

THE SPLIT DP HYPOTHESIS EVIDENCE FROM ANCIENT GREEK

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1. Introduction

1.1 DPs in Ancient Greek

In Ancient Greek one may find elements of a DP split from the noun, as in (1). Adjectives (A), quantifiers (Q), demonstratives (Dem), *wh*-elements (WH-) may precede or follow nouns (N), with some syntactic material intervening.

- (1) a. A/Q/Dem/WH-..... N
b. N A/Q/Dem

(2) ep' **andras** strateuometha **agathou** (Her. 7.53.2)
against men.acc.pl. fight.1pl.pres.ind.mid. valiant.acc.pl.
'we are fighting against valiant men'

(3) tou gar dê Ludôn dê mou **hai**
the.gen.sg. for PART Lydians.gen.pl. people.gen.sg. the.nom.pl.
thugateres **porneuonta** **pasai** (Her.1.93.4)
daughter.nom.pl. prostitute.3pl.pres.ind.act. all.nom.pl.
'all the daughters of the common people of Lydia prostitute themselves'

(4) **tênde** echô **gnômên**(Her.2.27.1)
this.acc.sg. hold.1sg.pres.ind.act. opinion.acc.sg.
'I hold this opinion'

(5) basileu **koion** ephthenxao **epos?** (Her.5.106.3)
king.voc.sg. what-kind.acc.sg. utter.2sg.aor.ind.mid word.acc.sg.
'king, what word do you utter?'

In this paper we will refer to such instances as 'discontinuous DPs'.

(10)

		Attested orders				
		Adjective	Strong Quantifier	Weak Quantifier	Demonstrative	wh-
continuous	N(D)A	QDN	QN	(D)NDem	wh-N	
	(D)AN	DNQ	NQ	Dem(D)N		
	DNDA		DNQ			
discontinuous	N...(D)A	Q...D(A)N	Q...N	(D)N...Dem	wh-...N	
	(D)A...N	DN...Q	N...Q	Dem...(D)N		
	DN...DA	N...DQ				
		Unattested Orders: all other order apart from above				

Given the lack of negative evidence in a dead language like Ancient Greek, one cannot be certain if absent constructions were ungrammatical or just not used in the text(s) from which one draws the data. The strategy we have adopted is to let the theory that we have built based on the positive evidence decide whether these constructions were ungrammatical or just not employed in the text.

This paper aims at providing an analysis that could be instrumental in teasing apart ungrammatical orders from orders that are simply unattested in the corpus we have used. In this paper we will focus on DPs modified by adjectives. We found these DPs particularly challenging, as they pose problems not only connected to the possible continuous and discontinuous orders, but also problems related to the so-called Determiner spreading phenomenon. However, even if we do not discuss the other types of DPs that occur in Table (10), we tentatively submit that an analysis along similar lines can be extended to such DPs as well. We leave it for further research to verify this. For an analysis of all of these DPs, both continuous and discontinuous, which is similar to ours in that it is based on a Topic and a Focus projection within the DP, but which differs from ours in that it does not assume a split DP structure, see Kirk 2007.

1.2 Proposal in a nutshell

In a nutshell, we propose that the word order in continuous and discontinuous DPs in Ancient Greek can be accounted for by assuming that (i) nominal constituents have two DP layers, (ii) both DPs layers are phases in the sense of Chomsky 2001, 2005; and (iii) the periphery of each phase contains Topic and Focus positions. None of these claims, taken in isolation, is new. What is new is the attempt to put them together in order to account for the syntax of both continuous and discontinuous DPs and for their distributional restrictions. The interaction of these three factors guarantees that the material within the DP is prepackaged informationally into Topic-comment or Focus-presupposition. This information

structure within the DP can be further exploited by the left periphery of the clause – possibly, material that has been focused within the nominal will move to the clausal Focus, and material that has been topicalized within the nominal can move up to the clausal Topic.²

The paper is organized as follows: in section 2, we discuss the theoretical assumptions of this paper, in section 3 we present the analysis of modified DPs, first modified DPs with two overt Ds, followed by the analysis of modified DPs with only one overt D; and in section 4 we present the conclusions.

2. The Split DP Hypothesis

In this section we will provide details about our theoretical assumptions. As stated above, our analysis relies on three claims: (i) nominal constituents have two DP layers, (ii) both DPs layers are phases; and (iii) the periphery of each phase contains Topic and Focus positions. In what follows we discuss each of these in more detail.

2.1 Two DP layers

There is by now a well established line of research on the structure of DPs that points to the existence of two layers within nominal constituents (the Split-DP hypothesis), each corresponding to different semantic content. (Giusti 1993, Zamparelli 1995, Aboh 2004, Ishane and Puskas 2001, Kariaeva 2001, Laenzlinger 2005, and others). In line with most of these proposals, we will assume that the higher DP (DP_{external}) is the locus of pragmatic information, such as referentiality and deixis, while the lower DP (DP_{internal}) is the locus of information such as definiteness and indefiniteness. Lexical material is assumed to originate in the DP_{internal} and to then move up to DP_{external} to check pragmatic features.

$$(11) \quad [{}_{\text{DP-ext}} D_{\text{ext}} [{}_{\text{DP-int}} D_{\text{int}} [{}_{\text{NP}} N]]]$$

That the two features hosted by the outer D and the inner D are different is supported by examples like the following:

$$(12) \quad \begin{array}{ll} \text{J'ai pris le train} & \text{(Ishane and Puskas 2001:120)} \\ \text{I have taken the train} & \end{array}$$

² We make no claims about the exact interaction between the discourse oriented projections within the DP and the analogue ones at the clausal level. It is possible that material that has been 'branded' as focus or topic within the DP can only be recuperated as such at the clausal level. But it is not out of the question that material that is topicalized within the DP for instance is contrastively focused at the clausal level. The decision is, we believe, largely an empirical matter, although there are probably some theoretical factors as well that will turn out to play a role, that concern the dynamics of focus-topic interaction.

The DP *le train*/ ‘the train’ is definite, but it can be interpreted either as a specific or as a non-specific DP. If specific, the DP *le train*/ refers to a pre-established train in the context; if non-specific, the DP *le train* fails to refer to a particular train and simply refers to any train in the set of trains, as opposed to, for instance the set of buses, or boats.

2.2 *Two phases*

Apart from assuming a double layered DP structure as above, we will also assume that both DPs (DP_{external} and DP_{internal}) are phases, in the sense of Chomsky 2001, 2005. Given the parallelism between CPs and DPs initially proposed by Abney 1987, Szabolcsi 1987, this is not surprising: the higher D would be the analogue of C, while the lower D would be parallel to the little *v* in a clause³.

One consequence of this assumption is that both DP layers are subject to the Phase Impenetrability Condition/ PIC (Chomsky 2001): what this means for our purposes is that only syntactic material that has previously been moved to the edge of the DP phase (either the lower one or the higher one) can further be subject to movement. As will become apparent below, this property of syntactic phases is crucial for accounting for the existing restrictions on the available orderings of elements inside a DP.

2.3 *Topic and Focus inside the DP*

Syntactic research on the phrasal architecture of the clause has led to the identification of a left peripheral area (the CP domain) that is taken to encode discourse-related features such as topic and focus. In Rizzi 1997, information structural notions such as topic and focus are associated with specific positions in the syntactic architecture of the CP layer. A number of linguists, starting with Hallman 1997, 2000, Beghelli and Stowell 1997, Starke 2001, Belletti 2003, Jayaseelan 2001, etc. have argued that the layer of discourse related functional structure that sits on top of the clause is reiterated lower down in the clause, on the top of the *v*P. The emerging picture contains two phases – the CP and the *v*P – each with its own periphery containing discourse oriented projections like Topic and Focus.

(13) [CP [**FocP/TopP**] [TP [*v*P [**FocP/TopP**] [*v*P] ...

Moving on to the nominal domain, we expect a similar situation, i.e. the existence of discourse oriented projections like Topic and Focus at the periphery of

³ See also Gutierrez-Rexach & Mallen’s 2001, who, on the basis of optional adjectival placement, also propose that DPs may express two separate phases: a predicative D phase, and a separate ‘propositional’ D phase.

both DP layers. This expectation is induced by the parallelism between the CP domain and the DP domain, as well as by a view on phases as syntactic domains with a periphery containing quantificational and discourse oriented properties (Matthewson 2001, Butler 2004, Svenonius 2004, and others).

Several authors have shown that the DP includes a left periphery of discourse related projections (Bernstein 1997, 2001, Dimitrova-Vulchanova & Giusti 1996, Aboh 2004, Ishane & Puskas 2001, Giusti 1996, 2002, Gutierrez-Rexach & Mallen 2001, Haegeman 2004, etc). Under a split DP assumption, the existence of discourse oriented projections like Topic and Focus is to be expected at the periphery of both DP layers, as in (14).

(14) [DP-ext D_{ext} [**FocP/TopP** [DP-int D_{int} [**FocP/TopP** [NumP [NP]]]]]]

The structure in (14) is thus completely parallel to the one in (13) in having a middle discourse oriented field in addition to the left periphery one.

Two types of evidence are discussed in the literature for the existence of these projections: the existence of specialized NP-internal morphological expression of focus and topic, or DP-internal displacement phenomena involved in the expression of topic and focus. The type of evidence that Ancient Greek provides is of the second type. Moreover, Ancient Greek shows displacement phenomena to the Topic and Focus projections in the higher DP, rather than the lower one.

The focus position inside the Ancient Greek DP is thus analogous to a *contrastive* focus position in the clause, along the lines discussed in Szabolcsi 1981 and Kiss 1998, among others.

On the other hand, given that the evidence discussed by the above mentioned authors points to the existence of Topic and Focus projections which are lower than the overt definite D, one can assimilate the latter to the left periphery of the lower DP in (14) above.

2.4 Features

More particular to Ancient Greek, we propose that the Topic/ Focus heads bear [EPP] features in addition to the [top] and [foc] feature, and thus always trigger movement of nominal constituents to their Specifier. Moreover, we propose that one discourse related projection is sufficient to partition the DP into two informational chunks: *Topic-Comment* or *Focus-Background*. What gets projected is thus either the TopicP or the FocusP. If the TopicP is projected, the material attracted to its Spec will be interpreted as Topic while the material in the complement of the Top head will be interpreted as *Comment*. The notion of *Comment* can be equated with the notion of *Rheme* or *Focus*, so the resulting partition is between Topic and (rhematic) focus. If, on the other hand, FocusP is projected, the material attracted in its Spec will be interpreted as (contrastive) focus,

while the material in the complement of the Focus head will be interpreted as *Presupposition*, i.e. old information, i.e. topic-like information. Thus, the syntactic material within the DP will always be partitioned informationally in a topic-like and a focus-like part and this, we claim, will be further exploited by the left periphery of the clause. The result will be either nominals that are displaced in their entirety to the left periphery of the clause, or nominals that will be divided into one part that is attracted to either the TopicP or the FocusP in the left periphery of the clause and another part that will stay in situ.

Let us now go back to the structure in (14). In what follows we will ignore the lower Topic and Focus projections, as they are not active in Ancient Greek. The structure in (14) raises the question of defining the feature content of the syntactic heads involved. To begin with, we assume that overt definite Ds are D(discourse)-linked (see Comorovski 1996, Pesetsky 1987 for D-linked WH- phrases), in the sense of being linked to a familiar individual in the discourse. In order to capture this, we propose that higher D hosts a [+fam] feature. In this, we follow Heim 1982, who defines definiteness in terms of familiarity, or more formally, in terms of identity of the indices of card files for NPs, as in (15):

- (15) The Familiarity Condition (Heim 1982, 369f)
 An NP_i in a sentence ϕ with respect to file F and the Domain of filenames
 Dom(F) is (i) [+definite] if $i \in \text{Dom}(F)$, and
 (ii) [-definite] if $i \notin \text{Dom}(F)$

What (15) says is that every NP comes with an index i , which represents the discourse referent (or Heim's 'file card') associated with that NP. If the discourse referent i is already introduced in the discourse- or more formally, if the index i is an element of the set of all established discourse referents $\text{Dom}(D)$, then the NP must be definite. If, however, the discourse referent i is not among the already established discourse referents, i.e. if $i \notin \text{Dom}(D)$, then the NP must be indefinite. Definiteness signals the familiarity of the discourse referent associated with the NP.⁴

- (16) [DP-ext D_{ext} [FocP/TopP [DP-int D_{int} [NumP [NP]]]
 [+fam] [foc]/[top] [+def]

Null Ds, on the other hand, that occur with the so called bare nouns, are not assumed to be necessarily D-linked, and thus to have a [+fam] feature. We will

⁴ Notice that in positing a [+fam] feature on the higher D head of overt definites, we are not excluding the possibility that the higher D also hosts a [specificity] feature, along the lines proposed by Ishane and Puskas 2001. The specificity feature of a definite may be valued either positively or negatively, as illustrated in (12), but what we are proposing is that the [fam] feature of a definite will always be set as [+fam].

assume that D_{int} that are phonologically null are matched with a higher D that lacks specification for familiarity, i.e. they are [α -fam].

- (17) [DP-ext D_{ext} [FocP/TopP [DP-int D_{int} [NumP [NP]]]
 [α -fam] [foc]/[top]

The underspecification of the [fam] feature in the case of null Ds captures the fact that crosslinguistically the value of the [α -fam] feature can vary. In languages like Chinese, Russian and Hindi (Dayal, 2004) null Ds can be interpreted as [+familiar], and this contrasts with English, in which null Ds are interpreted as [-familiar].

- (18) Kuch bacce andar aaye. Bacce bahut khush the (Hindi)
 Some children inside came Children very happy were
 “Some children came in. They children were very happy.”

The [α -fam] feature should be understood in terms of Rooryck’s 1994 proposal. Rooryck distinguishes between two types of underspecified features: non-variable or [0-features], and variable, or [α -features]. [0-features] are neutral in the sense that they have no positive or negative value for a given feature, but they do have an Attribute specification of the respective feature. [0-features] can be equated with uninterpretable features. In Chomsky’s 2001 terms: “the uninterpretable features, and only these, enter the derivation without values, and are distinguished from interpretable features by virtue of this property”. In contrast, [α -features], are completely underspecified – both for the Attribute and for the value. The latter type of features should be kept apart from *unspecified* features which are distinguished from underspecified [α -features] in that they play no grammatical role whatsoever. This distinction will turn out to play a crucial role in our analysis.

Let us now go back to the structure in (17) and the features involved, more specifically to the question of whether the lower D of bare nouns has any definiteness feature. We posit that there is such a feature on the lower D and that can be valued either positively or negatively. As illustrated in (18) with Hindi, bare nouns can refer back to a familiar individual. Given Heim’s Condition in (15), it follows that these bare nouns must be definite. On the other hand, bare nouns can also be [-definite] as in the following Italian example.

- (19) Gianni lavora con **cani**. (Zamparelli 1995)
 Gianni works with dogs.

Let us now define the notion of [topic] in relation to the feature [fam]. It seems at first glance that topic material corresponds to material which is [+familiar], and focus to material which is [-familiar]. This would lead to the conclusion that full definite Ds would correspond to Topic and null Ds to Topic or Focus, since full definite Ds are [+familiar], while null Ds are [α -fam]. However, despite the

similarities between the notions of familiarity and Topic, the two are not exactly the same. For one thing, the notion of familiarity is tied to definiteness, while Topic is not. This is proved by the fact that Topic material does not need to be a definite DP. This is true cross-linguistically and in Ancient Greek as well. To illustrate, consider the following examples from English and Japanese in which what has been topicalized is an indefinite DP.

(20) As for *apples*, red ones are my favourite.

(21) Sakana wa tai ga ii (Japanese, Krifka, 2005)
fish TOP red snapper NOM excellent
'As for fish, red snapper is excellent'

Similarly, in Ancient Greek, we see many other items besides definite DPs in Topic positions. For example, nouns without definite articles may be topicalized, as in (22).

(22) hosa de anthrópeia prégmata, hóde elegon
how-much PART human.acc.pl. matters.acc.pl. thus say.3.pl.impf.
'As far as human affairs, they said thus' (Her.2.4.1)

Likewise, a [+fam] discourse individual does not necessarily have to be interpreted as Topic. Familiar discourse individuals may be contrastively focused for example, as the example in (24) shows.

(23) A man met a woman. It was THE WOMAN who introduced herself first.

To sum up on the feature specification of the Topic head, we will assume that this head bears two features: (i) a [fam] feature, which will capture the fact that all Topics denote familiar individuals (although the reverse is not true, as discussed above), and (ii) a [top] feature, to capture the fact that topics refer not only to familiar individuals, but to individuals that are 'prominent' in the discourse. Using Reinhart's 1982 file cards metaphor for modelling information in a discourse,⁵ what this means is that Topics can only refer to cards that are on top of the stack of cards that constitute the set of discourse individuals, i.e. to cards that refer to what Reinhart calls 'prominent' individuals. Correlatively, in the Focus head we will posit an [α -fam] feature, meant to capture the fact that any discourse individual can be focused- be it familiar or unfamiliar. If familiar, an individual can be contrastively focused, as illustrated above in (23), and if unfamiliar, it is focus simply by virtue of being new information.

⁵ According to Reinhart 1982, the context set of a given discourse at a given point consists of a set of file cards which represent existing discourse referents, each of which contains information about a discourse individual: its properties and its relations to other discourse individuals.

gold.gen.sg.
'the others were alloys of white gold'

Given that there is no detectable difference in the interpretation of the adjective in (25) vs. (26), we adopt a unified base position for all adjectives, as proposed by Kayne 1994:

(27) [DP D [CP C⁰ [IP DP I⁰ AP]]] (Kayne 1994)

The adjective in (27) is part of a reduced relative clause, in which the adjective enters a predication relation with a DP in the Specifier position of the reduced clause. We will refer to this DP as DP_{subj}, short for the DP subject of predication.

In Kayne's analysis, the prenominal position of adjectives is derived by raising the AP, the predicate, across the subject of predication, to Spec-CP, while the postnominal position of adjectives is derived by raising the DP subject of predication to SpecCP. The two possibilities are represented in (28).

(28) a. [DP D [CP AP_i C⁰ [IP DP I⁰ AP_i]]]
b. [DP D [CP DP_i C⁰ [IP DP_i I⁰ AP]]]

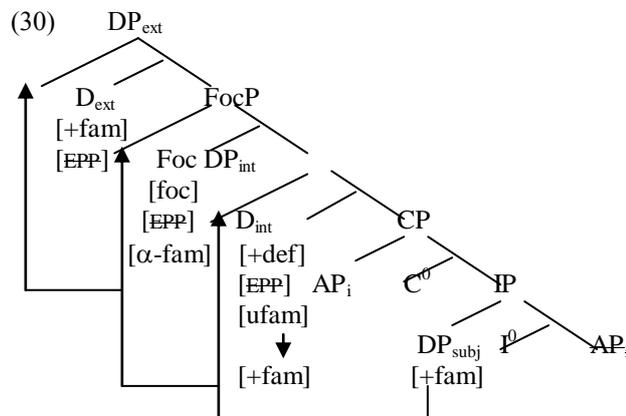
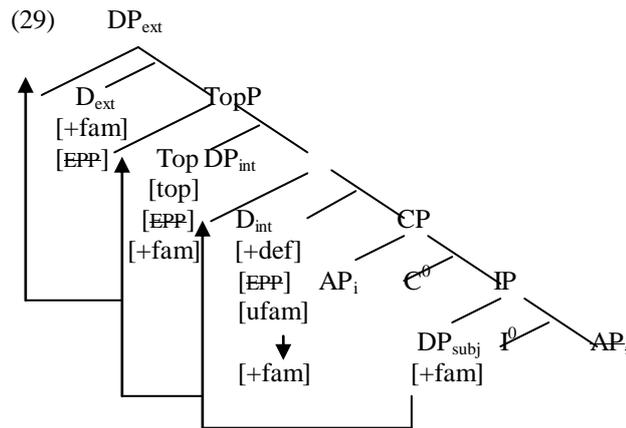
In contrast to Kayne 1994, we will propose that in Ancient Greek all adjectives, be they prenominal or postnominal at Spell-out, involve a syntax like that in (28a) above. In other words, we will assume that all adjectives raise from their base predicative position within the reduced relative clause to SpecCP. The prenominal and postnominal positions of adjectives will be derived as a consequence of the other functional heads that have identified within the DP in Ancient Greek – the lower D head, the Topic head, the Focus head, and the higher D head. What is important for us is that the structure in (28a) contains a D position in DP_{subj} which is in addition to the already existing D position in the main DP, and that this allows for determiner doubling.⁶

3.2 Double D structures

Let us now go through the steps of the derivation of a DP modified by an adjective in Ancient Greek, in a bottom-up fashion. The complete structure of modified DPs will result from putting together (28a) above with the higher

⁶ We believe that the occurrence of two Ds is sensitive to the type of adjective that is involved. In particular, we assume that only non-intensional adjectives can be affected by D spreading. It is well-known that intensional adjectives combine with common nouns, i.e. nominal predicates, rather than with DPs. Thus the nominal within the reduced relative clause cannot be a DP when the adjective is intensional. Rather, it must be an NP. This accounts for the fact that 'proteros'/'former' was not found in sequences of DNDA.

functional structure we have argued for in the previous section. Below we have represented the complete DP structure for DPs in which Topic is projected –see (29)– and for DPs in which Focus is projected- see (30).



There are two important observations about these structures. First, the DP_{subj} should be thought of as a complete DP structure. This means that if the DP_{subj} is definite, its higher D will bear a [+fam] feature. Second, notice that D_{int} in (29) and (30) above has different selectional properties as compared to D_{int} in (24a)- the former an [EPP] feature, while the latter does not. This is not surprising, given that the two Ds have different selectional features (one selects a CP while the other

selects a NumP) and thus could be considered as two different lexical instantiations of the category D_{int} . This [EPP] feature on the D_{int} in (29) and (30) will trigger movement of the DP_{subj} to the $SpecD_{int}$. Once this happens, the [ufam] feature on D_{int} will check against the [+fam] feature of the moved DP. Notice that this is different from what happens in unmodified definite DPs, where the [ufam] feature of the lower D gets checked by the [fam] feature of the upper D. This implies that DPs that contain a modifier will always ‘borrow’ the value of the [fam] feature from the DP subject of predication.

The next step in the derivation is the merging of a Topic or a Focus head. Remember that we assume that DPs contain only one discourse related projection above the definite DP: either a TopicP or a FocusP. If a Topic head is merged, as in (29), its [EPP] feature will trigger movement of an XP bearing a [top] feature to its Specifier. There are two possible XPs that can be attracted: either the DP_{subj} that had been raised to $SpecD_{int}$, or the whole DP_{int} . These are the only possibilities because DP_{int} is a phase and hence subject to the PIC. However, we will assume, together with Kayne 2005:54 that movement of the complement of a given syntactic head to the Specifier of that same head is illicit.⁷ The only XP that can be attracted to $SpecTop$ is thus either the DP_{subj} that had been raised to $SpecD_{int}$. If a Focus head is merged instead of a Topic head, as represented in (30), then its [EPP] feature will essentially trigger movement of the same DP_{subj} to its Spec as the [EPP] feature on the Topic head above. The only difference from the structure in (29) will be that the [α -fam] feature on the Focus head will in addition be valued as [+fam] as a consequence of entering a checking relation with the [+fam] feature on the DP moved to its Spec. There is no such valuation taking place in the case of a Topic head, because the Topic head has a [+fam] feature already.

The next step in the derivation is Merge of the outer D head. Given its [EPP] feature, D_{ext} will attract an XP with a [+fam] feature. The only possible candidate is the DP in $Spec Top/Foc$. No other option is available; DP_{int} is a phase and hence subject to the PIC and in addition, the option of moving the whole $TopP/FocP$ to $SpecD_{ext}$ is out for independent reasons (see Kayne 2005). The resulting word order under (29) and (30) is always [DNDA] and never [DADN].⁸ We thus predict that DADN structures are not simply unattested but actually ungrammatical and hence that it is not just a coincidence that such orders were not found in our corpus.

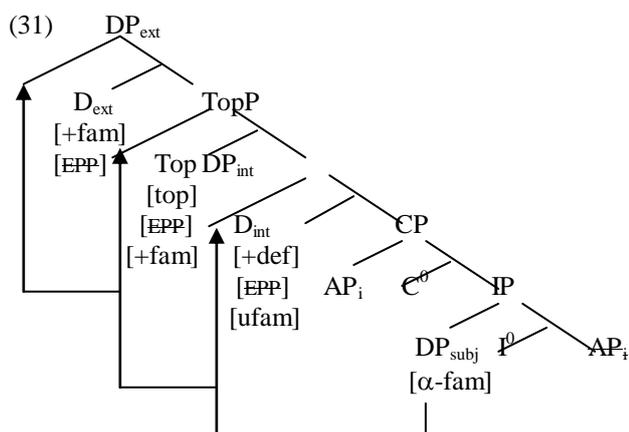
⁷ In order to derive this constraint, Kayne 2005 assumes that the maximal set of matching features must be checked at the point where H and its complement are Merged. In other words, when H merges with its complement, their relationship is ‘consummed’; there is thus no reason for movement to $Spec H$ to satisfy this relationship.

⁸ Remember that it is D_{int} that has phonological content under our assumptions, not D_{ext} .

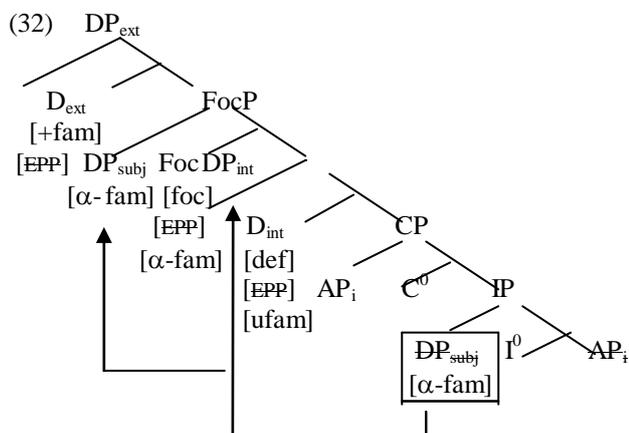
(29) and (30) can also explain why the discontinuous [DN... DA] is grammatical, while [DA... DN] is not. (29) and (30) are the springboard for the split of the DP in the sense that only material in the SpecD_{ext} will be allowed to move to a higher clausal discourse oriented projection. This is because DP_{ext} is a phase in our view, and hence subject to the PIC. The only other available option would be movement of the whole DP_{ext} to the clausal Top or Foc position, but this would obviously not result in a discontinuous DP configuration.

3.3 *Single D structures*

An additional property of the structures in (29) and (30) is that they can also account for modified DPs with only one overt D. As mentioned in section 1, the only attested orders of this type are the continuous NDA, DAN, and the discontinuous N... DA, DA... N. Crucially, in our view, the unique overt D in these constructions is the main D_{int}. In other words, the DP_{subj} is a so-called 'bare NP' in these instances. Recall from section 2.4 that the higher D of 'bare NPs' is underspecified for familiarity. The consequence of this is that it allows for an order in which the adjective precedes the noun, which is never possible if the DP subject of predication contains an overtly definite D, since the latter will bear a [+fam] feature. To be more precise, the structure of the DP_{int} will be exactly the same as the DP_{int} above with the exception of the fact that the [ufam] feature on the D_{int} head cannot be checked against the [α -fam] feature of the DP moved to its Spec. This is because an [α -feature] is by definition unvalued and thus cannot value an uninterpretable matching feature. Now, if Top is projected, the DP in SpecD_{int} will be attracted to its Spec and the [α -fam] feature of the DP_{subj}, as well the [ufam] feature of the D_{int} will be valued as [+fam] as a consequence of entering a checking relation with the matching [+fam] feature on the Topic head. Once DP_{ext} is projected, the DP in the SpecTop (DP_{subj}) will be attracted to SpecD_{ext}, since by now the DP_{subj} bears a valued [+fam] feature. The resulting order will always be NDA. This is represented in (31).



If Focus is projected instead of Topic, it will attract the material in the Spec, D_{int} , just as when the Topic is projected. Similar to the situation above, the $[ufam]$ feature on the D_{int} head cannot be checked against the $[\alpha-fam]$ feature of the DP_{subj} moved to its Spec. Merging the Foc head is not going to contribute anything to the checking or valuing of these features, since Foc bears an $[\alpha-fam]$ feature itself.



Once DP_{ext} is projected, the closest DP with a $[fam]$ feature will be attracted. But now notice that the DP_{subj} in the SpecFoc is not a suitable candidate since its

[fam] feature is underspecified. FocP is not a suitable candidate either given that FocP is the complement of the attracting head. The only possibility is thus for the DP_{int} to be attracted to SpecDext, since DP_{int} is specified for familiarity and it does not violate any condition. The resulting order is DAN. Summing up the two situations (DPs with TopicP and DPs with FocusP) our analysis predicts that the only grammatical orders are NDA.

Crucially for our analysis, we are relying on Rooryck's 1994 distinction between [α -features] and [0-features]. Both are underspecified but to different degrees. In terms of an Attribute-Value system for the representation of features, [0-features] are not specified for their Value, but they are specified for their Attribute. In this sense, uninterpretable features are [0-features]. On the other hand, [α -features] exhibit a complete absence of specification, both in the Attribute and in the Value. The implicit assumption we are making is that only features whose Attribute is specified count as suitable Goal for a Probe searching for a feature (in this particular case, the [EPP] feature on Dext is the Probe). Crucially, not only features that are valued as [+feature] or [-feature] count as specified, but also uninterpretable ones. To have an uninterpretable [ufeature] means to be specified for that feature (i.e. for the Attribute) but not to have a value for that feature yet. To be underspecified for an Attribute means simply to be compatible with having a feature with that Attribute, but not to actually be specified for it.

4. Conclusions

In this paper we have argued that the restrictions on the possible word orders of continuous DPs in Ancient Greek, as well as the restrictions on the possible discontinuous DPs follow from (i) assuming a double layered DP syntax; (ii) assuming that each of the two DP layers is a phase and hence subject to the PIC, and (iii) assuming that DP phases have a left periphery including discourse oriented projections like TopicP and FocusP, in the same way as clauses do. Unlike existing proposals on the left periphery of clauses, we have proposed that one discourse related projection –either TopP or FocP– is sufficient to partition the DP into two informational chunks: Topic-comment or Focus-background. Informational subparts that are at the edge of the DP can be further computed as independent constituents by the clause level syntax.

The mechanics of our proposal crucially made use of four features within the DP domain: definiteness, familiarity, topic and focus. Crucially, apart from the interpretable/non-interpretable distinction within features, we also assumed a distinction between specified and underspecified features. Specified features are either interpretable ones, which are valued, or uninterpretable ones, which are unvalued. Thus we proposed to keep apart uninterpretable features, which we assumed to be specified but unvalued, from underspecified features, which we

assumed to be not specified and unvalued. This distinction allowed us to have a Probe with an uninterpretable feature that could only be checked by a matching specified feature. What we wanted to rule out was a situation in which an uninterpretable feature on a Probe gets matched by a matching feature that is underspecified.

Last but not least, the theory we have built predicts that all the orders of modified DPs that were unattested in our corpus are in fact ungrammatical. This does not rule out in principle the possibility of reaching a different result for the other types of DPs that we haven't analyzed in this paper (i.e. DPs with Demonstratives, with quantifiers, and with *wh*-elements. As mentioned before, we leave the analysis of the ordering restrictions on these other types of DPs for further research, but we hope that we have provided a line a thought that will prove to be instrumental for these DPs as well.

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