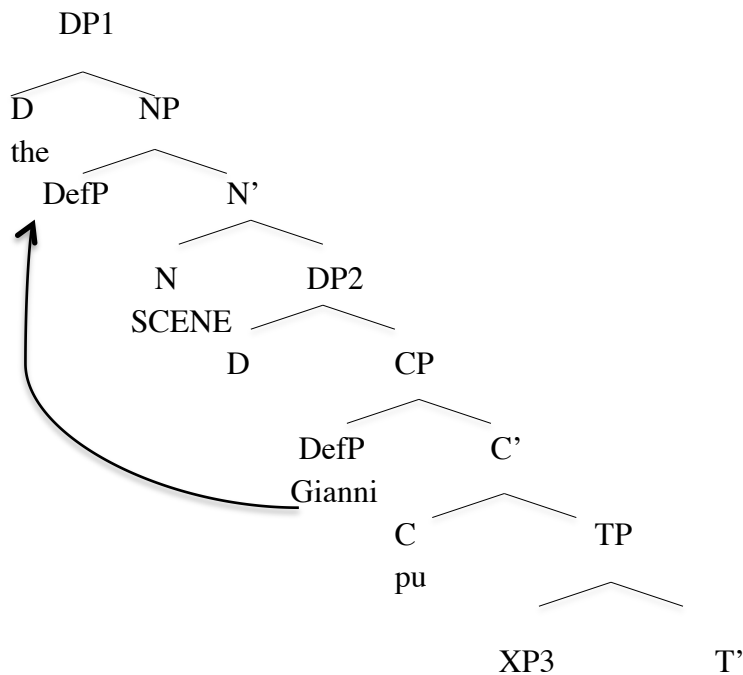
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<sup>16</sup> This analysis cannot account for the fact though that clitic resumption in plain object restrictive relative clauses is obligatory only in certain cases such as when the element that is relativized is an indirect object (cf. Alexopoulou 2006 a.o.).

assigned case again. Obviously, it is assigned accusative case from the matrix predicate.

Despite the clear advantages of this analysis, it accounts only for one of the issues that we have raised namely, how a nominal can be assigned case two times. It is still unclear though how the head of PRs is assigned case despite the intervention of the null noun. It seems that we need to assume a more complex structure for PRs. I would like to suggest that DefP in (102) moves to a position in the structure where it is higher than the null noun<sup>17</sup>. I assume that this position is Spec-NP (105). Note that the movement of the DefP here might be related to case reasons. If the layers related to the case it was first assigned were left stranded, DefP needs to be re-assigned case by a separate functional head in order to be syntactically licensed. This is not possible in Spec-CP due to the intervention of the null noun hence, it moves higher in the structure.

(105)



<sup>17</sup> It is only the topmost D-head in this case which is overt.

This amelioration in turn raises one more issue: (105) does not derive the right meaning for PRs i.e. the scene of Gianni running. I assume though that what is interpreted in this case is only the lowest copy of DefP deriving thus, the correct meaning.

Having established a movement analysis for PRs, the last issue to examine is how the proposed structure in (102) accounts for the fact that PRs work as SC predicates which are predicated of their head. Let us first consider the relation that restrictive relative clauses have with their head. Restrictive relative clauses are open predicates, and combine with the moved element, which as a NP is a predicate as well, via predicate modification i.e. intersection (cf. Heim & Kratzer 1998). Considering though that the head noun of PRs is not a NP, i.e. a predicate denoting properties, but rather a referential expression denoting an individual such as a proper name, the ‘open predicate’ relative clause can combine with the head noun via a predicate-argument relation. In a nutshell, it seems that the syntactic status of the head noun facilitates the establishment of predicate-argument relation with the PR explaining exactly why PRs work as small clauses.

## 7. Interim Conclusion

Greek PRs following perception predicates have been argued here in the spirit of Cinque (1992) to occur in two different syntactic positions. They can be either complements when they merge directly with their head forming a constituent or adjuncts when they never merge directly with their head. By contrast to adjunct PRs, the properties of the structure where PRs occur as complements have not been well motivated in the literature. Hence, I focused solely on the latter. PRs of this type were analyzed as part of an account unifying the syntax of two more constructions namely,

this of relative and factive complement clauses. This account was motivated on the basis of the syntactic properties of the complementizer introducing the three structures which was argued to be obligatorily selected by a definite D-head. PRs under this account differ from restrictive relative clauses in two points: (i) they include one more DP with a null definite determiner and a null event noun denoting a *scene* or *sound* (ii) what moves in PRs is not a NP. The element that moves in PRs includes some of the projections of the D-region. The subparts of this structure were motivated in three parts: (i) PRs as DPs: I showed that PRs have the distribution and they behave like the clausal analogue of definite DPs in terms of their interpretation (ii) evidence for the null event noun in PRs: I provided cross-linguistic evidence favoring the assumption that PRs do indeed include a null event noun which essentially, gives rise to their event interpretation (iii) PRs are derived by movement: this argument found support in one previously unnoticed type of PR in Greek where the head of the PR corresponds to the object of the embedded predicate.

Having discussed the syntax of PRs extensively, I aim in the next section to show how the proposed analysis can capture one more semantic property of PRs, specifically this of transparency.

## 8. Semantic Properties of the complements of Perception Verbs

Certain types of perception verb complements have been shown in the literature (cf. Barwise 1981 a.o.) to be transparent<sup>18</sup>. The property of transparency though has been attributed only to ‘*small*’ constructions such as the English bare infinitive. Moulton & Grillo (2014) argue that this is not correct. They claim that Italian PRs, despite the fact that they are fully-fledged tensed constructions, are transparent. The discussion in this section aims to provide further support to their claim extending their proposal to Greek PRs. I start by providing an overview of the relevant literature.

### 8.1 Perception Reports (Barwise 1981)

Barwise (1981) and Barwise & Perry (1983) discuss the contrast between epistemically neutral and epistemically non-neutral reports. Consider the following two sentences first:

- (106) a. Beryl saw Meryl feed the animals. (epistemically neutral report)  
b. Beryl saw that Meryl fed the animals. (epistemically non neutral report)

Barwise & Perry (1983) observe that although both sentences presuppose that Meryl fed the animals, only (106a) is interpreted as a transparent complement. This means that English bare infinitives (106a) can license inferences as in (107a), as opposed to plain CPs (106b) which do not allow inferences of this sort (107b).

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<sup>18</sup> See section 8.1 for a definition of the term. It will be used interchangeably with the terms “epistemically-neutral” and “non-propositional”.

- (107) a. Beryl saw Meryl sprinkle the white powder on Cheryl's dinner.  
The white powder was the most deadly poison.  
 $\Rightarrow$ Beryl saw Meryl sprinkle the most deadly poison on Cheryl's dinner
- b. Beryl saw that Meryl sprinkled the white powder on Cheryl's dinner.  
The white powder was the most deadly poison.  
 $\neg \Rightarrow$ Beryl saw that Meryl sprinkle the most deadly poison on Cheryl's dinner

Essentially, the inference in (107a) allows a continuation such as *–but she thought it was just sugar*, which shows that it is not important what Beryl thinks (epistemically neutral/non-propositional<sup>19</sup>). On the contrary, a continuation of this sort is not allowed to occur after the inference in (107b) since in this case, it is important what Beryl thinks (epistemically non-neutral).

In order to account for these differences in perception verb complements, Barwise (1981) proposes that epistemically neutral reports should be analyzed in terms of situations (108).

- (108) There is an actual past situation *s* that Beryl saw, and *s* supports the truth of  
*Meryl feed the animals.*

Perception verbs in cases such as in (106a) take an individual situation as a complement, not a proposition. This has the effect that the truth-value of the sentences of this type does not change when the description of the perceived event is replaced by an extensionally equivalent one. If Meryl fed the animals once and she fed them

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<sup>19</sup> Propositions in the literature have been argued to be among other things *objects of beliefs* i.e. epistemically non-neutral. Clauses which allow continuations such as *but he thought something else* show that they are not objects of beliefs i.e. they are epistemically neutral.

hay, then the set of actual situations supporting the truth that *Meryl fed the animals* is expected to be identical to the set of situations supporting the truth of *Meryl fed the animals hay*.

Moulton & Grillo (2014a,b) argue that transparency is not a property exhibited only by ‘small structures’ such as the English bare infinitive. Italian PRs, despite the fact that they are fully-fledged tensed clauses are transparent (109).

- (109) Gianni ha visto Maria [<sub>PR</sub>che piangeva] . . .ma ha pensato che rideva.  
 Gianni has seen Maria that cry.impf . . .but has thought that laugh.impf  
 ‘Gianni saw Maria crying . . . but he thought she was laughing.

Interestingly, Greek PRs are transparent complements as well (110)<sup>20</sup>.

- (110)  
 a. O Yorghos idhe oti o ithagenis eplekse ena kapelo  
 the Yorghos saw that the aborigine knitted a hat  
  
 #ala nomise oti katharise chorta  
 but thought that cleaned vegetables CP  
 ‘Yorghos saw that the aborigine knitted a hat but he thought that he cleaned vegetables’

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<sup>20</sup> The DPC in Korean is also transparent (cf. Kim 2009).

- b. O Yorghos idhe ton ithageni pu epleke ena kapelo  
 the Yorghos saw the aborigine that was knitting a hat  
  
 ala nomize oti katharize chorta  
 but was thinking that was cleaning vegetables  
 ‘Yorghos saw the aborigine knitting a hat but he thought that he was cleaning  
 vegetables’ PR

Since Greek PRs are transparent complements, this means that they should be analyzed as individual situations (cf. Moulton & Grillo 2014 a,b). The next question thus to consider is if the syntactic structure we have argued for PRs here provides the right semantics to treat them as individual situations. Before providing a formal semantics for PRs based on the proposed syntactic analysis, I discuss one interesting interpretational effect observed in Greek PRs that seeks explanation.

## 8.2 The Puzzle

- (111) o Yanis idhe ola tu ta pedia pu apofitusan  
 the Yanis saw all of-his the children that were graduating  
 ‘Yanis saw all of his children graduating’ (*one event-collective reading*)

(111) has a reading where Yanis attended only one graduation ceremony in which all of his children graduated. Interestingly, it blocks a distributive reading where Yanis attended several graduation ceremonies, one for each of his children. The same effects are also observed in Italian (example from Moulton & Grillo 2014a,b):



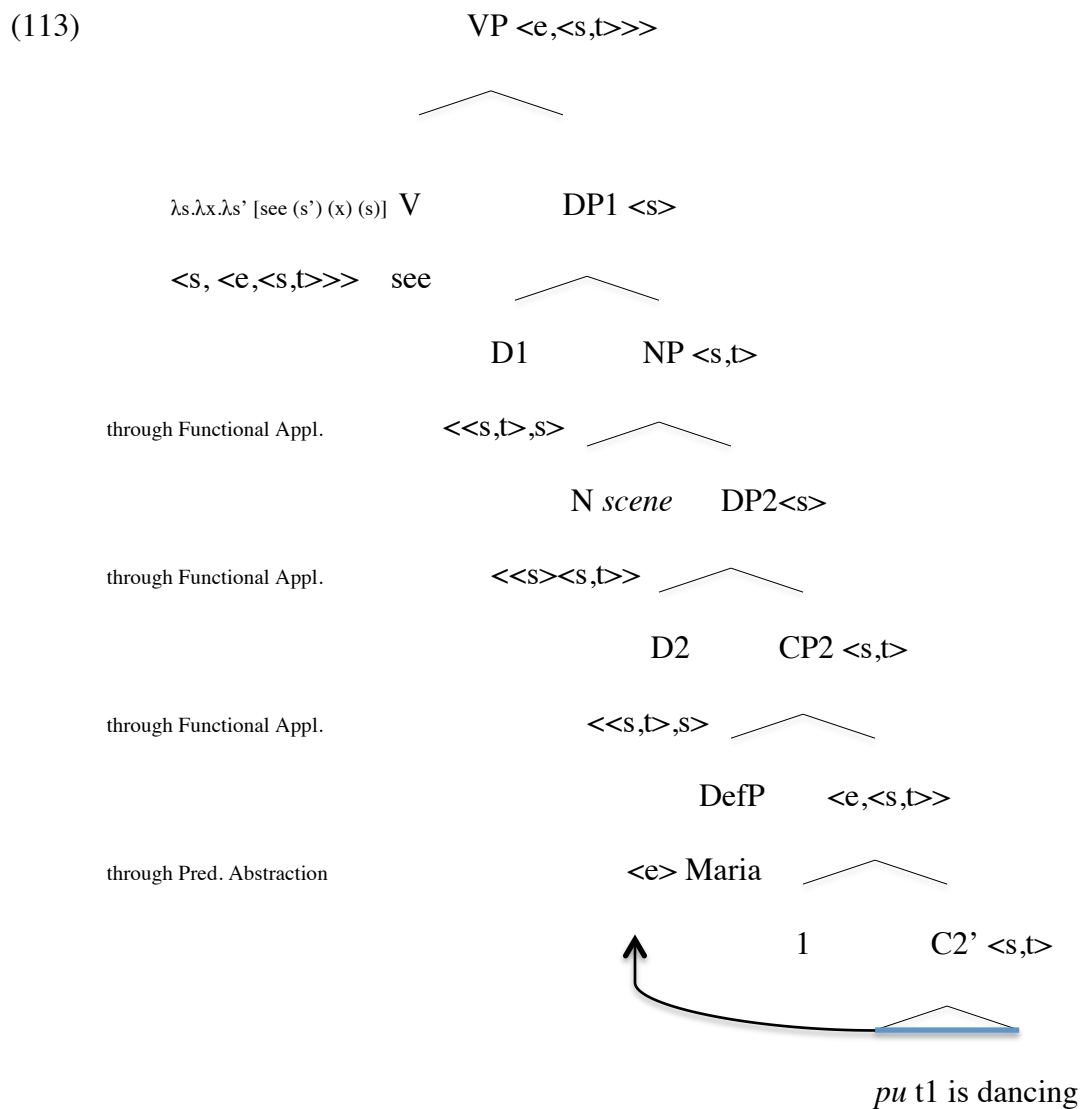
(112) %Gianni ha visto tutti i suoi figli che nascevano.

Gianni has seen all the his children that born-impf

‘Gianni saw all his children being born.’ (*one event- collective reading*)

(112) sounds weird because it implies that Gianni saw all of his children being born in one (long) scene as if they were triplets. But, what blocks distributive readings in PRs? I address this question in the following section along with the semantic analysis.

### 8.3 Semantic Analysis



Propositional CPs denote properties of situations  $\langle s, t \rangle$  like C2' (cf. Kratzer 2007). The head of PRs which base generates within C2' moves out of it (cf. Kayne 1994) leaving an index behind. This triggers the rule of Predicate Abstraction (cf. Heim & Kratzer 1998: 186). Since the head is a referential expression denoting an individual, it makes sense to assume that it is of type  $\langle e \rangle$ . This allows C2' in (113) merge with DefP through F(unctional) A(pplication) which is in effect a predicate-argument relation. The fact that the two combine via FA explains also why PRs behave like small clauses.

Moreover, a definite D-head, which selects *pu* merges via FA turning CP2 into DP2 denoting an individual situation. The relative clause can now be interpreted as '*the situation in which Maria is dancing*'.

Following our assumptions about the structure of PRs, a null noun denoting a scene event with the denotation illustrated in (114) is merged on the top of DP2.

$$(114) \quad \llbracket \text{scene} \rrbracket = \lambda s. \lambda s'. s' \text{ is a scene event/situation of/in } s \text{ and } P(s)$$

P in (114) is a free variable whose interpretation is determined by the context. The free variable opens up the possibility that the noun *scene* has some varying properties depending on what the context might favor. More concretely, this noun has the meaning of a *scene* but its properties may vary since scenes as visual aspects can be of different types of course; they can be relatively longer or they can be shorter, they can include sounds as part of the stimulus or not etc.

Finally, a definite D-head merges with the NP taking a set of situations, and mapping them to an individual situation. Now, since PRs denote an individual

situation as in Moulton & Grillo (2014a,b), the fact that they are transparent follows straightforwardly.

In the last step of the derivation, the perception verb which as Moulton & Grillo (2014) argue can select individual situations combines through FA with the PR. The clause now has the right meaning: (I) see the scene of the situation in which Maria is dancing.

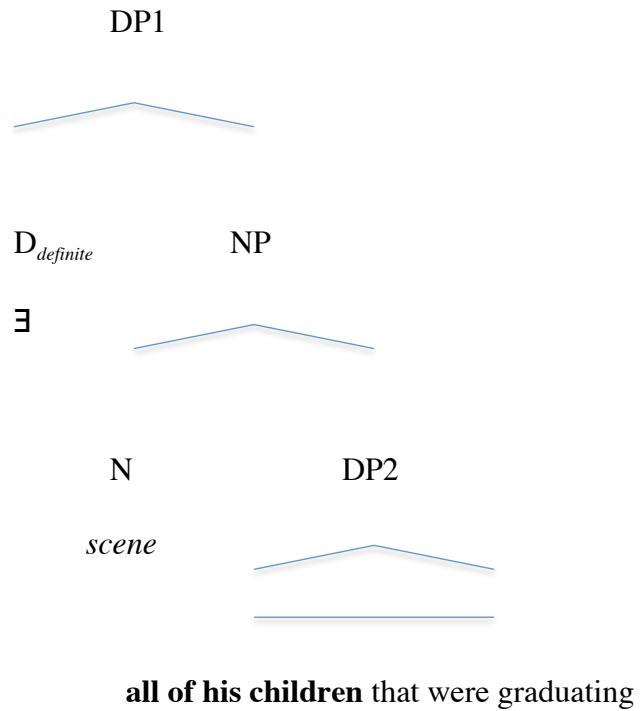
Notably, if individual situations i.e. transparent clauses result from the merger of a D-head, there is one more question that we need to address: what blocks the D-head from merging in non-transparent/ propositional clauses? I would like to suggest that the D-head has certain selectional properties in Greek; it selects for NPs as in the nominal domain or it selects for *pu*. Propositional clauses in Greek are (mainly) introduced with the declarative complementizer *oti*. Since this type of clauses do not contain a null NP, D cannot merge.

Concerning the lack of distributive reading in PRs, distributive reading in cases such as (111) repeated as (115) would be available if the subject QP exports high (cf. Higginbotham 1983).

- (115) o Yanis        idhe    ola    tu        ta pedia        pu    apofitusan  
the Yanis        saw    all    of-his the children    that    were graduating  
'Yanis saw all of his children graduating' (*one event-collective reading*)

More concretely, I argue that distributive readings could be available in PRs as in (115) if the QP which occurs in the PR scopes higher than the existential introduced in the higher definite D-head (cf. 116): for all of his children *x* there is a scene event of *x* graduating and Yanis saw this event.

(116)



Essentially, the universal quantifier is in DP2 which is a relative clause cannot move to a position higher than the existential to derive the distributive reading because relative clauses in Romance and Greek are strong islands. This fact finds support in the following examples from Greek and Italian (cf. Bianchi 1999, Cechetto & Donatti 2010 a.o) where the universal quantifier is trapped in the relative clause and cannot scope over the existential one (117).

(117)

a. Un compito che ho distribuito

An assignment that (I) have given

a ogni studente (era troppo difficile)

to every student was too difficult  $\exists \forall / * \forall \exists$

‘An assignment that I gave to every student was considered too difficult’

- b. Mia ergasia pu edhosa chthes se kathe  
 an assignment that I gave yesterday to every  
 fititi itan poli diskoli  
 student was very difficult  $\exists \forall / * \forall \exists$

‘An assignment that I gave to every student yesterday was very difficult’

The existential in these examples is introduced in the relative D-head. The universal quantifier which is within the CP below the relative D-head cannot QR to a position higher than the existential, i.e. higher than D, since relative clauses are strong islands.

Besides the scopal effects observed in (117), further evidence that Greek PRs are strong islands like restrictive relative clauses comes also from the fact that they both block extraction:

- (118) a. Idha ena pedi to opio eiche makria malja  
 I saw a child the who had long hair  
 ‘I saw a child who had long hair’

- b. \*Ti idhes ena pedi to opio eiche?  
 what you saw a child the who had  
 ‘What did you see a child to have?’

- (119) a. Idha ena pedi pu etroghe ena paghoto  
 I saw a child that was eating an ice-cream  
 ‘I saw a child eating an ice-cream’

- b. \* Ti idhes ena phedi pu etroghe?  
 what you saw a child that was eating  
 ‘What did you see a child eating?’

#### 8.4 Some notes on distributive reading in PRs

*Na*-clauses following perception predicates, as opposed to *pu*-PRs, allow distributive readings as is also the case with Italian infinitives (cf. Moulton & Grillo 2014). But, what is different in *na*-clauses which allows distributive readings in them?

- (120) Idhe ola tu ta pedja na apofitun  
 he saw all of-his the children na graduate-3PL  
 ‘He saw all of his children graduating’ (*many events-distributive reading*)

Although I did not discuss the syntactic structure of *na*-clauses following perception predicates, I showed that they are the clausal analogue of non-specific indefinites. Now, if distributive readings in sentences like (120) are available only if the subject QP exports high<sup>21</sup>, there is nothing which might block this movement since *na*-clauses like non specific indefinites in the nominal domain are not islands (122-123) (see also Cinque 2010 for discussion on the extraction properties of non-specific indefinites).

- (121) Diavasa vivlia tu Molieru  
 read-1Sg. books of-the Moliere  
 ‘I read books of Moliere’

---

<sup>21</sup> The universal quantifier will have to raise higher than the implicit event quantifier in Higginbotham’s (1983) term.

(122) Pjuni diavases vivlia?  
 whose read-2Sg. books  
 ‘whose books did you read?’

(123) Ti idhes ton Yani *na* troi?  
 what saw-2Sg. the Yani to eat-2Sg.  
 ‘What did you see John eating?’

### 8.5 Some more notes on the assumption of the D-head in CPs

The conclusion in section 8.4 that propositional CPs, which in Greek are introduced with the complementizer *oti*, block merger of a definite D-head on the top of them appears to be challenged by examples such as in (124-125):

(124) To *oti* efighe toso noris me ksafniase  
 the that she left so early me surprised  
 ‘approx. The fact that she left surprised me’ (Roussou & Roberts 2001: (7))

(125) To *oti* ise xazos to kserame  
 the that you are stupid it-Cl. we knew  
 ‘approx. We knew the fact that you are stupid’

Here, the two *oti*-clauses are indeed preceded by a definite article. But, if the D-head has certain selectional properties as we assumed in section 8.4, what licenses its merger in (124-125)? I would like to suggest that there are in fact two types of *oti*-clauses: a factive *oti*- and a propositional non-factive *oti*-clause. Factive *oti*-clauses

have a null NP denoting a *fact* in their structure which can work as the complement of D and hence, merge.

The assumption that *oti*-clauses can be factive clauses is supported by at least three considerations. The first is that, as illustrated in the translation of (124-125), *oti*-clauses in these cases get a factive interpretation. The second is that *oti*-clauses can be found in factive contexts such as after factive predicates (cf. Roussou 2015).

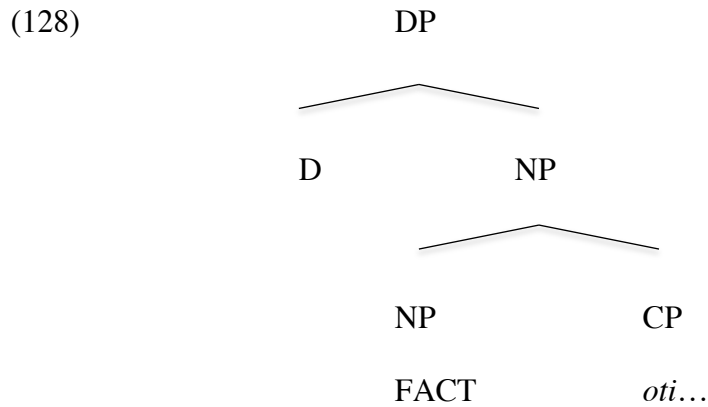
(126) a. O Janis paradechtike oti eklepse ta lefta  
 the Janis admitted that he stole the money  
 ‘Janis admitted the fact that he had stolen the money’

b. O Janis siniditopiise oti efighes  
 the Janis admitted that you left  
 ‘Janis realized the fact that you left’

The third is that *oti*-clauses can combine with an overt noun *fact* (127), thus, opening up the possibility that (124-125) might have a hidden noun *fact* which can license merger of the D-head (128).

(127) Para to ghegonos oti ime kourasmenos  
 despite the fact that I am tired  
  
 tha vgo apopse  
 I will get out tonight  
 ‘Despite the fact that I am tired, I will get out tonight’





Now, if *oti*-clauses come in two types (those which contain a null NP i.e. factive clauses and others which do not i.e. propositional clauses), propositional *oti*-clauses occurring after attitude verbs should never appear with a definite article. This assumption is borne out (129):

- (129) \* Pistevo      to      oti      ise              xazos  
           I believe    the      that    you are        stupid

Finally, note that the nouns which might be hidden in clauses might vary depending on the construction. Consider the following example:

- (130) Eksetazete    to      na      pulithun      ta Olimpiaka akinita  
           it is examined the    na      sell              the Olympic buildings  
           ‘approx. it is examined the possibility of selling the Olympic Buildings’

A noun *endechomeno*-‘possibility’ can appear overt after the determiner in this construction with no meaning alternation. It is plausible thus to assume that there might be a hidden noun POSSIBILITY in the *na*-clause in (130).

## 9. Residual Issues

As already noted, Italian PRs give rise to two different agreement patterns (cf. 39-40):

(39) [<sub>PR</sub>**Gianni e Maria** che ballano il tango] *sono* uno spettacolo da non perdere.

‘G. and M. dancing the tango *are* a sight not to be missed’ Cinque (1992: (33b))

(40) [<sub>PR</sub>**I minatori che picchiano degli student inermi**] *e* uno spettacolo che fa star.

‘The miners that beat up defenceless students *is* a sight that makes one feel bad’

Cinque (1992: (30))

The agreement pattern in (40) is understandable under my analysis, if the copula agrees with *the unique scene* denoted by the PR. But, how can we account for the agreement pattern in (39)? It seems that there is no straightforward way to capture it on the basis of the two structures we have argued for PRs. I leave this issue as an open question for future research.

## 10. Conclusion

In this thesis, I provided a new account unifying the syntax of relative, complement factive and PR clauses in Greek. This analysis was based on the properties of the complementizer that introduces the three constructions. Under this analysis, PRs were treated as restrictive relative clauses which get an eventive interpretation due to a null event noun that is part of their structure. The main point of this thesis was that, apart from unifying the three syntactic structures, the proposed analysis for PRs has several more advantages: it accounts for (i) the distributional and the scopal properties of PRs (ii) the syntactic effects observed in Greek object PRs (iii) the transparency in PRs and the blocking effect in distributive readings.

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