

UNIVERSITY OF CALIFORNIA

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## Syntax of Elliptical and Discontinuous Nominals

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of the requirements for the degree of Master of Arts  
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by

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2004

στον Αλέξανδρο

*... για κείνον που ήρθε ανάμεσά μας  
να σφίξει τα δαχτυλά μας στην παλάμη ...*  
Μ. Αναγνωστάκης

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ABSTRACT OF THE THESIS

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This thesis proposes a new analysis of two superficially different phenomena – nominal ellipsis and discontinuous DPs. I adopt an analysis of nominal ellipsis that reduces ellipsis to movement followed by phonological deletion. Following an idea first presented in Johnson (2001), I assume that nominal ellipsis proceeds through NP-topicalization. If this is on the right track then it seems that phonological deletion targets elements that have moved to some sort of discourse related projection, usually a topic phrase. NP-topicalization is followed by remnant-movement of the projection carrying the modifier to a focus projection. Both of these discourse-related projections of Topic and Focus are assumed to be located in the left periphery of the nominal domain. I provide support for this nominal left-peripheral region from the distribution of DP-internal elements in Greek and cross-linguistically. Similar

movement operations to projections in the clausal left periphery have been employed in analyses of discontinuity in the DP (Androutsopoulou, 1998). This seems to indicate that the only structural difference between the two phenomena is the choice of the discourse-related projection that the NP and the remnant modifier land. If this is on the right track, nominal ellipsis and discontinuous DPs are predicted to share a number of common properties. I show that this prediction is borne out. The two structures share the same licensing conditions, the same type of licensing modifiers, and similar morphological properties. Finally, the “rich” morphology of the participating modifiers is explained as the overt expression of specifier-head agreement (Koopman, 1996).

# 1 Introduction\*

This thesis provides a novel, unified account of two superficially distinct phenomena: nominal ellipsis and discontinuous DPs. Nominal ellipsis<sup>1</sup>, first discussed in Ross (1967) and Jackendoff (1971, 1977) for English, is manifested in a number of environments. These include structures in which the null nominal follows certain prenominal modifiers and there is a phonologically overt antecedent, as in the following examples (Jackendoff, 1971, Lobeck, 1995):

1. a. Ten students attended the play but six ~~students~~ left disappointed.
- b. I like Bill's yellow shirt, but not Max's ~~yellow shirt~~.
- c. The students that Peter invited attended the play but most/some/all ~~students that Peter invited~~ went home disappointed.

In the above examples the underlined elements are syntactic antecedents of the elided strings which are represented with strikethrough notation. As can be seen the elided material can be larger than just the nominal head and it can include one or more adjectives, relative clauses and PP complements.

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<sup>1</sup> Also N-Deletion (Jackendoff, 1971, 1977), Nominal Subdeletion (Giannakidou & Stavrou, 1999), Noun Ellipsis (Sleeman, 1996), NP-Ellipsis (Lobeck, 1995), Null Noun Construction, N or N'-Drop and so on.

Discontinuous DPs<sup>2</sup> involve cases where a pre- or postnominal modifier or argument appears separated from the nominal head by other material. Here I focus on cases in which nominal modifiers and the maximum nominal projection appear in peripheral clausal positions as in the following examples:

- |    |    |  |                                      |
|----|----|--|--------------------------------------|
| 2. | a. | autos besitzt er (nur) schnelle<br>cars owns he only fast<br>'As for cars, he owns only fast ones.'                | GERMAN<br>Fanselow & Cavar, 2002     |
|    | b. | bicikliket láttam nagyokat<br>bikes-PL-ACC saw big-PL-ACC<br>'I saw big bikes'.                                    | HUNGARIAN<br>Devine & Stephens, 2000 |
|    | c. | to prasino forese i Maria fustani<br>the green put on the Maria dress<br>'It is the green dress that Maria put on' | GREEK                                |
|    | d. | to prasino forese i Maria fustani<br>the green put on the Maria dress<br>'It is the green dress that Maria put on' | GREEK                                |

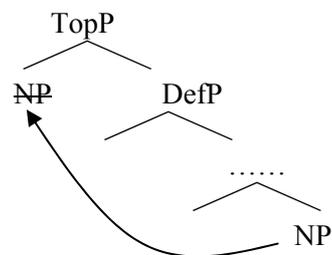
In (2.a.-2.b), from Hungarian and German, the nominal appears in a left peripheral position while the remnant modifier seems to be in situ or where the normal position of the DP would be in the respective languages. In (2.d.), from Greek the opposite order is observed: the modifier appears in a left-peripheral position while the nominal seems to be in situ.

In standard analyses nominal ellipsis and discontinuity in the DP have been treated as separate phenomena. However the two processes share a number of common

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<sup>2</sup> Also, Incomplete Category Fronting (den Besten & Webelhuth, 1990, Müller, 1998), Split Topicalization or Remnant Topicalization, Split Scrambling (Sekerina, 1997), Split Focus Constructions (Androutsopoulou, 1998), Discontinuous Noun Phrases (Baker, 1996, Hale, 1983), Hyperbaton (Devine & Stephens, 2000).

properties that have remained in most part unaccounted for. These properties include the same licensing mechanism related to the syntactic realization of information structure, same type of modifiers, and same morphological properties of these modifiers. No unified analysis has been proposed to capture these similarities. In my thesis I want to propose a novel account for the two phenomena and try to develop such a unified analysis. More specifically, departing from current assumptions in the relevant literature (Lobeck (1991, 1992, 1995), Kester (1993, 1996), Sleeman (1996)), I will argue that nominal ellipsis is a complex process that involves syntactic movement of the DP-internal constituent NP to a position associated with properties of the discourse function of topic. This movement precedes phonological deletion of the moved NP, which eventually produces the elliptical structure in the nominal domain. In other words I will show that NP-deletion is preceded by NP-topicalization as in the following structure:



In the tree above the NP has moved to the specifier of a nominal topic projection. The strikethrough notation on the NP indicates that phonological deletion has taken place. The DefP label stands for the projection where definiteness is expressed. I will show that this topic projection in the nominal domain is the locus of

specificity using evidence from the distribution of demonstratives in Greek, and establish its relevance to elliptical structures showing that only specific NPs can be elided.

Furthermore I will show that the remnant modifier always carries new information and is thus always focused. This can be expressed syntactically as syntactic focus movement to the specifier of a nominal focus projection. Thus nominal ellipsis involves two movement operations - NP-topicalization and modifier focalization. The process ends with phonological deletion of the NP in the topic position, as the latter expresses redundant information already expressed through a salient antecedent. This process is similar to the topic drop phenomenon of both so-called discourse-configurational languages, and languages like Dutch and German, where a topic is deleted under identity with a topic introduced in the previous sentence or discourse.

I will show that Discontinuous DPs have a similar initial stage of NP topicalization followed by focalization of the remnant nominal modifier. The only difference is that the landing site of the moved elements in discontinuous DPs is in the clausal left periphery. In other words the element that moves ends in the specifier position of a discourse-related projection through cyclic movement, with an intermediate-landing site in the nominal left periphery. Thus the common properties between nominal ellipsis and discontinuous DPs can be captured. Crosslinguistic variation in the distribution of nominal ellipsis and discontinuous DPs will be shown to result from two main factors - the choice of the landing site for moved elements,

and the availability of case agreement on prenominal modifiers.

The thesis is organized as follows: In Section 2, I present a novel analysis of NP-ellipsis as NP-topicalization. The contrastive focus condition on both nominal ellipsis and discontinuous DPs is analyzed as syntactic focus movement to different focus projections in the structure. A nominal left periphery with topic and focus projections is assumed and evidence is provided from movement of DP-internal focused, topicalized, and *wh*-elements. The semantic properties of the nominal topic projection are discussed and are shown to be relevant to the properties of nominal ellipsis supporting the connection between the two. The connection between nominal ellipsis and rich morphological agreement on the participating modifiers is discussed and shown to be simple realization of specifier-head agreement (Koopman, 1996, 2001). Finally, I am discussing alternative approaches to both nominal ellipsis and discontinuous DPs and show that they face a number of theoretical and empirical problems. In section 3 a number of common properties between nominal ellipsis and discontinuous DPs are presented and shown to fall out naturally from the analysis presented here. In section 4 I discuss a number of remaining problems, including some unexplored restrictions on discontinuous DPs cross-linguistically, and cases of discontinuity with modifiers which block nominal ellipsis structures. These last cases are not predicted in the approach adopted here. Finally, in section 5 I present some concluding remarks.

## 2 Nominal Ellipsis and Discontinuity as Sister Operations

### 2.1 Nominal Ellipsis as NP-Topicalization

#### 2.1.1 Ellipsis and Movement

The idea that ellipsis and movement are two different realizations of the same syntactic operation is not new. If such an idea is on the right track it will definitely be a desired consequence, as it would drastically simplify Universal Grammar.

Johnson (2001) based on previous work on ellipsis and pseudogapping (see for example Jayaseelan, 1990) explores the possibility that VP Ellipsis is licensed by VP Topicalization. In other words, for a VP to elide it must first topicalize:

3. a. José Ybarra-Jaegger should have eaten rutabagas, and ~~eaten rutabagas~~ Holly should have  $t_{VP}$  too.

This assumption can directly account for why the conditions on VP Topicalization and VP Ellipsis are so close. Johnson (2001) provides the following arguments.

A topicalized VP cannot succeed unless an auxiliary governs the trace it leaves:

4. a. Madame Spanella claimed that *eat rutabagas*, Holly wouldn't  $t_{VP}$ .  
b. \* Madame Spanella claimed that *would eat rutabagas*, Holly  $t_{VP}$ .

The same condition applies to VP-ellipsis:

5. a. I can't believe Holly Golightly won't eat rutabagas.  
 A. I can't believe Fred won't ~~eat rutabagas~~, either.  
 \* B. I can't believe Fred ~~won't eat rutabagas~~, either.

A second argument comes from the fact that there is an apparent block on VP-topicalization of VPs headed by *have*:

6. a. \* Madame Spanella claimed that *have eaten rutabagas*, Holly should.

Correspondingly, VP-ellipsis is not possible with VPs headed by *have*:

7. a. \* Sally might have eaten rutabagas, but Holly shouldn't ~~have eaten rutabagas~~.

Such an approach suggests a reworking of the licensing conditions on VP Ellipsis. The elided VPs in this account are no longer in the positions earlier thought – these positions are instead occupied by the elided VP's trace. Rather, elided VPs stand in a topic position, and therefore the licensing conditions on VP Ellipsis should be sought in this projection<sup>3</sup>.

Based on the above assumptions I propose an extension of the idea of VP-Ellipsis as VP-Topicalization, applied to the nominal domain. In other words I propose that NP-ellipsis proceeds through NP-topicalization. This topicalization is a discourse driven

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<sup>3</sup> Building on this idea Lechner (2003) illustrates how empty nodes in movement chains and in contexts of ellipsis are both conceptualized as copies with internal structure, which need to be licensed by a linguistic antecedent under (an appropriate version of) parallelism. But there are also systematic differences between traces and ellipsis copies, which manifest themselves for instance in their varying ability to host reconstruction sites for movement. Lechner provides evidence that this specific disparity does not reveal intrinsic properties of the two different exponents of copies, but can be derived from general principles of economy.

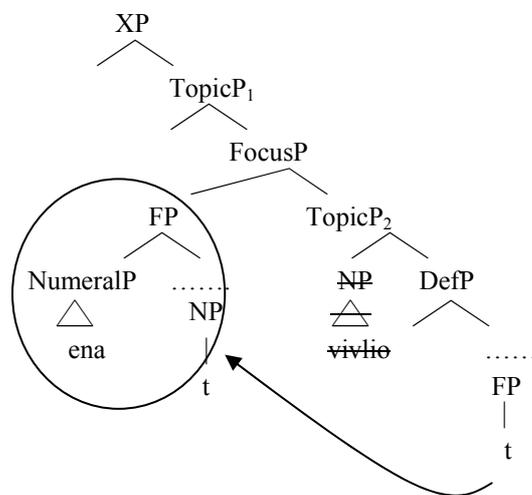
syntactic process that involves movement of the NP to a nominal left-peripheral position, which I tentatively call TopP for reasons that will be explained shortly.

The process that leads to nominal ellipsis then follows the steps illustrated in (8). In the structure of the noun phrase ‘ena vivlio’ of (8.a.) represented in bracketed notation in (8.b.), the numeral ‘ena’ that functions as an indefinite determiner in Greek, occupies the specifier of some functional projection FP (possibly NumP in Ritter, 1991). The leftmost projection XP is left unspecified on purpose. The idea is that the extended nominal projection starts with a discourse related projection equivalent to ForceP in the clausal left periphery (Rizzi, 1997). However, this projection is not relevant to the present discussion and I will not pursue this issue further here. The topic projection is assumed to be recursive as in the clausal domain (Rizzi, 1997) and the focus projection is placed between a higher and a lower topic phrases. Finally, DefP is the previously labeled DP, i.e. the locus of definiteness in the DP.

8. a. o Giannis agorase tria vivlia kai o Petros agorase ena.vivlio  
 the Giannis bought-3SG three books and the Petros bought one book  
 ‘John bought three books and Petros bought one book’
- b. [XP [TopicP [FocusP [TopicP [DefP... [FP **ena** ... [NP **vivlio**]]]]]]]]
- c. [XP [TopicP [FocusP [TopicP [NP **vivlio**] [DefP... [FP **ena** ... t<sub>NP</sub>]]]]]]]]
- d. [XP [TopicP [FocusP [FP **ena** ... t<sub>NP</sub>] [TopicP [NP **vivlio**] [DefP... t<sub>FP</sub>]]]]]]]]
- e. [XP [TopicP [FocusP [FP **ena** ... t<sub>NP</sub>] [TopicP [NP **vivlio**] [DefP... t<sub>FP</sub>]]]]]]]]

The NP “vivlio” moves to the specifier of a local Topic projection (8.c.) Subsequently, the remnant modifier in the specifier of a functional projection pied-pipes that projection and moves to the specifier of a local Focus projection

(8.d.). This movement licenses deletion of the topicalized NP resulting in the structure of (8.d.). This series of movements has no effect on the word order of the nominal elements as the modifier ends in a prenominal position at the end of the derivation. However, as we will see in section 2.4, the effects of the movement can be traced on the morphological properties of the participating modifiers. A tree-structure representation of the movement operations is given below:



If the above assumptions are on the right track then the present approach in combination with the assumptions in Johnson (2001) lead to the following generalization:

9. *Phonological deletion targets elements that have moved to some sort of discourse-related projection, usually a topic phrase.*

I will explore in the following section the possibility that the topic and focus

projections that I mention reside within the nominal domain.

### **2.1.2 On a Nominal Left Periphery**

The above assumptions require the existence of a nominal left periphery parallel to the clausal left periphery, discussed in Rizzi (1997). Let us see how this structure can be mapped exploring the distribution of DP-internal elements from the Greek DP. In Rizzi (1997) the extended structure of the left periphery is assumed to contain a number of projections that are mainly related to discourse functions and the structuring of information. The highest projection of the clausal left periphery, ForceP is the projection that connects the clause to the previous discourse by expressing the fact that a sentence is a question or a declaration and so on. I will leave the possibility of an equivalent part in the nominal left periphery unexplored, although one can assume a projection that connects the noun phrase to the higher clausal structure. I will designate the highest projection in the noun phrase as XP indicating that some projection may be there. On the lower level, the clausal left periphery is assumed to project FinP, the locus of finiteness. The elements that merge here reflect certain properties of the verbal system of the clause. I assume that the equivalent of FinP in the nominal domain is DefP, the locus of definiteness and the projection in which definite determiners merge. DefP parallels the finiteness projection in the clausal domain, in that the determiner is the element of the nominal left periphery that communicates with the nominal system. In a sense it determines the presupposition of existence of the entity represented by the NP. The choice of the determiner reflects certain properties of the nominal system; it selects the nominal domain

in the same way the complementizer selects the verbal domain.

Finally, I assume that a recursive TopicP and a FocusP are present in the nominal left periphery. I discuss here the existence of these two projections, using data mainly from Greek DP-internal elements and occasionally cross-linguistic data.

### 2.1.3 On the Existence of a Nominal FocusP

In Greek, possessors marked with Genitive case appear after the possessed NP:

10. a. mu ipes pos dhiavases to vivlio tu Gianni  
me-GEN said-2sg that read-2sg the book-NOM the-Gianni-GEN  
'you told me you read Gianni's book'

The same possessors can appear in a position before the determiner when contrastively focused:

11. a. mu ipes pos dhiavases tu GIANNI to vivlio (ki ohi tu KOSTA)  
me-GEN said-2sg that read-2sg the-Gianni-GEN the book-NOM (and not the Kosta-GEN)  
'you told me you read Gianni's book (and not Kosta's)'

I assume that the focused possessor in (11.a.) is in the specifier position of a FocP of the nominal domain. The fact that the possessor is DP-internal in (11.a.) can be confirmed by (12.a.) where the focused possessor appears between the definite determiner and the demonstrative or (12.b.) where it appears between the definite determiner and the universal quantifier:

12. a. mu ipes pos dhiavases afta tu GIANNI ta vivlia (ki ohi tu KOSTA)  
 me-GEN said-2sg that read-2sg these the-Gianni-GEN the books-NOM (and not the Kosta-GEN)  
 ‘you told me you read these books of Gianni’s (and not Kosta’s)’
- b. mu ipes pos dhiavases ola tu GIANNI ta vivlia (ki ohi tu KOSTA)  
 me-GEN said-2sg that read-2sg all the-Gianni-GEN the books-NOM (and not the Kosta-GEN)  
 ‘you told me you read all the books of Gianni’s (and not Kosta’s)’

Furthermore, clausal elements cannot appear between the focused possessor and the NP. For example, as (13.a.) illustrates, low manner adverbs cannot be inserted in that position:

13. a. \* mu ipes pos dhiavases tu GIANNI prosektika ta vivlia  
 me-GEN said-2sg that read-2sg the-Gianni-GEN carefully the books-ACC  
 ‘you told me you read Gianni’s books carefully’

A closer inspection of the examples in (11.a.-12.a.) further strengthens the approach adopted here. More specifically the string in the parenthesis in both examples involves nominal ellipsis. If contrastive focus is the licensing condition for nominal ellipsis then the fronting of the antecedent possessor (tu GIANNI) parallels the fronting of the second focused possessor (tu KOSTA). But this is exactly what is claimed here; that the remnant modifier of an elliptical site has moved to a pre-determiner position (i.e. the specifier of a nominal FocusP).

The possibility of the existence of a FocusP in the nominal domain has been mentioned before in the literature. Giusti (1996) argues for Focus and Topic projections in the Albanian DP. The adjectival projection follows the NP in Albanian:

14. a. gruaja tjetër e bukur  
 woman-Det other the nice  
 “the other nice woman”
- b. \* gruaja e bukur tjetër  
 woman-Det the nice other

ALBANIAN  
 Giusti, 1996:112

Furthermore, as seen in (14.a.) the adjectives appear in a specific hierarchical order with “other” preceding “nice”. (14.b.) shows that the reverse order is not possible. However, adjectives can appear prenominal in Albanian when given emphasis (not necessarily contrastively focused):

15. a. tjetra grua e bukur  
 other-Det woman the nice  
 “the OTHER nice woman”
- b. e bukura grua tjetër  
 the nice-Det woman other  
 “the NICE other woman”

ALBANIAN  
 Giusti, 1996:112

Giusti assumes that this prenominal position of Albanian adjectives is in the specifier of a Focus projection within the noun phrase and lower than the Definite projection (DefP). A similar claim has been made in Scott (2002) for English. In English there is a strict ordering of most prenominal adjectives. Thus nationality adjectives must follow adjectives that express subjective comments like ‘alleged’. Compare (16.a.) to (16.b.):

16. a. an alleged English baron
- b. \* an English alleged baron

However, the reverse order is possible when the nationality adjective receives special or contrastive focus:

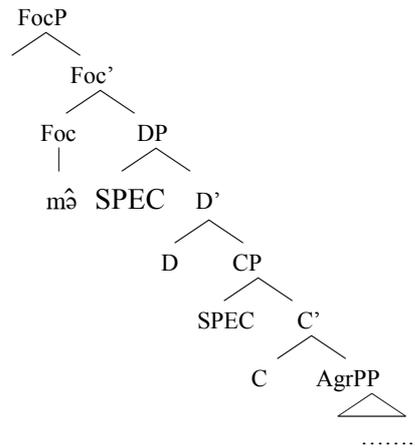
17. a. an ENGLISH alleged baron  
 b. [DP an [<sub>FocusP</sub> English<sub>i</sub> [<sub>Subj.CommentP</sub> alleged [[NationalityP t<sub>i</sub> [<sub>NP</sub> baron]]]]]]]

Scott (2002:113) assumes that the nationality adjective has moved to the specifier of a focus projection as shown in (17.b.).

However, as we have seen in (10), (11), and (12), the Greek data seems to indicate that the focus projection of the nominal domain may be higher than DefP, i.e. the projection that hosts the definite determiner. A FocusP above DP is also assumed in Nkemnji (1995) to account for the following examples from Nweh:

18. a. akendòŋ m̂ a zàā Atem a kè? nćúū  
 plantains Foc. Agr RM Atem Agr P-1 boiled  
 “It is plantains (*and not something else*) that Atem boiled”  
 NWEH  
 Nkemnji, 1995:198
- b. akendòŋ zàā Atem a kè? nćúū  
 plantains RM Atem Agr P-1 boiled  
 “(the) plantains that Atem boiled.”

Nkemnji (1995) observes that the only difference between the focused structure of (18.a.) and the relative clause of (18.b.) is the lack of the focus particle [m̂]. This seems to suggest that the relative clause serves as the input to the focus construction in a structure like the following (Nkemnji, 1995:199):



Thus there is some crosslinguistic evidence that the focus projection is above DP (or DefP in the present analysis).

If the above assumptions are on the right track, then we would expect other elements associated with the focus projection in the clausal left periphery to appear in the nominal left periphery as well. There is some supporting evidence for this from Greek. More specifically, *wh*-elements can also appear in a pre-determiner position in Greek (see Horrocks & Stavrou, 1987):

19. a. ipes pos dhiavases to vivlio tinos  
said-you that read-you the book-ACC whose-GEN  
‘you said that you read whose book?’
- b. ipes pos dhiavases tinos to vivlio (echo question)  
said-you that read-you whose-GEN the book-ACC  
‘you said that you read whose book?’ (echo question)
- c. tinos to vivlio ipes pos dhiavases  
whose-GEN the book-ACC said-you that read-you  
‘whose book did you say that you read?’

- d.    tinos           ipes    pos    dhiavases to vivlio  
       whose-GEN said-you that    read-you    the book-ACC  
       ‘whose book did you say that you read?’

The Greek *wh*-possessive ‘tinos’ moves cyclically from its default postnominal position (19.a.) through a nominal left-peripheral position (19.b.), which it uses as an escape hatch in its movement to the clausal left periphery, either pied-piping the DP (19.c.) or stranding the DP yielding the discontinuous structure (19.d.).

This pattern of *wh*-fronting DP-internally is quite common across language families throughout Meso-America. It has been documented for example in Tzotzil (Aissen, 1996), Zapotec (Black, 1994) Chamorro (Chung, 1983) and so on. Aissen (1996) analyzes this fronting in Tzotzil as secondary movement to the specifier of DP.

20. a.    I-cham [x-ch’amal li Xun-e]  
       CP-died A3-child    the Xun-ENC  
       ‘Xun’s child died.’
- b.    I-cham [x-ch’amal buch’u]  
       CP-died A3-child    who
- c. \*    [x-ch’amal buch’u] I-cham  
       A3-child    who    CP-died  
       ‘Whose child died?’
- d.    [buch’u [x-ch’amal t<sub>wh</sub>]] I-cham  
       who    A3-child    CP-died  
       ‘Whose child died?’
- e.    buch’u I-cham [t<sub>wh</sub> [x-ch’amal] t<sub>wh</sub>]  
       who    CP-died A3-child  
       ‘Whose child died?’
- 

In (20.a.) the possessor position is postnominal just like in the Greek example in (10.a.). Assuming that the *wh*-possessor merges in the same position (as in (20.b.)) then movement of the DP in its default order, in a clausal left

peripheral position is not possible (20.c.). The possessor must also move DP internally to what Aissen speculates is the specifier of DP (20.d.). The possessor can also use this position as an escape hatch to extract to the left periphery of the clause (20.e.) in a cyclic fashion.

Alternatively, we can assume that the *wh*-possessor moves through a Focus projection as in the Greek data in (19). There is no evidence that this is so from the data discussed in Aissen (1996). However, as we will see in the following section when discussing the similar Hungarian data, the above assumption may be theoretically desirable as it may have consequences on another principle of Universal grammar discussed in Koopman (1996), namely the Generalized Doubly Filled Comp Filter. We will resume the discussion over this possibility in the next section.

Finally, a noun phrase internal FocusP, preceding the DP is also assumed in Kariaeva (2002) in her discussion of determiner spreading phenomena in Greek. I will discuss some of the details of Kariaeva's analysis in section 2.4, where I explore the morphological properties of the modifiers that participate in nominal ellipsis and discontinuous DPs.

#### **2.1.4 On the existence of a Nominal TopicP**

Since there is some evidence for focus and *wh*- related projections in the nominal domain one would expect to find evidence for a topic projection since the latter has been also associated with the clausal left periphery. Ihsane & Puskas (2001)

formulate exactly such a hypothesis connecting the existence of a Topic Phrase in the DP with the locus of specificity.

I assume that merging or movement of elements to the DP-internal TopicP is triggered by the need to check a specificity feature. This is a position that demonstratives for example can appear in Greek. If demonstratives are like adjectives in that they modify (i.e. specify) the nominal head, then following Cinque (1994) we can assume that they originate in a specifier position of a functional projection in the determiner phrase (see also, Bernstein, 1997). Subsequently, in Greek they can move to the TopicP of the nominal left periphery to check their specificity feature. This is why they appear in a pre-determiner position in Greek:

21. a.    thelo     afto to kenurjio vivlio  
          want-1SG this the new     book  
          “I want this new book.”

Specificity is understood as constraining the relation of the referent of the DP to a discourse referent that is already in the domain of discourse prior to the utterance of the DP. In Enç’s (1991) definition “*specificity involves a weak link, that of being a subset of or standing in some recoverable relation to a familiar object*” (1991:22). The similarities with the definition of topic as established (grounded) information (the entity anchoring the sentence to the previous discourse) are obvious. López (2000) incorporates the above notions of specificity and topic in a new refined definition of Pesetsky’s (1987) notion of D-linking. In Pesetsky’s discussion, D-linking is defined as the ability of *wh*-words to pick an entity or set of entities from

a set of alternatives that are present in the minds of both speaker and hearer. López (2000) assumes that D-linking is associated with a specific feature that can be thought of as “*an instruction for the interpretive component that says ‘connect with a discourse topic’*” (López, 2000:186). A further refinement assumes that the context, which is common in the participant’s mind, is merely the preceding discourse as this is the only relevant source in cases of ellipsis.

López’s definition of D-linking is very close to the definition of partitivity as the denotation of a family of sets that consist of a superset and a subset. The superset is the set of alternative entities or sets of entities in López’s definition, while the subset is the specific entity/set of entities chosen by the speaker. This relates to the definition of a discourse topic and thus all the relevant properties of ellipsis can be associated with the properties of a topic projection. Even the notion of specificity that, as we have seen, has been assumed to reside in a nominal topic projection is relevant to elliptical contexts. The superset of a partitive structure has to be specific:

- 22. a. I saw some of the students.
- b. \* I saw some of students.

Similarly the deleted NP in nominal ellipsis has to be specific:

- 23. a. I looked carefully at all the books and I decided to buy three ~~books~~.
- b. Mary bought three books and I bought five ~~books~~.

The elided NP ‘books’ in (23.a.) must refer to a subset of the superset denoted by the antecedent occurrence of ‘books’. It cannot refer to ‘books’ that are unspecified in the previous discourse<sup>4</sup>.

Thus, the notions of specificity, partitivity, and D-linking that are relevant to nominal ellipsis seem to be strongly related to the notion of topic. Consequently the existence of a Topic Phrase in the DP is conceptually desired for an analysis of nominal ellipsis as movement.

If there is a TopicP in the nominal left periphery it would be interesting to see if some elements can appear there. In fact there seems to be some evidence from Hungarian for noun phrase internal topicalization. Szabolcsi (1994) assumes a kind of DP-internal topicalization for the Hungarian dative possessor. More specifically the possessor uses the specifier of DP as an escape hatch for its subsequent extraction to the left periphery:

- |     |    |  |                               |
|-----|----|--|-------------------------------|
| 24. | a. | [ <sub>DP</sub> [ <sub>D</sub> a Mari kalap-ja]]<br>the Mari-NOM hat-POSS<br>“Mari’s hat”                                  | HUNGARIAN<br>Szabolcsi, 1994: |
|     | b. | [ <sub>DP</sub> Mari <sub>i</sub> -nak [ <sub>D</sub> t <sub>i</sub> a kalap-ja]]<br>Mari-DAT the hat-POSS<br>“Mari’s hat” |                               |

---

<sup>4</sup> Obviously in (22.b.) the set denoted by the elided NP is disjoint from the set denoted by the antecedent DP. It is not clear what is the “superset” that the elided nominal belongs to in the following and similar cases:

- a. John will write three papers and Bill will write five ~~papers~~.

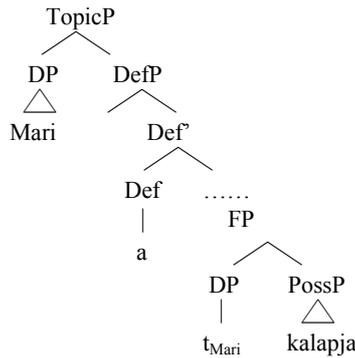
- c. [CP [TopP Mari-nak<sub>i</sub> [FocP PETER látta [IP [DP t<sub>i</sub> a kalap-ja]]]]].  
           Mari-DAT           Peter   saw           the hat-POSS  
 “Peter saw Mari's hat.”
- d. [CP [FocP kinek<sub>i</sub> látta [IP Kati [DP t<sub>i</sub> a kalapja]]]]?  
           whose-DAT saw   Kati       the hat  
 “Whose hat did Kati see?”

The Hungarian possessor can be marked with nominative case in which case it appears after the definite determiner. However, dative case marking is also possible on the possessor. In these cases (24.b.) the possessor appears in a pre-determiner position. Szabolcsi (1994) argues that this position is the result of movement of the possessor from its default prenominal position to spec-DP where dative case is assigned. The possessor then can use this position as an escape hatch for subsequent movement to the left periphery of the clause (24.c.). Similar movement takes place in (24.d.), this time with the *wh*-possessor.

We can alternatively assume that the possessor moves to the specifier of the TopicP projection of the nominal left periphery. This assumption is theoretically more desirable as it does not require the simultaneous existence of an overt specifier and an overt head in the same projection. Koopman (1996) shows that the distribution of certain elements can be explained if we assume a surface filter:

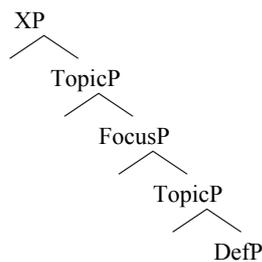
*“Generalized “Doubly Filled Comp Filter””: No projection has both an overt specifier and an overt head at the end of the derivation.” Koopman, 1996:45.*

If we make this assumption then (24.b.) would have the following structure:



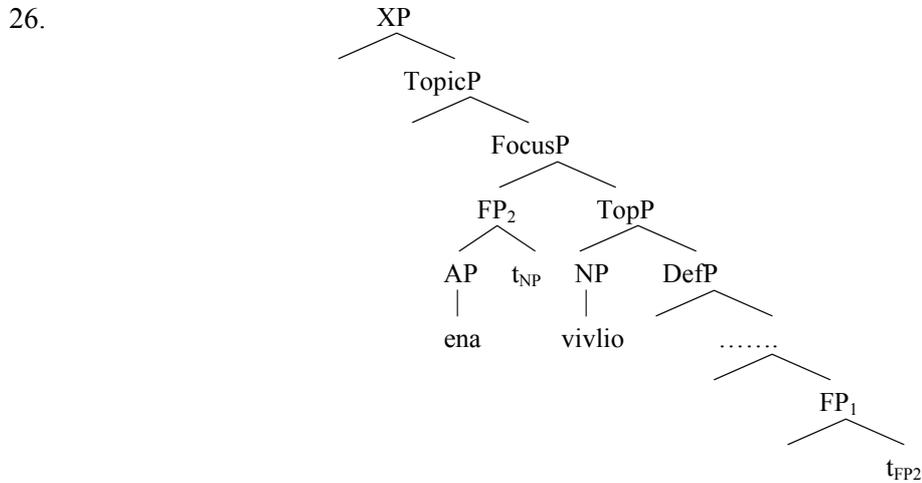
The possessor originates in the specifier of some functional projection FP related to the possessed noun. It subsequently moves to the specifier of TopicP where dative case is assigned. At the end of the derivation the definiteness projection has an overt head but no overt specifier, satisfying the “Generalized “Doubly Filled Comp Filter””. Thus, while previous approaches assumed movement of possessors and wh-possessors to spec-DP, it is theoretically desirable to assume further projections above DP if we want to maintain a filter of the sort discussed in Koopman (1996).

Summarizing all the above assumptions we can assume the following structure for the left-peripheral region of the nominal domain (c.f. Rizzi, 1997):



If the above structure is correct, in an example like (8.a.) repeated here as (25.a.) the DP should have the structure in (26):

25. a. o Giannis agorase tria vivlia kai o Petros agorase [ena.vivlio]  
 the Giannis bought-3SG three books and the Petros bought one book  
 ‘John bough three books and Petros bought one book’



In (26) the NP ‘vivlio’ has moved from its base position to the specifier of TopicP. Subsequently the AP in the specifier of FP<sub>2</sub> pied-pipes the remnant projection to FocusP. Alternatively one can assume simple movement of AP to spec-FocusP. I will not pursue this issue further here, as it has no immediate consequences in the analysis.

In the following section I show that this latter movement of the modifier to a nominal focus position can be semantically motivated.

## 2.2 Focus as a Licensing Mechanism for Nominal Ellipsis

Despite a number of similarities between elliptical phenomena in the clausal and nominal domains, nominal ellipsis has been analyzed as a phenomenon different from VP-ellipsis. Most of the work on nominal ellipsis assumes that the rich

morphology manifested on the remnant modifiers is the licensing mechanism for the elliptical process (Lobeck, 1991, 1992, 1995; Kester, 1993, 1996; Sleeman, 1996)).

The above assumption is not without problems however.

### 2.2.1 Against a *pro* Analysis of Nominal Ellipsis

Lobeck (1991, 1992, 1995) based on the Government and Binding framework of Chomsky (1981), and work done by Zagana (1982, 1988a, 1988b) assumes that empty categories in ellipsis constructions can fit into a larger typology of empty elements. More specifically, she assumes that nominal ellipsis constructions are typologically *pro*, an empty pronominal category, constrained by principles of proper government and the Empty Category Principle, or ECP. *Pro* must be properly head-governed by a head specified for strong agreement. Strong agreement is defined as overtly realized morphological agreement in a productive number of cases for any given language. She originally argues that numerals and quantifiers, including singular ‘one’ and ‘each’, have the feature [+number], and are thus specified for strong agreement. This explains the difference in grammaticality between (27.a.) and (27.b.) from English:

27. a. \* Although John doesn't like that air conditioner that he bought at Sears, he likes this ~~air conditioner~~ that Mary got at K-Mart.  
b. John calls on these students because he is irritated with those ~~students~~.

In (27.a) the singular demonstrative is not specified for [+PLURAL] and thus it cannot license *pro* resulting in ungrammaticality. In (27.b) the plural

demonstrative is specified for [+PLURAL] and thus it can license nominal ellipsis.

Kester (1993, 1996) builds on Lobeck's (1991, 1992, 1995) theory of nominal ellipsis and Cinque's (1994) proposal on APs as phrasal specifiers of functional heads in the DP. She claims that in Germanic and Romance languages, a functional head in a Spec-head agreement relation with an adjective carrying morphological inflection is specified for "strong" agreement. This "strong" agreement licenses a null pronominal element *pro* in the same way that "rich" morphology in the verb paradigm licenses a *pro* in pro-drop languages like Italian (Jaeggli & Safir, 1989). The deleted nominal in nominal ellipsis structures is identified with a lexical antecedent in the discourse. In Kester's approach, the empty nominal head is licensed by an adjective lacking strong agreement only in a very specific case, namely when the nominal head is specified as [+human, +generic, +plural]. Thus, generic adjectives such as 'the poor', 'the rich', 'the sick', and so on, are licensed in English. I will not discuss these cases of so-called substantivization here. For an analysis of substantivization as a different process than nominal ellipsis see Giannakidou & Stavrou (1999).

Lobeck (1995) revises this approach, arguing that a further relevant feature specification of quantifiers and numerals is [+partitive]. Furthermore, the head of the DP must be specified as [+POSSESSIVE], [+NUMBER] (more specifically, [+PLURAL]), and/or [+PARTITIVE] to license and identify nominal ellipsis. Adjectives, singular demonstratives and the quantifier 'every' are excluded as licensers of ellipsis because they are either [-NUMBER] or [-PARTITIVE] or both.

The reason for the introduction of the feature [+PARTITIVE] is the availability of examples like the following:

28. a. I like your dress. I will buy the same ~~dress~~.  
 b. Take this piece. I'll take the other ~~piece~~.

Both examples show that nominal ellipsis is possible even in cases where no overt morphological agreement is present on the nominal modifier<sup>5</sup>. Sleeman (1996) provides evidence from French and English, which shows that partitivity seems to be the only relevant property in the licensing of nominal ellipsis. No rich morphological agreement is necessary for the licensing of nominal ellipsis in French:

29. a. De ces robes, je préfère la ~~robe~~ vert foncé FRENCH  
 of these dresses, I prefer the dress green deep Sleeman, 1996:14  
 “Of these dresses, I prefer the deep green one.”

Furthermore, in French inflected adjectives do not always license nominal ellipsis:

30. *(In the morning an interesting lecture and some less interesting ones were given):*  
 a. \* Malheureusement je n'ai pas entendu l'intéressante FRENCH  
 Unfortunately I NEG have NEG heard the interesting Sleeman, 1996:14  
 “Unfortunately, I have not heard the interesting one.”

Thus the approaches that assume that nominal ellipsis is licensed only by nominal modifiers that exhibit rich morphological agreement run into empirical problems. The

---

<sup>5</sup> In (28.a.) the missing NP does not imply that the dress I will buy is exactly the same as the one that I like. It is interpreted more like the “same kind of dress” but this is not important for Lobeck’s analysis. The important thing is that ellipsis is licensed in this case without the presence of overt morphological agreement on the remnant modifier.

examples in (28)-(29) show that even in languages that do not always exhibit “rich” morphological agreement in the nominal domain, nominal ellipsis is possible. Other languages that lack morphological agreement on nominal modifiers but do show cases of nominal ellipsis are Malagasy and Bulgarian. In Malagasy prenominal modifiers do not show overt agreement with the nominal head that they modify. However, nominal ellipsis is licensed in Malagasy DPs:

31. a. Hitan'i Koto ny alika mainty ary Raso'a ny ~~alika~~ volontany.  
 saw Koto Det dog black and Raso'a Det ~~dog~~ brown  
 “Koto saw the black dog and Rasoe saw the brown one.”
- b. Raso'a: Nividy boky telo i Koto  
 bought books three Det Koto  
 “Koto bought three books.”  
 Rabe: Tsia, efa'tra ~~boky~~ no nividiny  
 no four books FOC bought  
 “No, he bought four”

In (31.a.) the color adjective ‘volontany’ (brown) has no overt morphological agreement with the noun ‘alika’ (dog). However, the nominal ellipsis structure is grammatical. The same is true for the numeral in (31.b.). Thus no strong morphology is needed for the licensing of nominal ellipsis in Malagasy.

A further argument against a “rich” morphology account of nominal ellipsis comes from language acquisition data drawn from Spanish children (Snyder, 1996; Snyder & Senghas, 1997). In these papers it is shown that while nominal agreement in the nominal domain is acquired quite early by Spanish children (2;2) nominal ellipsis appears productively a few months later (2;6). Therefore, Snyder & Senghas (1997) conclude, “*the knowledge that N-drop is grammatically possible in*

*Spanish is not psychologically represented directly by knowledge of any morphological agreement paradigm*” (Snyder & Senghas (1997), p. 589). Thus the connection of nominal ellipsis to “rich” morphology is limited, and may be less direct than the *pro*-approach leads one to expect.

There does seem to be a connection however. Obviously, as the examples in (1) and (27) show there must be some relation between the fact that modifiers with some sort of morphologically overt “richness” seem to appear in nominal ellipsis structures while morphologically “weak” modifiers do not license nominal ellipsis. The latter, when they do license nominal ellipsis, usually require the implementation of some “extra” mechanism, like *one*-support in English. Compare, (27.a.) repeated here as (32.a.) to (32.b.):

32. a. \* Although John doesn't like that air conditioner that he bought at Sears, he likes this ~~air conditioner~~ that Mary got at K-Mart.  
b. Although John doesn't like that air conditioner that he bought at Sears, he likes this one that Mary got at K-Mart.

This distribution is not explicitly captured in any of the analyses reviewed in this section and will be the focus of section 2.4.

The approaches towards nominal ellipsis that were reviewed above constitute a departure from the proposed analyses of ellipsis in the verbal region. In VP-ellipsis the elided material is assumed to be licensed through semantic or syntactic identity conditions associated in the recent literature with discourse functions, especially

the expression of contrastive focus (Rooth, 1992a, 1992b; Merchant, 2001).

### 2.2.2 Focus Condition on Ellipsis

In this section I am trying to motivate my assumption of syntactic focus movement of the remnant modifier to a nominal focus projection for nominal ellipsis. I take syntactic focus movement to be a direct translation of semantic focus conditions on ellipsis. Nominal ellipsis in general is a syntactic process that serves particular discourse functions, including the contrast of two or more sets of individuals (as in (33.a.)), the denotation of a representative sample of a set introduced by the antecedent (as in (33.b.)), or reference to a new specimen of a type that is salient in the discourse.

- 33. a. Mary likes these books and Peter likes those ~~books~~.
- b. Mary sold three old books and I bought one ~~old book~~.

It has been shown that there are requirements of parallel contrastive foci in elliptical processes as argued in Rooth (1992a, 1992b). Rooth's (1992b) analysis of the parallelism between VP ellipses and their fully spelt but phonologically reduced counterparts is based on two central observations. First, both types of constructions have the pragmatic function of expressing redundant information and second, redundant information in both constructions licenses contrastive focus.

Following work by Rooth (1992a, 1992b), Schwarzschild (1999) and Romero (1998), Merchant argues that VP-ellipsis obeys a Focus condition, which essentially states that a VP can be elided if it is GIVEN in a context. GIVEN means

that it is not in focus and that it has a particular type of salient antecedent in the context. Merchant argues that the relevant notion of GIVEN, which he calls e-GIVEN, is a mutual entailment condition holding between the antecedent VP and the elided VP. That is, it's not just enough for the elided VP to be entailed by the antecedent VP, but the antecedent VP must be entailed by the elided VP.

In the nominal domain similar conditions apply. Giannakidou & Stavrou (1999) assume a Contrast Condition of Nominal Ellipsis:

*“A nominal subconstituent  $\alpha$  can be elided in constituent  $\beta$  only if the remnant of  $\beta$  is not identical to the corresponding part of the antecedent  $\gamma$  of  $\alpha$ .”*

Consider the following examples:

34. a. i Maria forese to [BLE]<sub>F</sub> fustani ke i Eleni forese to [PRASINO]<sub>F</sub> ~~fustani~~  
 the Maria wore-3SG the blue dress and the Eleni wore-3SG the green ~~dress~~  
 ‘Maria wore the blue dress and Eleni wore the green one’
- b. i Maria forese to ble fustani ke i Eleni forese to ble ~~fustani~~.  
 the Maria wore-3SG the blue dress and the Eleni wore-3SG the blue ~~dress~~  
 ‘Maria wore the blue dress and Eleni wore the blue one’

(34.a.) is grammatical because the different second modifier contrasts with the one in the antecedent DP, whilst (34.b.) is ungrammatical because both modifiers are the same and thus no contrastive focus condition can apply.

The above semantic focus conditions could possibly be translated into syntactic focus movement especially in languages like Greek, Bulgarian, and Russian, which are considered discourse configurational languages (see for example Tsimpli

(1995), for Greek). This has already been done for Korean in Kim (1998) who argues that the elliptical process of Pseudogapping is focus movement followed by PF deletion of the VP. In Korean, the pseudogapped remnant must be followed by the focus marker *to* 'also' as in the following example:

35. a. John-i sakwa-lul meke (kuliko) BANANA<sub>1</sub>-to/\*-lul [<sub>VP</sub> ~~John-i t<sub>i</sub>-mek~~] ya  
 John-NOM apple-ACC eats and banana-FOC /-ACC John-NOM eat is  
 'John eats apples, and BANANAS too'

In the nominal region we can assume that nominal ellipsis also involves focalization of the remnant modifier. This would explain all cases of nominal ellipsis discussed above and displayed in examples (33.a.) and (33.b.).

In the following section I will show that Discontinuous DPs also involve movement to discourse-related projections. This time however, the clausal left periphery is also a landing site for the movement.

### 2.3 Topicalization and Focalization in Discontinuous DPs

Discontinuity in the DP has also been analyzed as connected to the syntactic realization of information structure and has been especially associated with the expression of topic and focus in the sentential domain. Discontinuous structures emerge when a single maximal projection must fulfill two different positional requirements defined by pragmatic constraints on order. This observation has led to movement analyses of discontinuous DPs.

The left or right displacement of modifiers is licit only in focalization or topicalization in languages like Greek (Androutsopoulou, 1998), Russian (Sekerina 1997, 1999), Slovak (Franks & King, 2000), Serbo-Croatian (Wilder & Ćavar, 1994), Latvian (Nau, 1998), Polish (Siewierska, 1984) and so on, as the following examples illustrate:

- |     |    |   |  |
|-----|----|---|--|
| 36. | a. | to KOKKINO idha to forema.<br>the red saw-1S the dress<br>'It is the red dress that I saw.'   | GREEK<br>Androutsopoulou<br>1998:2           |
|     | b. | STAROGO <sub>1</sub> boitsja malen'kij rebenok t <sub>1</sub> vra a.<br>old-GEN is afraid small child doctor-GEN<br>'The small child is afraid of the old doctor.'  | RUSSIAN<br>Sekerina,<br>Sirotnina            |
|     | c. | ČERVENÚ mu podal tehlu, nie hnedú<br>red him-DAT gave brick not brown<br>'He gave him a red brick, not a brown one'   | SLOVAK<br>Franks & King,<br>2000:133         |
|     | d. | ZELENO je Ivan kupio auto.<br>green AUX-3-SG-PRES Ivan buy-PAST.P-M-SG car<br>'Ivan bought a green car'   | SERBO-CROATIAN<br>Wilder & Ćavar 1994:<br>36 |
|     | e. | Nē, mēs jums PASTAVIG-U do-s-im viet-u<br>No, 1PL-NOM 2PL-DAT regular-ACC give-FUT-1PL place-ACC<br>'No, we will give you a regular job'<br><i>(to the speaker, who until then had only worked as a substitute for others).</i> | LATVIAN<br>Nau, 1998:50                      |

Androutsopoulou argues that the adjective 'to KOKKINO' (the red), in (36.a.) is contrastively focused. The preposed adjective 'kokkino' (red) separated from its noun 'forema' (dress) carries 'focal' stress and conveys new information. The presupposition is such that there are a few dresses that I could see in the given situation and the assertion is that out of those, I saw the red one. Similarly for the Russian example in (36.b) the preposed adjective 'starogo' (old) separated from its noun 'vraa' (the doctor), conveys new information in the sense that the

presupposition is such that there are a few doctors that the child visits regularly and the assertion is that out of those, he is afraid of the old one. And similarly in the other languages, as the glosses indicate. In a split construction, the right part of XP must be focal, while the left-hand part may be a topic linked to previous discourse or a second focus. All languages mentioned above reserve specific projections for discourse related functions like topic and focus as discussed in the relevant literature starting from Rizzi (1997). The above observations suggest that the XP-split construction is grammatical only if a single XP must fulfill two different positional requirements defined by pragmatic constraints on order.

Assuming then that focalization and topicalization are syntactic operations, the above observations lead to the conclusion that discontinuity in the DP is the result of focus movement. Androutsopoulou (1998) has adopted such an approach taking discontinuous DPs in Greek to be the result of scrambling of the NP out of the DP with subsequent remnant movement of the DP to a left-peripheral focus position. She assumes that the operation is that of A'-movement and provides evidence from long-distance movement, sensitivity to strong islands, subject/object asymmetries, and reconstruction effects.

I adopt Androutsopoulou's approach with two modifications. The first change has to do with the landing site of the NP. Androutsopoulou leaves the landing site of the scrambled NP unspecified although she hinges that it may be an inner topicalization projection, just above VP (see also Kayne, 1994:76) which may also

be the locus of object clitics (the accusative voice projection in Sportiche, 1992). I take this assumption as basically true, with the only difference that the inner topicalization projection is in fact much lower. The NP in discontinuous DPs lands in the specifier position of TopicP, in the nominal left periphery.

The second change in Androutsopoulou's approach has to do with the movement of the remnant modifier. Androutsopoulou (1998) assumes remnant movement of the whole DP. Here I assume remnant movement of the FP that contains the modifier. Thus a derivation of a Greek discontinuous structure would follow the following steps (compare (8) to (37)):

37. a. o Petros agorase ena.vivlio  
 the Petros bought one book  
 'Petros bought one book'
- b. o Petros agorase [XP [TopicP [FocusP [TopicP [DefP... [FP **ena** ... [NP **vivlio**]]]]]]]]
- c. o Petros agorase [XP [TopicP [FocusP [TopicP [NP **vivlio**] [DefP... [FP **ena** ... t<sub>NP</sub>]]]]]]]]
- d. o Petros agorase [XP [TopicP [FocusP [FP **ena** ... t<sub>NP</sub>] [TopicP [NP **vivlio**] [DefP... t<sub>FP</sub>]]]]]]]]
- e. [FocusP [FP **ena** ... t<sub>NP</sub>] o Petros agorase [XP [TopicP [FocusP t<sub>FP</sub> [TopicP [NP **vivlio**] [DefP... t<sub>FP</sub>]]]]]]]]
- 

In fact the inner topicalization projection in preverbal position must also exist as the remnant modifier can also appear there:

38. o Petros [FocusP [FP **ena** ... t<sub>NP</sub>] agorase [XP [TopicP [FocusP t<sub>FP</sub> [TopicP [NP **vivlio**] [DefP... t<sub>FP</sub>]]]]]]]]
- 

Thus, the cyclic movement of the remnant focused modifier follows three steps:

39. [FocusP [FP **ena** ...t<sub>NP</sub>] o Petros [FP **ena** ...t<sub>NP</sub>] agorase [XP [TopicP [FocusP t<sub>FP</sub> [TopicP [NP **vivlio**] [DefP... t<sub>FP</sub>]]]]]]
- 

The clause structure then seems to be built by similar, repeated circles of small, CP-like structures that allow for elements to be topicalized or focalized in clause-internal positions (see also Hallman, 1997, for an exploration of this idea in German and Koopman & Szabolcsi, 2000).

The kind of movement assumed here is of the A'-type. It is blocked from strong islands like adjuncts (40.a.), Complex Noun Phrases (40.b.), subject islands (40.c.), and wh-islands (40.d.):

40. a. \* ENA agorase o Petros prin na diavasi vivlio  
 one bought-3sg the Petros before SUBJ read-3sg book  
 'Petros bought ONE book before reading it'
- b. \* ENA gnorizo ton singrafea pu egrapse vivlio  
 one know-1sg the writer that wrote-3sg book  
 "I know the writer that wrote ONE book"
- c. \* ENA to oti agorase vivlio ine simantiko  
 one the that bought-3sg book is important  
 'It is important that he/she bought ONE book'
- d. ?? ENA rotisa ton Petro an agorase vivlio  
 One asked-1sg Petro if bought-3sg book  
 'It is one book that I asked Petros if he bought'

An obvious question that one can ask is whether it is possible for the alternative order to emerge through movement. In other words is it possible for the NP to move to the nominal topic projection and then extract to the clausal left periphery leaving the remnant modifier in the low focus projection? This is what I claim is happening with the German data:

41. a. hat er kein Geld.  
has he no money  
'he has no money.'
- b. hat er  $[_{XP} [_{TopicP} [_{FocusP} [_{TopicP} [_{DefP} \dots [_{FP} \text{kein} \dots [_{NP} \text{Geld}]]]]]]]]]$
- c. hat er  $[_{XP} [_{TopicP} [_{FocusP} [_{TopicP} [_{NP} \text{Geld}] [_{DefP} \dots [_{FP} \text{kein} \dots t_{NP}]]]]]]]$
- d. hat er  $[_{XP} [_{TopicP} [_{FocusP} [_{FP} \text{keines} \dots t_{NP}] [_{TopicP} [_{NP} \text{Geld}] [_{DefP} \dots t_{FP}]]]]]$
- e.  $[_{TopicP} [_{NP} \text{Geld}] \text{hat er } [_{XP} [_{TopicP} [_{FocusP} [_{FP} \text{keines} \dots t_{NP}] [_{TopicP} t_{NP} [_{DefP} \dots t_{FP}]]]]]$

In (41.e.) the final movement is of the topicalized NP to the specifier of the clausal TopicP while the remnant modifier remains in the specifier of the nominal focus projection.

Thus, both the Greek and German data can be explained. One remaining question is the exact nature of the connection between the apparently “rich” morphological format of the participating modifiers and nominal ellipsis and discontinuity in the DP. This is explained in the following section.

## 2.4 Ellipsis and rich morphology

Very early in the literature on nominal ellipsis it has been noticed that the modifiers that “license” ellipsis in the DP are of a certain kind. In languages that have different forms of modifiers in different syntactic environments require the “richer” or more “complex” form to appear in elliptical environments.

Bernstein (1993) based on Harris (1991) proposes that Nominal Ellipsis in Spanish, and Romance languages in general, is related to a special functional projection of the nominal domain called Word Marker (WM). This explains the possibility of nominal ellipsis in indefinite DPs in Spanish only when the indefinite determiner appears in its “strong” form with an extra vowel:

42. a. Uno rojo está encima de la mesa  
 “a red one is on the table.”  
 b. \* Quiero un grande  
 ‘I want a big one’

The same pattern is observed in languages like German that allow for different morphological paradigms for adjectives depending on the syntactic environment in which the latter appear. German determiners, quantifiers and adjectives take their morphological forms from two paradigms, the "strong" and the "weak" inflection. The syntactic environment determines which form the modifier will take. Thus, in the neuter nominative/accusative paradigm, the negative universal quantifier takes the form ‘kein’ if it appears in a noun phrase with a lexical noun (or an adjective), as in (41.a) repeated here as (43.a.). If the noun phrase neither contains a lexical noun nor an adjective, as in (43.b.- 43.c.), the strong form ‘keines’ must be chosen.

43. a. hat er kein Geld.  
 has he no money  
 ‘he has no money.’

GERMAN  
 Fanselow & Cavar,  
 2002:21

- b. er hat keines / \*kein.  
he has none
- c. er hat keines / \*kein aus Deutschland.  
he has none from Germany

If the strong form is an indication of definiteness or specificity then it seems that in German only definite or specific NPs can elide and this is indicated on the morphology of the remnant modifier.

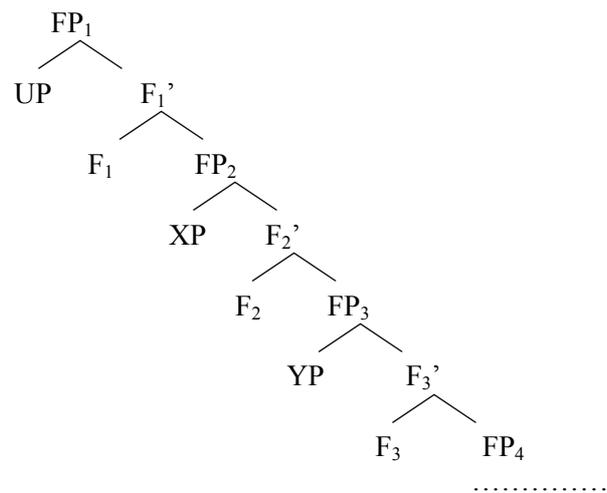
A similar pattern can be observed in Hungarian, this time with case morphology. In Hungarian the attributive modifier of a nominal appears uninflected (see for example Kester, 1996), as in example (44.a.). However, when the adjective appears in an elliptical environment as in (44.b.) then it obligatorily carries agreement markers for number and case. The sentence is otherwise ungrammatical (44.b.).

- |     |    |   |   |
|-----|----|---|---|
| 44. | a. | Láttam nagy biciklilet<br>saw big bike-PL-ACC<br>'I saw big bikes'. | HUNGARIAN<br>Devine & Stephens<br>2000: 232 |
|     | b. | láttam nagyokat<br>saw big-PL-ACC<br>'I saw big ones'.              |   |
|     | c. | * láttam nagy<br>saw big-PL-ACC<br>'I saw big ones'.                |   |

How can we account for these facts in the present approach? A desired solution should explain the “strong” form of the modifiers as the result of the application of principles available in the theory without resource to stipulations or new, not independently supported proposals. I assume that such a general principle relevant here is agreement through the structural relation of specifier-head (Koopman,

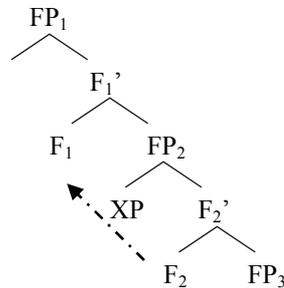
1996, 2001).

More specifically, I assume that in the extended nominal projection (Grimshaw, 2000) each head inherits the  $\phi$ -features expressed lower in the structure. This is accomplished through the mechanisms that Universal Grammar provides, phrasal movement and head movement. Let us see how such a mechanism is implemented. Following Cinque (1994, 1999) I assume that prenominal modifiers merge in the specifiers of hierarchically structured functional projections. Based on Kayne's discussion of universal word order patterns I assume that (due to *the Linear Correspondence Axiom*, in Kayne, 1994:6) specifiers merge to the left of the head. We can therefore, assume the following in some extended projection:



In this structure  $FP_1$ ,  $FP_2$ ,  $FP_3$ , and  $FP_4$ , are functional projections, the specifiers of which host phrasal modifiers (UP, XP, YP). At some point of the derivation the structure extends to new projections through head-movement, creating new specifiers and attracting phrasal elements that have been merged lower in the structure. This mechanism of structure extension has been extensively used in

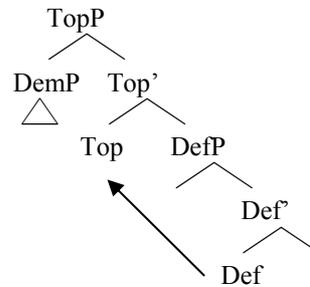
work that assumes heavy pied-piping in roll-up type of movement operations (see for example Kayne, 2000; Cinque, 2000) that create right-branching structures.



In the above structure  $F_2$  head-moves to  $F_1$ , which in turn projects spec-  $FP_1$ , attracting some lower phrasal element (possibly  $FP_3$ , the complement of  $F_2$ ). This head movement results in the two projections sharing the features of  $F_1$ , while  $F_2$  has its own additional features. If this is on the right track then projections situated higher in the structure should have more features than heads in lower projections. The prediction is that phrasal elements that move to the specifiers of higher projections should show overtly more morphological features that are acquired through spec-head agreement with the higher “richer” heads.

For example in English the  $D^0$  head has number in addition to its definiteness features while in Greek it expresses gender, number, case and definiteness. Heads above  $D^0$  will also have these features and any additional feature that each projection adds. Schematically, this can be represented by the following schema:

Any phrase moving to the specifier of these heads will overtly express these features through spec-head agreement. Below is a schematic reproduction of how this relationship is structurally implemented in the nominal left periphery in the case of the English singular demonstrative:



The Def head moves to the head of the nominal topic projection. This means that any element that moves to spec-TopP will exhibit definiteness in addition to specificity (the feature that is located in Top<sup>0</sup>) and number (a feature endowed to Def<sup>0</sup> through head movement of Num<sup>0</sup>). This accounts for the agreement in number of for example the demonstrative ‘this’ in “this big table”. It also accounts for the absence of a definite determiner when a demonstrative is present in English, as definiteness is expressed on the demonstrative itself.

All heads above DefP must carry the full set of  $\phi$ -features, and consequently all phrasal elements that move to the specifiers of these positions must express these features morphologically through spec-head agreement. However, in any given language only the subset of the  $\phi$ -features that are expressed morphologically in the language will be overtly realized on the modifier. For example, in English, the only overtly realized nominal feature is number (Ritter, 1991; Bouchard, 2002). Thus when an adjective moves to a focus projection of the nominal

domain the only feature that has to be overtly realized is number. Since number cannot be realized as a morphological affix on the Adjective, English uses another mechanism to express the specifier-head agreement - the deleted NP in the nominal TopicP is replaced by the null pronominal element ‘one’ and number is expressed on this element (see also Llobart-Huesca, 2002):

45. a. Mary bought the blue dress and Helen bought the  $[_{FP} RED t_{NP}]$  [~~dress~~]  $t_{FP}$   
 b. Mary bought the blue dress and Helen bought the  $[_{FP} RED t_{NP}]$  [one]  $t_{FP}$

The number feature of the deleted NP in (45.a.) has to be expressed somehow and English solves the problem by inserting the empty element ‘one’. In the same way Tense is supported by insertion of ‘do’ in the inflectional domain.

In German, as we have seen the “strong” form of prenominal modifiers participates in elliptical structures. Here is example (43), repeated again as (46):

46. a. hat er kein Geld. GERMAN  
 has he no money Fanselow & Cavar,  
 ‘he has no money.’ 2002:21
- b. er hat keines / \*kein.  
 he has none
- c. er hat keines / \*kein aus Deutschland.  
 he has none from Germany
- d. hat er  $[_{NP} Geld]$   $[_{DP} [_{FP} kein t_{NP}]]$

When the prenominal quantifier appears in its default position it is not in spec-head agreement with a head that carries a definiteness feature. However, in the elliptical contexts of (46.b.) and (46.c.), the quantifier is in spec-head relation to a

head that carries the full set of nominal features. Since in German definiteness can be expressed morphologically on the prenominal modifier, the spec-head relation results in overt manifestation of the strong form of the quantifier<sup>6</sup>.

Similarly, in the Hungarian example (44) repeated here as (47) the remnant modifier has to express the case feature and does so in nominal ellipsis structures.

- |     |      |   |   |
|-----|------|---|---|
| 47. | a.   | Láttam nagy biciklilet<br>saw big bike-PL-ACC<br>'I saw big bikes'. | HUNGARIAN<br>Devine & Stephens<br>2000: 232 |
|     | b.   | láttam nagyokat<br>saw big-PL-ACC<br>'I saw big ones'.              |   |
|     | c. * | láttam nagy<br>saw big-PL-ACC<br>'I saw big ones'.                  |   |

In Greek, adjectives and other prenominal modifiers are fully inflected for gender, number and case. The only nominal feature that is not expressed in the adjectival morphology is definiteness. However, when the AP moves, pied-piping the FP, to the specifier of FocusP it lands in a spec-head relation to a head that does carry the definiteness feature. When this is [+definite] it has to be overtly realized and in Greek this can be done by inserting an extra determiner in front of the remnant modifier. Thus, the phenomenon of Determiner Spreading (Androutsopoulou, 1994; Alexiadou

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<sup>6</sup> It is not clear whether the “strong” form of modifiers in German express definiteness. However, this has no consequence in the approach adopted here. Whatever feature is morphologically expressed by the “strong” modifier in German has to be present at the modifier in this high FocusP projection as at this level all relevant nominal features have been expressed.

& Wilder, 1998) can be explained as a side effect of the more general principle of spec-head agreement.

The idea that Determiner Spreading is related to nominal ellipsis and more specifically to focusing of the adjectival modifier has been pursued before in the literature (see Karaieva, 2002; Marinis & Panagiotidis, 2002). Karaieva (2002) assumes that the adjectives that participate in determiner spreading structures merge in a pre-determiner focus projection. However, there is no independent motivation for such an assumption. In the present proposal, adjectives move to spec-FocusP to express contrastive focus. They are thus no different than any other element that is subject to syntactic focus movement.

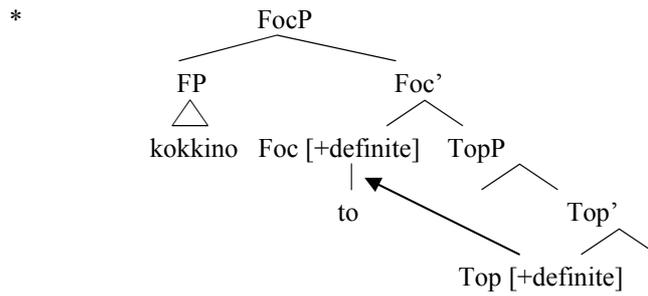
If Determiner Spreading is specifier-head agreement in a focus projection, one would expect semantic differences between the default structure and the Determiner Spreading structure. This is borne out as Kolliakou (1998) shows. Determiner Spreading seems to restrict a given set of referents by picking out a proper subset of it. This is exactly what we saw in the previous section for nominal ellipsis. In (48.a.) below, with the default structure ‘i mikres gates’, is four-way ambiguous, depending on whether the NP is focused and construed as anaphoric to ‘ta zoa’, which would imply that there are other animals than cats that John fed, or unaccented, in which case the superset of animals is equal to the set of cats. Ambiguity is also created because of the two readings of the adjective ‘young’, the restrictive reading and the non-restrictive reading. However, in the Determiner Spreading structure of

(48.b.), the interpretations that involve a non-restrictive reading of the adjective are lost.

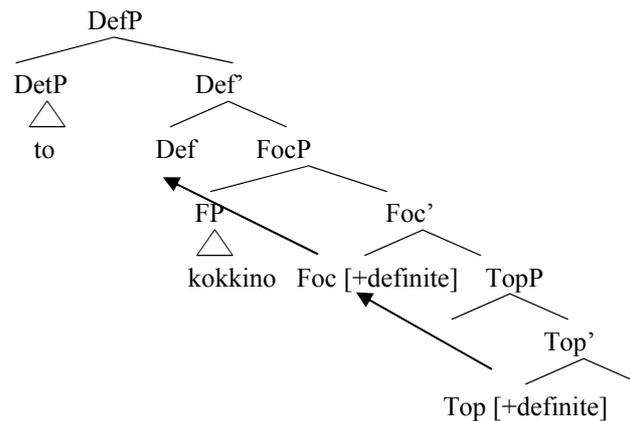
48. a. O Yannis taise ta zoa. I mikres gates itan pinasmenes. GREEK  
The Yannis fed-3sg the animals. The young cats were-3pl hungry Kolliakou, 1998:4  
“John fed the animals. The young cats were hungry.”
- i. *All the animals John fed were young cats*
  - ii. *All the animals John fed were cats, but there were young and non-young cats.*
  - iii. *John fed cats and non-cats, and all of the cats were young*
  - iv. *John fed cats and non-cats, and there were young and non-young cats*
- b. O Yannis taise ta zoa. I mikres i gates itan pinasmenes.  
The Yannis fed-3sg the animals. The young the cats were-3pl hungry  
“John fed the animals. The young cats were hungry.”
- i. *All the animals John fed were cats, but there were young and non-young cats*
  - ii. *John fed cats and non-cats, and there were young and non-young cats*

Thus, in Determiner Spreading phenomena the remnant modifier picks only some of the possible sets that are available to the speaker/ hearer, i.e. subsets of the superset of the possible referents. This can be captured in the approach adopted here as the remnant modifier is assumed to be in a focus position.

One final problem with such an analysis of Determiner Spreading has to do with a word order anomaly. More specifically, if the extra determiner in determiner spreading phenomena is the expression of overt agreement between the remnant modifier and the DP then one would expect the determiner to appear on the right of the modifier, as the latter has moved to the specifier of the projection that expresses the definiteness agreement:



A way out of this problem is to assume that the determiner element ‘to’ in Greek is also a specifier. Then every time a definite head projects in the structure, head movement extends the structure and ‘to’ merges in the specifier of the new projection as in the following diagram:



Thus the extended nominal projection is created through constant structure extension via head movement followed by phrasal movement.

If this is correct then one would expect to find other languages that express definiteness with the insertion of a determiner in contexts that it is not usually needed. West Flemish seems to be such a language (data from Haegeman,

2000):

49. a. Da zyn zen boeken.  
that are his books  
“These are his books”
- b. \* Da zyn de zen boeken.  
that are the his books
- c. \* Da zyn zyne ~~boeken~~.  
that are the his ~~books~~
- d. Da zyn de zyne ~~boeken~~.  
that are the his ~~books~~

HUNGARIAN  
Devine & Stephens  
2000: 232

When the nominal head is present the possessive is in its “weak” form and no determiner is needed in West Flemish (49.a.-49.b.). In elliptical contexts the “weak” form is not possible and the strong form ‘zyne’ is used instead. However, this form also results in ungrammaticality when the definite determiner is not there (49.c.). For ellipsis to be licit the definite determiner has to be present, preceding the possessive (49.d.). In the present approach this can be accounted for as again overt realization of definiteness as the possessor is in FocP and is in specifier-head agreement with a head that is designated as [+definite].

Summarizing, in this section it has been shown that the “rich” morphology manifested on modifiers that participate in nominal ellipsis can be explained as the effect of specifier-head agreement between the modifier and a head that is higher in the structure than DefP. In any given language, this would entail overt manifestation on the modifier of those morphological elements that correspond to nominal features and are available in the language.

Thus, the prediction is that when a language has two forms of modifiers that could possibly participate in elliptical and discontinuous structures only the “strong” form that expresses overtly morphological agreement will appear with elided nominals or in discontinuous DPs. The “weak” form will not, but this is not due to any morphological requirement but only because nominal ellipsis requires a configuration that forces morphological expression of agreement through the specifier-head relation. This leaves unaccounted some cases of modifiers that do not participate in elliptical contexts, not because of “poor” morphology, but because of other restrictions imposed from their level of merging (attributive-only adjectives) or because of semantic factors (distributive quantifiers). I will discuss some of these cases in the following two sections. However, before proceeding to the predictions of the theory I would like to discuss briefly an alternative approach.

## **2.5 Fanselow & Ćavar (2002)**

Fanselow & Ćavar (2002), assume a copy-and-deletion approach to movement operations introduced in the minimalist framework of generative grammar (Chomsky, 1995). In this approach a phrase is copied and the second copy merges in the landing site of the movement operation. Subsequently, one of the two copies is deleted. In overt movement operations the original copy is deleted, while in cases of so-called covert movement the second is deleted. Fanselow & Ćavar (2002) propose that in cases of Discontinuous DPs the deletion part of the process operates in both copies deleting different parts of them as illustrated in the following example

from Greek:

50. a. idha to kokkino to forema.  
saw-1S the red the dress  
'I saw the red dress.'
- b. to kokkino to forema idha to kokkino to forema.  
the red the dress saw-1S the red the dress
- c. to kokkino ~~to forema~~ idha ~~to kokkino~~ to forema.  
the red the dress saw-1S the red the dress
- d. to kokkino idha to forema.  
the red saw-1S the dress  
'It is the red dress that I saw.'

Departing from the structure in (50.a.), the entire DP is copied and merged again in a left peripheral, focus-related projection, as in (50.b.). Partial, or “distributed” deletion follows (50.c.), resulting in the structure in (50.d.). This analysis avoids a number of theoretical problems that the remnant movement approach has, including the question of what triggers intermediate movements, like the movement of the NP in Androutsopoulou’s (1998) analysis. However, a problem that the copy and deletion approach faces comes from cases where the form of the modifier in adjacent position is different than the form of the modifier in discontinuous structures. Consider the following example from German:

51. a. er hat kein Geld  
he has no money
- b. Geld hat er kein-es / \*kein.  
money has he no  
'he has no money.'
- GERMAN  
Fanselow & Cavar, 2002:21

In (51.a.) the prenominal quantifier appears in its so-called weak form. In the discontinuous structure of (51.b.) the quantifier appears in its “strong” form.

If (51.b.) is the result of distributed deletion there is no reason to expect a change in the form of the quantifier. Fanselow & Cavar (2002) argue that this morphological correspondence between null and displaced modifiers is not convincing because there is no reason to believe that the morphological shape of the determiner or adjective is not determined after copying and deletion. In the analysis proposed here there is no problem. In section 2.4, it will be shown that the strong form of the quantifier in (51.b.) is just the result of specifier-head agreement (Koopman, 1996, 2001).

There are additionally theoretical problems with a copy and deletion approach towards movement. A logical question that is not usually addressed in the relevant literature is what determines which copy will be pronounced in a movement operation of this type. No such problem arises with the approach adopted here.

Assuming that Discontinuous DPs proceed through NP topicalization and modifier focalization in a cyclic fashion then the prediction is that nominal ellipsis and Discontinuous DPs should share a number of common properties. This is shown to be the correct prediction in the following section.

### **3 Common Properties Between Nominal Ellipsis and Discontinuous DPs**

#### **3.1 Same Type of Modifiers**

Nominal ellipsis can occur in a number of environments in Greek including after

numerals (52.a.), quantifiers (52.b.), adjectives (52.c.) and possessors (52.d.):

52. a. i Maria ehi tria vivlia ke i Eleni ehi epta vivlia  
 the Maria has three books and the Eleni has seven books  
 ‘Maria has three books and Eleni has seven’
- b. i Maria ehi polla vivlia ke i Eleni ehi liga vivlia  
 the Maria has many books and the Eleni has few books  
 ‘Maria has many books and Eleni has few’
- c. i Maria forese to ble fustani ke i Eleni forese to prasino fustani  
 the Maria wore-3SG the blue dress and the Eleni wore-3SG the green dress  
 ‘Maria wore the blue dress and Eleni wore the green one’
- d. i Maria pire ta vivlia tu Gianni ke i Eleni ta vivlia tu Kosta  
 the Maria got-3SG the books the Gianni-GEN and the Eleni the books the Kosta-GEN  
 ‘Maria got Gianni’s books and Eleni got Kostas’

The same modifiers can participate in split DP structures:

53. a. EFTA ehi i Maria vivlia  
 seven has the Maria books  
 ‘It is seven books that Maria has.’
- b. POLLA ehi i Maria vivlia  
 many has the Maria books  
 ‘It is many books that Maria has.’
- c. to PRASINO forese i Maria fustani  
 the green put on the Maria dress  
 ‘It is the green dress that Maria put on’
- d. tu GIANNI pire i Maria ta vivlia  
 the Gianni-GEN got-3SG the Maria the books  
 ‘It is Gianni’s books that Maria got’

The parallelism goes further. Elements that do not license nominal ellipsis also do not seem to license Discontinuous DPs. Determiners do not seem to be able to license nominal ellipsis in Greek. Discontinuous DPs cannot be licensed by determiners either:

54. a. \* i Maria ehi kapio vivlio ke i Eleni ehi to ~~vivlio~~  
 the Maria has some book and the Eleni has the ~~book~~  
 ‘Maria has some book and Eleni has the book’
- b. \* TO ehi i Maria vivlio  
 the has the Maria book  
 ‘It is THE book that Maria has.’

One explanation that can be given is that the definite determiner in Greek is a ‘weak’ element and thus it cannot appear in a focus position (see Giusti, 2002, for a detailed discussion of definite determiners as functional heads with ‘clitic’-like properties). For an element to be able to license nominal ellipsis as we have seen, it must be able to pick a specific entity from a set of alternative entities. It is not clear how a definite determiner can do this since it lacks the semantic content that would allow it to contrast an entity to all the possible alternative choices.

Androutsopoulou, (1998:3) notes that “*a DP-internal string can be preposed in split-DP focus constructions if it can appear in isolation as a DP-fragment.*” In the terminology adopted here, a DP-fragment is the remnant of nominal ellipsis. Thus:

55. a. miso tin kathari adhikia GREEK  
 hate-1SG the pure injustice Androutsopoulou  
 ‘I hate pure injustice’ 1998:3
- b. \* tin KATHARI miso adhikia  
 the pure hate-1SG injustice  
 ‘It is PURE injustice that I hate’

- c. A. ti idhous adhikia misis?  
 what kind injustice hate-2SG  
 ‘what kind of injustice do you hate?’  
 \* B. tin kathari  
 the pure  
 ‘the pure one’
56. a. idha ton ipitithemeno dolofono  
 Saw-1SG the alleged murderer  
 ‘I saw the alleged murderer’
- b. \* ton IPOTITHEMENO idha dolofono  
 the alleged saw-1SG injustice  
 ‘It is the alleged murderer that I saw’
- c. A. pjion dolofono idhes?  
 which murderer saw-2SG  
 ‘which murderer did you see?’  
 \* B. ton ipotithemeno  
 the alleged  
 ‘the alleged one’

Both ‘kathari’ in (55) and ‘ipotithemeno’ in (56) are attributive-only adjectives. These adjectives have a special status in syntactic structure in that they cannot appear in predicative structures. We can assume that movement of these adjectives to the specifier of FocusP and thus licensing of both ellipsis and discontinuity is blocked. The reason is that they merge very low in the structure and freeze for movement purposes. Attributive-only adjectives do not seem to acquire “phrasal” status (following the intuition in Stowell (1981) that prenominal adjectives are adjoined to the noun at word-level [<sub>N</sub> A-N]). For example, they cannot, in most cases, be modified by an adverb:

57. a. \* o alithina ipitithemenos dolofonos  
 the truly alleged murderer  
 ‘The truly alleged murderer’
- b. \* i polli kathari adhikia  
 the very pure injustice  
 ‘The very pure injustice’

Also, contrary to other prenominal adjectives in Greek, they do not seem to be able to take complements. Compare (58a.) to (58.b.):

58. a. enas perifanos gia tin kori tu pateras  
 a proud for the daughter his father  
 ‘a father proud of his daughter’
- b. \* i kathari kata ti gnomi mu adhikia  
 the pure according the opinion my injustice  
 ‘the pure injustice, according to my opinion’

I will not pursue this correlation further. Suffice is to say that since these modifiers do not license nominal ellipsis they are not expected to license discontinuous DPs. This is borne out as the examples in (55)-(56) indicate.

If Determiner Spreading is the expression of specifier-head agreement on the remnant modifier in focus position, and since this position is not available for the above modifiers then the analysis predicts that Determiner Spreading should not be available for the above modifiers. This is also borne out<sup>7</sup>:

59. a. \* i kathari i adikia  
 the poor the injustice

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<sup>7</sup> For some Greek speakers all the examples in (55)-(56), and (59) are grammatical. However, this is not a problem for my proposal. As far as I know there is no speaker that finds some of the examples grammatical and some not.

- b. \* o ipotithemenos o dolophonos  
the alleged the murderer

A last element that seems to resist nominal ellipsis, discontinuity and determiner spreading in Greek is the quantifier ‘kathe’ (every/each):

- 60. a. \* Polli mathites pigan sto parti ke kathe mathitis efige noris  
many students went to-the party and every student left early  
“Many students went to the party and every(one) (of them) left early”
- b. \* KATHE idha mathiti  
every saw-1sg student  
“I saw every student”
- c. \* O kathe o mathitis  
the every the student

The status of the distributive quantifier is not very clear in discontinuous structures and nominal ellipsis environments. A few languages seem to block nominal ellipsis and discontinuity when the noun is quantified by the distributive quantifier (among others Cuzco Quechua and Swampee Cree). I assume that this peculiar distribution of this specific quantifier has more to do with its semantic properties not with its position in the syntactic structure.

### 3.2 Morphological Evidence

As we have already seen in section 2.4, languages like German allow for different morphological paradigms for adjectives depending on the syntactic environment in which the latter appear. More specifically, we have seen that only the “strong” paradigm of modifiers participate in nominal ellipsis. Since nominal ellipsis is assumed to result from a configuration that is an intermediate step in

Discontinuous DPs the theory predicts that only “strong” modifiers should participate in Discontinuous DPs as well. This is also borne out:

61. a. Geld hat er keines  
money has he no  
'he has no money.'
- b. \* Geld hat er kein.  
money has he no  
'he has no money.'

Similarly in Hungarian, the discontinuous structure should be possible only when the adjectival modifier is inflected for case. This is also supported from the data:

62. a. Bicikliket láttam nagyokat  
bikes-PL-ACC saw big-PL-ACC  
'I saw big bikes'.
- b. \* Bicikliket láttam nagy  
bikes-PL-ACC saw big  
'I saw big bikes'.

For the analysis assumed here the rich form of the modifier is the result of spec-head agreement in the nominal focus projection. Subsequent movement of the remnant modifier or the topicalized NP to the clausal left periphery does not alter the form of the modifier.

In the last two sections we saw that a number of common properties between nominal ellipsis and discontinuous DPs can be captured under the analysis adopted here. In the following section we will explore a number of problems for the analysis and underline some issues that need to be researched further in the light of more crosslinguistic data.

## 4 Some Problems

### 4.1 Restrictions on Discontinuity

We have seen that discontinuous structures proceed through the same configuration that licenses Nominal Ellipsis. However, it is also clear that not all languages that allow for elliptical structures in the nominal domain also allow for discontinuity in the DP. For example, English allows nominal ellipsis constructions with most of the quantifiers and the plural demonstratives. However, discontinuous DPs are not licensed with these modifiers<sup>8</sup>:

63. a. John likes these cars and Mary likes those ~~cars~~.  
b. \* THOSE Mary likes cars.  
c. John invited many students but few ~~students~~ came to his party.  
d. \* FEW came to his party students.

Furthermore, in Romance languages nominal ellipsis occurs freely in a number of environments and with a number of modifiers including demonstratives, quantifiers and adjectives. However, the same modifiers cannot license discontinuous DPs with a

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<sup>8</sup> An exception is the phenomenon of Quantifier Float (Sportiche, 1988). However, the only quantifiers that participate in such structures are the ones that in English are already in a left-peripheral nominal projection, i.e. a predeterminer position, and thus they can escape to other discourse related positions in the clause.

few very limited exceptions<sup>9</sup>. Thus although nominal ellipsis is a first step in the process of licensing discontinuous DPs, it is not the only requirement. What more is needed in a language to allow for discontinuous DPs is not clear. A quick typological investigation shows that the existence of case agreement between a modifier and the nominal head that it modifies may be relevant. As we saw in section 2.4, in Hungarian the existence of case agreement on the adjective allows for discontinuous DPs. Lack of case agreement seems to block focalization of the remnant modifier.

Evidence from Greek suggests that the historical process of losing case morphology from the agreement system of the languages corresponds to a parallel blocking of discontinuous DPs. This is the case for example with the *wh*-element ‘*tinas*’ (who), which in ancient Greek was inflected for gender, number and case and participated freely in discontinuous DPs (examples from Mathieu & Sitaridou (2002):

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<sup>9</sup> For example, the modifier ‘*beaucoup*’/*many* can license discontinuous DPs in French as in the following example:

- i. a. Jean a lu beaucoup de livres Obenauer, 1984.  
Jean has read many of books  
‘Jean has read a lot of books’
- b. Jean a beaucoup lu de livres  
Jean has many read of books  
‘Jean has read a lot of books/read books a lot’

64. a. Tína dunamin echei?  
 what power has-3sg  
 (Plato *Laws* 643a)
- b. Tína echei dunamin?  
 what has-3sg power  
 ‘What power does it have?’  
 (Plato *Republic* 358b)

In Modern Greek the *wh*-element has lost all the inflections and only two of its forms remain: the ‘*ti*’/what form and the ‘*tinós*’/whose form marked with genitive case. The first form, that has no inflection, cannot participate in split constructions while the second which is marked with the genitive case, can:

65. . a. \* Ti exi dinami?  
 what have3SG power  
 ‘What power does it have?’
- b. Tinos eferes to vivlio?  
 whoseGEN bringPAST2SG the book  
 ‘Whose book did you bring?’
- Horrocks & Stavrou, 1987: 89

Thus, case agreement on the modifier and the possibility of split DPs seem again to be connected.

A survey of languages that allow for discontinuous DPs also reveals that almost all of them have case agreement on the modifiers that participate in discontinuous environments. Warlpiri follows Hungarian in that discontinuous DPs are licensed only when the modifier carries case agreement (Hale, 1983; Hale et al, 1995). Other Australian and Austronesian languages that allow for discontinuous DPs also exhibit case agreement in the DP, including Wambaya, Garawa, Diyari (Dieri), Nyangumarta, Djaru (Jarú), Guugu Yimidhirr, Yidinj, Kayardild,

Kalkutung (Kalkatungo), Jiwarli (Mangala) and Nyigina. The same observation holds for Slavic languages, German, Finnish, and Georgian.

On the other hand, in languages that do not allow for discontinuous DPs there is either no DP-internal agreement (English, Breton) or only number and gender (French, Spanish, Italian, Portuguese) and maybe definiteness (Danish and Swedish) agreement, but no case agreement in the DP.

This is by no means a conclusive list. There are some exceptions to the pattern exhibited above. Bulgarian seems to be such an exception since it does not show any case morphology on prenominal modifiers but allows for discontinuous DPs. Hindi also has productive cases of discontinuous structures without overt case morphology on the remnant modifiers.

I will not explore this issue further here but the correspondence between case agreement and relatively free word order is not a new concept in contemporary linguistics. As Comrie (1981:74-84) shows, rich case morphology on the noun phrase (i.e. in Russian) permits word order permutations as it allows unambiguous identification of the grammatical function of the noun phrase, while in a language with no case morphology (i.e. English) grammatical functions must be identified by association with specific structural positions.

## **4.2 Discontinuity without Nominal Ellipsis**

A seemingly bigger problem for the present analysis would be the existence of a language where a modifier participates in discontinuous DPs but does not license nominal ellipsis. This does not follow from the approach adopted here as nominal ellipsis is considered a first required step in the licensing of discontinuous DPs. Such a case is discussed in Evans (1995) for Kayardild. In this language certain adjectives like ‘jungarra’/big seem to be able to appear either adjacent to the nominal head or in discontinuous structures as in (66.a.- 66.b.):

66. a. dathin-a jungarra dangka-a  
 that-NOM big(NOM) man-NOM  
 ‘that big man’
- b. ngada jungarra-wu karna-ju kaburrba-wu  
 1SG-NOM big-MPROP light-POT fire-MPROP  
 ‘I want to light a big fire.’

However, nominal ellipsis seems not to be possible with these modifiers:

67. a. \* dathin-a jungarra dalija  
 that-NOM big(NOM) come-PAST  
 ‘that big one came.’

This presents a problem for the present approach. If nominal ellipsis is not possible then the conditions for focus movement of the modifier to the clausal left periphery are not met. However, the picture is not that simple. Evans (1995:234) notes that “*in highly marked, contrastive contexts (do) adjectives occur alone*”. Such an example is given in (68.a.):

68. a. jungarra warrngal-d, nguthunnguthu warrmar  
 big-NOM wind-NOM little-NOM breeze-NOM  
 “The big one is called warrngald, the little one warrmar”

It seems then that in fact the conditions are also met in Kayardild. Contrastive focus licenses nominal ellipsis independently and thus can be assumed to precede the licensing of discontinuous DPs that also require contrastive focus. Evans (1995) states that discontinuous DPs are licensed in Kayardild in two cases:

- (a) *when qualifiers convey a restrictive meaning: the speaker assumes that several entities suit the label offered by the entity nominal, and emphasizes that the qualifier helps find the right referent....*
- (b) *when emphasizing the degree or number of the adjectival attribute.*

(Evans, 1995:249)

Again, focus seems to license both structures and the discrepancy between the two constructions is eliminated under a focus condition. Thus, no problem arises for the approach adopted here.

A more serious problem of the same type comes from Swampy Cree (Reinholtz, 1995). Reinholtz (1995) presents data from Swampy Cree that shows that the two distributive quantifiers ‘each’ and ‘every’ can participate in discontinuous DPs (69a.-69.c.) but not in nominal ellipsis contexts (69b.-69.d.):

69. a. Kahkinaw kîsipwêhtêw nâpêsis  
 every 3sg-left boy  
 ‘Every boy left’
- b. \* Kahkinaw kîsipwêhtêw  
 every 3sg-left  
 ‘Every(one) left’
- c. Pâhpêyak kîsipwêhtêw awâsis  
 each 3sg-left child  
 ‘Each child left’
- d. \* Pâhpêyak kîsipwêhtêw  
 each 3sg-left  
 ‘Each (one) left’

This is again problematic for the analysis proposed here. If discontinuity is possible then the configuration for the licensing for nominal ellipsis is also possible and thus (69.b.)-(69.d.) should be grammatical. I do not have a solution for this problem here but would like to point out that as we have seen before (section 3.1) the distributive modifiers pose a problem for cases of nominal ellipsis and discontinuous DPs crosslinguistically. As we have seen they block both processes in Greek, while they resist discontinuous structures in other languages as well (see, for example, Hastings, 2003, for the case of the quantifier ‘sapa’ (each) in Cuzco Quechua).

Furthermore, these quantifiers, when quantifying over plural nouns in Swampy Cree, license nominal ellipsis structures:

70. a. Kahkinaw kîsipwêhtêwak  
 every 3pl-left  
 ‘Every(one) (of them) left’

- b. Pâhpêyak kîsipwêhtêw  
 every 3sg-left  
 ‘They each left’

Thus, Swampy Cree follows the English pattern in that it allows some of its modifiers to license nominal ellipsis only in their plural form. More research is needed in this area to establish the exact conditions under which distributive modifiers can participate in discontinuous structures and nominal ellipsis.

A final problem for the analysis presented here has to do with the Determiner Spreading phenomenon from Greek, discussed in section 2.4. As we have seen this multiple expression of definiteness can be assumed to be the result of specifier-head agreement on elements moving in the nominal left periphery. However, a problem that arises is that discontinuous structures in Greek allow for cases without Determiner Spreading.

71. a. to kokkino idha forema.  
 the red saw-1S dress  
 ‘It is the red dress that I saw.’

If discontinuous DPs proceed through NP-topicalization with the NP moving to the specifier of a Topic projection in a position preceding the definite determiner then according to the approach adopted here we would expect definiteness to be overtly expressed on the nominal through specifier-head agreement manifested with the insertion of an additional determiner. Thus, the structure in (71.a.) is not predicted.

The only way to solve the problem would be to assume movement of the NP in these structures to a position lower than DefP. This however would contradict the assumptions made earlier about the connection of the properties of Topic to the properties of ellipsis and discontinuity in the DP. Thus, the problem remains and indicates that the phenomenon of Determiner Spreading needs to be explored in more detail before a definite conclusion as to its connection to nominal ellipsis and discontinuity is reached.

## **5 Conclusion**

In this thesis I presented a novel proposal for the treatment of nominal ellipsis and discontinuity in the DP. I showed that the two phenomena can be successfully analyzed as sister operations that involve syntactic movement of the remnant type to discourse related projections.

I located these projections in the left periphery of the nominal as well as the clausal domain providing evidence from the distribution of DP-internal elements in Greek and cross-linguistically for the existence of such a nominal left periphery.

The proposal makes a number of predictions and I showed that these predictions are borne out providing supporting evidence from Greek. More specifically, I showed that nominal ellipsis and discontinuous DPs share the same type of modifiers and the form of these participating modifiers is identical in both phenomena. These

similarities have not been addressed before in the related literature in detail. Assuming that nominal ellipsis and discontinuous DPs proceed through NP-topicalization followed by movement of the remnant modifier to the specifier of a focus projection, I showed that the similarities between the two processes fall out naturally.

Finally I addressed a number of problems for my analysis. I underlined a so-far unexplained correspondence between discontinuous DPs and overt case morphology on the participating modifiers. Furthermore, I showed that data from Swampy Cree indicates that there may be cases in which discontinuous DPs are allowed with modifiers that do not license nominal ellipsis, something that is not predicted in my analysis.

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