1. Introduction

Many languages show a great deal of variation in their nominal system regarding ordering relations among nouns, adjectives, determiners, and so on. We focus on the Modern Greek (henceforth, Greek) DP and examine in particular the different positions demonstratives can occupy. The basic contrast under investigation will be the one exemplified by the a- and b-examples in (1) through (3), where the demonstrative aft- ‘this/these’ may occupy a DP-initial position (preceding everything else) or a DP-medial one (between adjective and noun), in each case “doubled” by an apparent determiner in the guise of the definite article (glossed as ART):

(1) a. afta ta nea fenomena
   b. ta nea afta fenomena
   ART.NOM.PL.NEUT new.NOM.PL.NEUT this.NOM.PL.NEUT phenomena
   ‘these new phenomena’

(2) a. afti i orea gineka
    b. i orea afti gineka
    ART.NOM.SG.FEM pretty.NOM.SG.FEM this.NOM.SG.FEM woman.
    ‘this pretty woman’
We can formulate the main issues of interest for our study as (I1) and (I2):

(I1) the connection between demonstratives and doubling articles

(I2) (anti-)locality restrictions on their positions and operations

In particular, we will construe a novel connection between demonstrative elements and apparent definite articles. Throughout this paper, the class of demonstrative elements is understood to include both an overt demonstrative pronoun and a covert, phonetically empty demonstrative operator (but see section 5); we will refer to the article as doubling the demonstrative. We believe one may establish this connection from the mechanisms and operations involved in the derivation of complex nominal expressions. Our language of investigation is Greek, but the proposal can, and possibly must, be extended to other languages — at least those that also exhibit such “doubling” strategies. In a nutshell, the novel connection concerns the derivational insertion of a determiner (the apparent article) as the result of an anti-local configuration involving the demonstrative (operator) in the course of the derivation and is couched within the Anti-Locality Hypothesis developed recently by Grohmann (2000, 2003). As such, this study constitutes a further application of the framework originally proposed for clausal syntax to the nominal domain (cf. Grohmann and Haegeman 2003, Ticio 2003). By so doing, this study (i) corroborates the claim that the Anti-Locality Hypothesis is a more general condition on the computational system of human language, and (ii) further supports the Clausal DP-Hypothesis that considers the structure and derivation of DP as the nominal equivalent of the structures and derivations found within clausal syntax (see e.g. Abney 1987, Ritter 1991, and Panagiotidis 2002).

2. Demonstrative Issues within the Greek DP

Nominal expressions in Greek have the general surface structure \([\text{DP} \ D > A > N > \text{DP}_{\text{GEN}}]\). All nominal elements agree for \(\varphi\)-features (gender, number) and Case (cf. (1)-(3)). We argue that the Greek DP makes heavy use of nominal positions to the left of the thematic noun-position (N). The co-occurrence of
demonstrative, whether DP-initial as in (4) or post-adjectival as in (5), and article is initially explained along the lines of Panagiotidis (2000). \(^1\)

(4) afta ta nea fenomena [DEM > D > A > N]
   `these new phenomena`

(5) ta nea afta fenomena [D > A > DEM > N]
   `these new phenomena`

First, it has to be noted that doubling the demonstrative with the article is obligatory in Greek, as the ungrammaticality of (6a) shows. Second, demonstrative obligatorily precedes article when the two are adjacent (6b).

(6) a.* afta (nea) fenomena
    `these new phenomena`

b.* ta afta (nea) fenomena
   `these new phenomena`

As Panagiotidis shows, the structure in (4) is the result of demonstrative raising to the nominal left periphery in order to give the DP a deictic interpretation (7); when failing to do so, a locally generated covert operator OP takes its place (8), resulting in an anaphoric reading for the DP. We will generally adopt this approach (but see section 5).

(7) afta ta nea afia fenomena
    `these new phenomena`

(8) OP ta nea afta fenomena
    `ART new these phenomena`

The idea that demonstratives raise from a lower position within the DP has been proposed for Spanish by Brugè (1996) and Bernstein (1997), for

\(^1\) For presentation purposes, we refrain from explicit morphological analysis in glosses, simply pointing out that there is agreement as described above. Throughout, the apparent definite article will be glossed as ART, for reasons that will become clear shortly; all other conventions are standard, unless noted otherwise.
example; see Giusti (1997) for an overview incorporating data from Romanian, (Irish) Gaelic, and (Modern) Greek. As for the base-generated position of the demonstrative afa ‘these’ (nominative/accusative plural neuter), we can note that it must certainly be within the agreement layer of the DP (see section 3.2), as (8) above illustrates: the demonstrative in base-position shows up between the noun and the agreeing adjective.

We further follow Panagiotidis’ and others’ arguments that the orders observed cannot result from remnant movement: ta ‘the’ and nea ‘new’ do not form one constituent, so that determiner and adjective could never move as one alone, and too many unmotivated steps would have to be assumed in order to align ta and nea on the right edge and move a remnant category (such as high N-raising beyond its thematic base-position, for which there is hardly any evidence in Greek; see also Alexiadou and Stavrou 1998).

However, the demonstrative afa ‘these’ and the determiner, the apparent definite article ta ‘the’ (an apparentness to which we return), can co-occur and may even be adjacent (in fact, adjacency is preferred, but with the demonstrative obligatorily preceding the article). For lack of a better term, we refer to this co-occurrence as doubling for reasons that will unfold in section 4. Our analysis will thus account for the doubling pattern observed in Greek (and possibly other languages; cf. Grohmann and Panagiotidis 2004), and it will also have something to say about the adjacency with the demonstrative.

Panagiotidis (2000) adopts the basic analysis of two demonstrative positions related through movement (high occurrence as the result of moving from a lower position), but throws up the question why the demonstrative may move. For starters, call the two observed occurrences of the demonstrative as exemplified by (4) and (5) DEM_{HL} and DEM_{LO}, respectively. The answer he reaches (cf. Manolessou and Panagiotidis 1999), and which we will adopt, is that DEM_{HL} receives a deictic interpretation (which we take to be encoded in the nominal left periphery, as one would expect if the Clausal DP-Hypothesis, presented in section 3.2 below, holds). DEM_{LO}, on the other hand, is restricted to a discourse-anaphoric function (where OP is hence an anaphoric demonstrative operator). (9) briefly illustrates (from Panagiotidis 2000:723):

(9)  Context: A customer at the butcher’s, pointing to a pork joint.
   a.  # Thelo to butaki afto.
   b.  # Thelo to apaho afto butaki.
   c.  Thelo afto to apaho butaki.
      *I want this ART lean joint*
      ‘I want this lean joint.’
As these examples suggest, only the DP-initial position is genuinely deictic. The post-adjectival (or even -nominal) occurrence must pick up a reference already introduced in the discourse and cannot introduce a new topic.

Panagiotidis’ analysis invokes two additional ingredients, the Demonstrative-Criterion and a demonstrative article. The Demonstrative-Criterion as formulated by Panagiotidis (exploring a suggestion from Campbell 1996) requires a Spec-head relation between two demonstrative features: a demonstrative head (determiner) must enter into a local relationship with a demonstrative specifier (operator). (The notation [+TH] is used for this feature, on analogy with [+WH] of the Wh-criterion, the ur-criterion.) Regarding the demonstrative article, this would constitute a third type of determiner alongside the regular definite article and what might be called the expletive use of the article (originally proposed in Roussou and Tsimpi 1994).

(10) **Demonstrative Criterion** (Panagiotidis 2000:724)


We will first argue against any criterion-based approach to syntactic structures (in section 3.1) and then propose an analysis which doesn’t posit a new type of article (in section 4 — with Greek articles, among other issues, addressed further in section 5). To get things started, we present the Anti-Locality Hypothesis and the Clausal DP-Hypothesis as necessary background for our study.

3. Clausal and Nominal Structures

The Anti-Locality Hypothesis is an attempt to capture the intuition that licit movement must not only be restricted in terms of an upper bound, but also of a lower bound: movement must cross a minimum distance in order to be well-formed. The relevant metric for measuring distance is expressed in terms of derivational sub-components (henceforth Prolific Domains), which span information-relevant related projections (in some sense, possibly similar to “extended projections” in the sense of Grimshaw 1991, 2003). Grohmann (2000, 2003) identifies the classic tripartition of clause structure as the three Prolific Domains at the clausal level:2 the **Thematic or Θ-**

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2 On the “classic tripartition” — i.e. [CP [IP [VP ]]] of Chomsky (1986) — see e.g. Larson (1988) on VP-shells, Pollock (1989) on split Infl, Rizzi (1997) on split Comp, and Platzack (2001) on the three-tiered clause roughly along the lines pursued here. In addition, the recent
Domain (basically VP-shells: vP and VP), the Agreement- or Φ-Domain (split Infl: hosting IP/TP, and others), and the Discourse- or Ω-Domain (split Comp: topics, foci, operators, etc.)

Since Abney (1987), attempts have been made to formulate the Clausal DP-Hypothesis, exploring the observation that D seems to largely mimic the role of C in the nominal layer (see also Szabolcsi 1983, Horrocks and Stavrou 1987, Ritter 1991, and others, for which Haegeman 2001 and Bernstein 2001 provide overviews). As such, one might expect that a tripartition in terms of Prolific Domains could be mirrored in the nominal domain; after all, the nominal system displays both thematic and agreement properties (suggesting Θ- and Φ-Domain), and if D is the nominal C, there should be also properties reflecting the Ω-Domain.

3.1. The Anti-Locality Hypothesis

Under the guiding minimalist desideratum that the structure of the grammar be determined by (virtual) conceptual necessity (Chomsky 1993, 1995), much of the GB-machinery should be reconsidered, in particular restrictions on the computation that are not motivated by Bare Output Conditions (see e.g. Hornstein 2001: chap. 1, Grohmann 2003: chap. 2, Hornstein, Nunes, and Grohmann, in press: chap. 2). We might thus ask whether the ungrammaticality of (11a-c) could receive an alternative explanation to standard approaches, which commonly invoke filters of sorts (such as the Theta Criterion, Case Filter, various Affect Criteria, etc.):

b. *Him kissed her. (cf. He kissed her.)  
c. *Who, Mary detests? (cf. Who does Mary detest?)

Assume that (12a-c) are appropriate representations of the derivations corresponding to (11a-c) at the relevant points under the copy theory of movement.3

(12) a. #[vP John v0 [vP likes John]]  
b. #[TP him T0 [AgrOP him AgrO0 [vP softly [vP him v0 [vP … ]]]]]

volumes on the “cartography of structure” provide further relevant material: Cinque (2002), Rizzi (2004), and Belletti (2004).

3 See e.g. Chomsky (1995), Nunes (1995, 2004), Hornstein (2001), and Hornstein, Nunes, and Grohmann (in press) on formulating the copy theory. Throughout this paper, lower copies are represented in [ ] and structural ill-formedness is indicated by the hash mark ‘#’.
We can observe that the derivations in (12) are all ill-formed, so one would need to say something else to rule them out, if we follow the path just mentioned, that restrictions on the computation which do not follow from Bare Output Conditions are not allowed. A starting point for a purely syntactic explanation for this ungrammaticality would be the hypothesis in (13), generalizing ideas from e.g. Bošković (1994) or Murasugi and Saito (1995):

(13) **Anti-Locality Hypothesis** (Grohmann 2003:26)

Movement must not be too local.

In structural terms, “too local” or anti-local describes a dependency between two contextually related positions. We take contextual information (as relevant for anti-locality) to be encoded in all lexical and functional heads that build up a derivation. In order to capture this intuition in structural terms, we introduce the notion of a **Prolific Domain**:

(14) **Prolific Domain** (Grohmann 2000:58)

A Prolific Domain is a contextually defined part of the computational system, which (i) provides the interfaces with the information relevant to the context and (ii) consists of internal structure, interacting with derivational operations.

Following earlier conceptions of the clause (e.g. Chomsky 1986) and much current research on the finer structure of these projections (see Cinque 1999 or the cartography-volumes cited above for review and references), a presumably natural implementation of contextual information would be a clausal tripartition, a formal split of the clause into three Prolific Domains: a Theta-, an Agreement-, and a Discourse-Domain (cf. Platzack 2001 for a related proposal). Following Grohmann (2000, 2003), we refer to these as (i) the **Θ-Domain** (that part of the derivation where thematic relations are created; “VP-shells”), (ii) the **Φ-Domain** (where agreement/inflectional properties are licensed; “split Infl”), and (iii) the **Ω-Domain** (establishing discourse information; “split Comp”).

Further following Grohmann’s framework, we adopt a dynamic approach to the computational system of human language in terms of cyclic Spell Out, namely one which allows the operation Spell Out to apply more than once (Uriagereka 1999, Chomsky 2000). Each Prolific Domain forms a part of the derivation where Spell Out applies and the information contained within gets
shipped to the PF- (and possibly LF-) interface component. One minimalist
criterion that all conditions, operations, and principles must abide by is that
they follow from Bare Output Conditions (Chomsky 1995). With the
abolishment of the GB-levels of D- and S-structure, many of the standard
conditions do not follow from Bare Output Conditions (cf. discussion around
(11)). We can now formulate a single condition that does, the CDE:

\[(15) \textbf{Condition on Domain Exclusivity (CDE; Grohmann 2003:78)} \]
For a given Prolific Domain \(\Pi\Delta\), an object O in the phrase-marker
must receive an exclusive interpretation at the interfaces, unless
duplicity of O yields a drastic effect on the output of that \(\Pi\Delta\).

Further details aside, the CDE applies to all and only XP-dependencies
within a Prolific Domain (but it allows head movement, as head movement
changes the PF-matrix of the two heads; see Grohmann 2003:79-80, 2004).

A further prediction of the CDE is that if a dependency between two XPs
within one Prolific Domain involves two different PF-matrices (the phono-
logical shape of a linguistic expression), the dependency should be well-
formed. An interesting and reasonably clear-cut instance of this is a type of
left dislocation in German, often labeled “contrastive” left dislocation:

\[(16) \begin{align*}
a. \ [\text{Seinen, Vater}, \text{den \ mag}\ jeder, \text{Junge}.] \\
\text{his.ACC father ACC likes every boy} \\
\text{‘His father, every boy likes.’}
\end{align*} \\
b. \ [\text{CP seinen Vater C0 [TopP den mag-Top0 [TP jeder Junge T0… ] ] }] \\
\text{The left-dislocated XP and the resumptive pronoun RP (morphologically, a}
\text{weak demonstrative pronoun), with which it agrees in Case and ϕ-features,}
\text{are in the same Prolific Domain (Ω-Domain). Moreover, (16) allows a bound}
\text{variable reading and aside from such absence of weak crossover effects,}
\text{contrastive left dislocation displays other signs of reconstruction (such as}
\text{presence of Condition A effects, absence of Condition C effects, or idiom}
\text{chunks; see Grohmann 2003:149-152 for discussion and references).}
\text{All this and more (such as possibilities of embedding or multiple left}
\text{dislocation) stands in sharp contrast to hanging topic left dislocation:}
\end{align*} \\
\[(17) \begin{align*}
a. \ [\text{Sein, Vater}, \text{jeder/terms Junge mag den/ihn}.] \\
\text{his.NOM father every boy likes RP/him.ACC} \\
\text{‘His father, every boy likes him.’}
\end{align*} \\
b. \ [\text{CP sein Vater [CP C0 [TP jeder Junge mag-T0 den/ihn… ] ] }] \\
\text{The left-dislocated XP and the resumptive pronoun RP (morphologically, a}
\text{weak demonstrative pronoun), with which it agrees in Case and ϕ-features,}
\text{are in the same Prolific Domain (Ω-Domain). Moreover, (16) allows a bound}
\text{variable reading and aside from such absence of weak crossover effects,}
\text{contrastive left dislocation displays other signs of reconstruction (such as}
\text{presence of Condition A effects, absence of Condition C effects, or idiom}
\text{chunks; see Grohmann 2003:149-152 for discussion and references).}
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\[(17) \begin{align*}
a. \ [\text{Sein, Vater}, \text{jeder/terms Junge mag den/ihn}.] \\
\text{his.NOM father every boy likes RP/him.ACC} \\
\text{‘His father, every boy likes him.’}
\end{align*} \\
b. \ [\text{CP sein Vater [CP C0 [TP jeder Junge mag-T0 den/ihn… ] ] }] \\
\text{The left-dislocated XP and the resumptive pronoun RP (morphologically, a}
\text{weak demonstrative pronoun), with which it agrees in Case and ϕ-features,}
\text{are in the same Prolific Domain (Ω-Domain). Moreover, (16) allows a bound}
\text{variable reading and aside from such absence of weak crossover effects,}
\text{contrastive left dislocation displays other signs of reconstruction (such as}
\text{presence of Condition A effects, absence of Condition C effects, or idiom}
\text{chunks; see Grohmann 2003:149-152 for discussion and references).}
\text{All this and more (such as possibilities of embedding or multiple left}
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\[(17) \begin{align*}
a. \ [\text{Sein, Vater}, \text{jeder/terms Junge mag den/ihn}.] \\
\text{his.NOM father every boy likes RP/him.ACC} \\
\text{‘His father, every boy likes him.’}
\end{align*} \\
b. \ [\text{CP sein Vater [CP C0 [TP jeder Junge mag-T0 den/ihn… ] ] }] \\
\text{The left-dislocated XP and the resumptive pronoun RP (morphologically, a}
\text{weak demonstrative pronoun), with which it agrees in Case and ϕ-features,}
\text{are in the same Prolific Domain (Ω-Domain). Moreover, (16) allows a bound}
\text{variable reading and aside from such absence of weak crossover effects,}
\text{contrastive left dislocation displays other signs of reconstruction (such as}
\text{presence of Condition A effects, absence of Condition C effects, or idiom}
\text{chunks; see Grohmann 2003:149-152 for discussion and references).}
\text{All this and more (such as possibilities of embedding or multiple left}
\text{dislocation) stands in sharp contrast to hanging topic left dislocation:}
\end{align*} \\
\[(17) \begin{align*}
\text{a. [Seinen, Vater], den \ mag\ jeder, Junge.} \\
\text{his.ACC father ACC likes every boy} \\
\text{‘His father, every boy likes.’}
\end{align*} \\
\text{b. [CP seinen Vater C0 [TopP den mag-Top0 [TP jeder Junge T0… ] ] ]}
Hanging topics characteristically show up in nominative Case only and the “correct” Case-marking shows up on the RP. The RP may be expressed by either the weak demonstrative (as in contrastive left dislocation) or the personal pronominal form; moreover, it may appear in the same position as in contrastive left dislocation (not shown here; cf. Grohmann 2003:144) or show up in the base-position, thus suggesting further that it is the RP which is selected by the predicate and inserted into the derivation.

The obvious analysis made possible by the Anti-Locality Hypothesis (now understood as per (13)-(15) above) is to derive contrastive left dislocation in terms of a (movement) dependency between the left-dislocated XP and the RP, while hanging topics are generated in their surface position, as in standard analyses. By the CDE, this movement can be understood as the result of Copy Spell Out (’\(\mathcal{S}\)’), changing the PF-matrix of the lower of the two copies that are in the same Prolific Domain (where TopP and CP are both part of the \(\Omega\)-Domain):

\[
(18) \quad \left[ \text{CP seinen Vater} C^0 \left[ \text{TopP \(\mathcal{S}\) den mag-Top}^0 \left[ \text{TP ... \(\mathcal{S}\) ...} \right] \right] \right]
\]

We can understand the operation Copy Spell Out to be a repair strategy that applies at a given Prolific Domain as the result of a PF-legibility violation. At the point when a Prolific Domain is formed, PF sees two identical copies of one linguistic expression and cannot deal with them. Spelling out the lower copies provides the “drastic effect” required by the CDE.

If RPs in contrastive left dislocation can be reasonably analyzed as a derivational result, rather than fully lexical items part of the numeration/lexical array, two relevant questions arise: (i) Do we find other instances of resumption that could be analyzed as Copy Spell Out? (ii) Do we find other occurrences of pronouns that could be understood as resumption?

Given the clausal tripartition into Prolific Domains, the CDE and the operation Copy Spell Out as sketched above, one could indeed envision another set of “resumptive” elements, namely grammatical formatives inserted to legitimize a dependency whose members would otherwise be too close to be licensed. A pronoun-qua-grammatical-formatives view has recently been integrated into a derivational approach for local anaphors by Hornstein (2001). As relevant for the Anti-Locality Hypothesis, Grohmann (2003) suggests that reflexives may be employed to legitimize a too-close dependency.

To briefly illustrate with a relevant structure touched on above, take (19), where vP and VP form one Prolific Domain (namely, the \(\Theta\)-Domain):
If on the right track (see Grohmann’s and Hornstein’s works for further discussion and references), the common characterization of the distribution of RPs — that they get inserted when the distance between two positions in a dependency would otherwise be too far to be licensed legitimately (on standard “upper-bound” accounts of locality) — can be extended (e.g. Boeckx 2003a, Boeckx and Grohmann 2004a, 2004b). Note that it does not matter that John in (19) eventually ends up in a higher Prolific Domain (SpecTP in the Φ-Domain). Prolific Domains serve as cyclic, dynamic points at which Spell Out (to PF) applies (but see Grohmann 2005). That is, at the point where John has moved vP-internally (resulting in two copies in the Θ-Domain) and Spell Out applies to the Θ-Domain, the CDE kicks in.

We now have (at least, theoretical) reasons to believe that some instances of resumption may take place derivationally, namely in an anti-local relationship, when the distance between two positions is too close. In other words, modifying a Last Resort approach to resumption (Shlonsky 1992), one type of RP is inserted into a structure from which movement cannot take place because the distance between the two positions is too far in a sense (“standard locality”), another when the distance is too close (“anti-locality”).

3.2. The Clausal DP-Hypothesis

Our ultimate goal in this study is to apply the Anti-Locality Hypothesis to Greek nominal structures and derive the article analogously to other spelled out grammatical formatives. Such an approach is intricately connected to a partition of the nominal layer akin to the one we have sketched for the clausal layer. Let us thus look more closely at DP-structure.

One obvious similarity between nominal and clausal constructions concerns left dislocation. The following examples illustrate the fact that left dislocation may also apply within DPs in German ((20a) from Grohmann and Haegeman 2003:51):

(20) a. [Über [Kanzler Schröder], dem, seine, Fehler] haben wir geredet.
   ‘About Chancellor Schröder’s mistakes, we talked.’

b. [Peter, dem, sein, lockeres Mundwerk]
   ‘Peter’s quick tongue’
Assume that the analysis presented briefly above is indeed the correct analysis for left dislocation structures (see also Boeckx and Grohmann 2004b). Then the relevance of this type of “nominal left dislocation” as shown in (20) is as follows: first, if left dislocation involves Copy Spell Out in the clausal layer, it should also do so in the nominal layer; second, if Copy Spell Out in the clausal layer is due to satisfying the CDE (viz. Prolific Domains), the nominal layer should also be sensitive to the CDE (i.e. have Prolific Domains). This intuition was first explored by Ticio (2003) and served as background assumption underlying Grohmann and Haegeman’s (2003) work on prenominal possessive doubling (extended in Grohmann 2003: chap. 6), and it is the one we will be working with, thus hopefully furthering our understanding of the architecture of the nominal layer.

Ever since the formulation of Abney’s (1987) DP-Hypothesis and Ritter’s (1991) suggestion of e.g. an agreement-related Num(ber)P within DP, much evidence has been collected to align the nominal DP-structure to the clausal CP-structure, where D\(^0\) plays the “nominal role” of C\(^0\), so to speak (see e.g. Bernstein 2001 and Haegeman 2001 for recent reviews). Replacing “NumP” by a more general “AgrP” (and do the same with “TP/IP”), the following picture emerges; the parallel between the two structures is completed once we hypothesize a light noun \(n\) (Radford 1999, Adger 2003:266-269):

(21)  a. clausal structure: \(\text{CP} > \text{AgrP} > \text{vP}\)  
b. nominal structure: \(\text{DP} > \text{AgrP} > \text{nP}\)

If vP denotes the domain of thematic relations, AgrP of agreement properties, and C/DP of discourse information (all as understood throughout), a first approximation would thus be to assign the same Prolific Domains, as illustrated in (22):

(22)  a. \(\text{CP}_{\Omega\Delta} > \text{AgrP}_{\Phi\Delta} > \text{vP}_{\Theta\Delta}\)  
b. \(\text{DP}_{\Omega\Delta} > \text{AgrP}_{\Phi\Delta} > \text{nP}_{\Theta\Delta}\)

Such a tripartite composition of DP is in principle widely employed, and as such suggests that we would find the same (type of) Prolific Domains here as well, just as with the tripartite composition of CP (the clause). And just as these functional projections have been finer articulated in the clausal layer, so have they in the nominal layer (see references above).

We are not so much concerned with identifying various positions within the nominal layer (i.e. categorial labels and specific projections) as we are with the relational ordering of projections and the consequences for the syntax of demonstrative expressions. One important assumption we are
making concerns the phrase-structural status of the major players involved: following Stavrou and Horrocks (1989), we take demonstratives to be maximal projections within an articulated DP, alongside adjectives, as opposed to heading their own projection; this is shown in (23).

\[(\text{DP Spec D}^0 \text{[AgrP Spec Agr}^0 \text{[NP Spec N}^0 \text{ ]]}\]\]

Since demonstratives (as well as adjectives) agree with the noun (as mentioned in section 2), it is reasonable to assume that their merging site lies somewhere within the \(\Phi\)-Domain, signaled in (23) by AgrP. The next section will deal with a concentrated exploration of “DP” in (23). (To repeat, we ask the reader to disregard exact phrasal identification, which we provide here just for convenience, where adjectives would presumably either be adjoined to AgrP, or its relevant articulation, such as NumP, or occupy its specifier.)

Now that we can conceptually motivate Prolific Domains in the nominal layer, let us see whether we can empirically support them the same way we have done in the clause, i.e. in terms of the CDE. Our testing case is the Greek DP. One defined goal of this paper is thus a strengthening of the Anti-Locality Hypothesis by demonstrating a more general application of both tripartite structure in terms of Prolific Domains and anti-locality effects.

4. The Anti-Locality of Demonstrative Operator-Movement

Let us begin by formulating the main problems with Panagiotidis (2000):

(P1) If all Affect Criteria should be dispensed with (section 3.1), so should the Demonstrative-Criterion (independently of other shortcomings).

(P2) The purported demonstrative article can’t be motivated (no morphological distinction or properties) nor does it do anything (and the demonstrative is still present).

Looking at some (un)grammatical positional variations displayed in the examples below, we further argue that the \(\Omega\)-Domain in Greek is made up of (at least) three positions:

(\(\Omega1\)) a topic position in (24) below preceding the demonstrative (cf. the unacceptability of (25) below);

(\(\Omega2\)) the position of the demonstrative itself (DEM\(_{\text{HI}}\) in (4), possibly encoding deictic force viz. a focus projection FocP);

(\(\Omega3\)) the position of the article (our DEM\(_{\text{LO}}\)-position; cf. Rizzi’s (1997) Fin/lowest C-head, quite possibly DP proper).
Concentrating on the nominal left periphery for the obvious reason that demonstrative (overt or null OP) and article appear in this part of the nominal expression, (24) and (25) are two relevant structures that exemplify exactly these three positions:

(24) [tis epohis] afta ta fenomena [tis epohis]
    the.Gen age.Gen these ART phenomena
    ‘these phenomena of our times’

(25) *afta [tis epohis] ta fenomena [tis epohis]
    these the.Gen age.Gen ART phenomena
    ‘these phenomena of our times’

Our analysis runs as follows. The demonstrative, coming from the Φ-Domain (7), lands first in the ‘article’-position before moving to its surface position; since the second movement is too local (within the Ω-Domain), the violating copy is spelled out in the form of the article, fully agreeing with the demonstrative in number, gender, and Case. Similarly, the empty operator OP, moving too locally from/through the position of the article, also leaves behind a spelled out copy, the article. (26) summarizes the relevant steps of the derivation in which the article is derivationally introduced by the rescuing strategy Copy Spell Out.


As noted in the discussion of example (9) above, the low position of the demonstrative afta, as in (26b), has an anaphoric reading. The relevant derivation involves an empty operator OP forming a chain with the demonstrative afta, which remains in situ. The interpretive effect of the OP…afta-chain is possibly part of a more general pattern for elements appearing in high and low positions, i.e. in Ω- and Φ-Domain respectively: high elements (in the Ω-Domain) receive a ‘strong’ interpretation, whereas low elements (in the Φ-Domain) receive a ‘weak’ one. In the case of demonstratives, the strong interpretation corresponds to a deictic reading, while the weak interpretation is restricted to discourse anaphoricity.

A parallel example from the nominal domain would be Turkish bir ‘one’:
The element *bir* has a numeral interpretation when it appears in (or possibly moves to) the Ω-Domain of the DP, the position of other, ordinary numerals, as illustrated in (27a). When it shows up in the lower (possibly base) position, within the Φ-Domain (as is the case with the Greek demonstrative in (8)), it can only receive a weak interpretation, one akin to that of English *a*, as the gloss of (27b) indicates. Without getting into proposing a detailed analysis for *bir* here (possibly a “Diesing-effect”), we would like to believe that similar examples indicate the weak interpretive option of an OP…X-chain, where X is an overt demonstrative in its Φ-Domain (base) position.

We are now in a position where we can possibly pinpoint further the architecture of the “DP”-part, the left-peripheral nominal Ω-Domain. The existence of a Fin-position in the DP (cf. (Ω3) above) is motivated by well-known arguments regarding the need to anchor the constituent in discourse, whether this be ‘referential’, ‘anaphoric’ or a variable.4 Hence, SpecFinP, the position occupied by the Copy Spell Out of the demonstrative, is no other than the Determiner-position “D” as we know it. The Focus-position above it also provides information crucial to the interpretation of the demonstrative, hence its (anti-local) overt movement to SpecFocP in Greek. This is so because of the focal character of deixis, which foregrounds information by associating it with a point in (conceptual) space; this of course includes time.

If these considerations are on the right track, we have considerable support to identify the two left-peripheral positions suggested in our analysis above as the specifiers of FinP and FocP respectively. They also strongly suggest that the nominal left periphery makes available two operator-positions, a low operator (SpecFinP) and a high operator (SpecFocP).

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4 See Longobardi (1994) for some such arguments. Other relevant references include Uriagereka (1996), who investigates the syntax and semantics of possessive constructions, and Castillo (2001), a cross-linguistic study devoted to the grammar of content-container relations and other issues in thematic relations and displacement phenomena within the nominal layer.
5. A Note on Consequences and Cross-Linguistic Extensions

With the proposal out on the table, we want to zoom in on three points of interest: (i) the nature of the apparent article in Greek demonstrative doubling and (ii) an ontology of movement dependencies and the application of Copy Spell Out (including a brief discussion on empty or null operators).

Ad (i): We mentioned in section 2 above that Greek has been argued to make available two types of determiners, the ‘regular’ definite article and an occurrence that Roussou and Tsimpli (1994) dubbed ‘expletive’ article (though we hasten to add that this is not the focus of their discussion). Panagiotidis (2000) adds to these two types of articles a third variant, the ‘demonstrative’ article. Giannakidou and Stavrou (1999) argue in detail for an intensionality-operator analysis of these expletive articles, which we tentatively adopt. At this point, we are not so much concerned about the inventory of the species “article” as we are with the more general issue at hand. Hence we only wish to point out that demonstratives do not combine with the expletive version of the article, wherever there is a morphological distinction thereof from the definite one. That much is made clear by Panagiotidis himself (Table 1 is adapted from Panagiotidis 2000:731):

Table 1: Types of Articles

<table>
<thead>
<tr>
<th>N.Greek</th>
<th>definite article</th>
<th>t-operator/expletive</th>
<th>demonstrative article</th>
</tr>
</thead>
<tbody>
<tr>
<td>u skilus</td>
<td>‘the dog’</td>
<td>i Yans</td>
<td>aftos u / *i skilus</td>
</tr>
<tr>
<td>‘the dog’</td>
<td>‘(the) Yannis’</td>
<td>‘this dog’</td>
<td></td>
</tr>
<tr>
<td>Catalan</td>
<td>el gos</td>
<td>en Joan</td>
<td>el / *en gos aquest</td>
</tr>
<tr>
<td>‘the dog’</td>
<td>‘(the) Joan’</td>
<td>‘this dog’</td>
<td></td>
</tr>
</tbody>
</table>

Nevertheless, unlike Panagiotidis’ original proposal, we don’t need to assume a third type of article as the demonstrative’s companion: it is neither a definite (second column in Table 1) nor an expletive article (or t-operator, third column), nor is it a demonstrative article (fourth column) — it is a grammatical formative: the result of Copy Spell Out of the demonstrative, specified exactly for the relevant $\phi$-features. As far as grammatical formatives go, homophony with the article seems to be a perfect candidate: it’s a minimally pronounceable form with just the (Case and $\phi$-feature) agreement markings needed.

To make our proposal explicit, we are indeed suggesting that the article doubling the demonstrative is not an independently merged expression present in the numeration, but a purely grammatical formative, inserted into the structure for PF-reasons (CDE). The article is the spelled out copy of an anti-locally moved demonstrative — and we mark it as such in all our
examples by glossing it as ART throughout.

Ad (ii): We are now faced with an important outcome, if our proposal (demonstrative doubling qua Copy Spell Out) and the framework in which it is framed (Anti-Locality Hypothesis) are of any interest: any syntactic object underlies the PF-condition of the CDE, even phonetically null material. (This was already observed in Chomsky and Lasnik 1978 on the presence of traces and the role for wanna-contraction, a comparison we will not develop here any further.) Recall that simple trace/copy-deletion does not suffice to satisfy the “drastic effect on the output” required by PF. This becomes very apparent if we look at displaced empty elements, such as null operators. The postulation of the CDE that an anti-local dependency may be “rescued” by changing the PF-matrix of the lower copy (or member of a chain), on the other hand, now receives further strengthening, since this is something that can be observed in dependencies involving empty elements.

This reasoning yields the following ontology of movement dependencies:

(28) a. [ XP ... [ ... XP ... ] ]
   b. [ OP ... [ ... XP ... ] ]
   c. [ XP ... XP YP... ]
   d. [ OP ... OP YP... ]

This said, there arises an immediate problem with our adoption of a null operator OP and the “guiding minimalist desideratum” presented briefly in section 3.1 above. In line with the program sketched most clearly in Hornstein (2001), an adoption of minimalist strategies one may call “rigorous minimalism” (Grohmann 2003), there should be no room in the grammar for such null elements. If it turns out that a minimalist approach should indeed dispense with theory-internal constructs, such as empty operators, we would need to find an alternative for the analysis of demonstrative doubling sketched above. Hornstein suggested movement-alternatives for the phenomena investigated in his work and thus circumvented the need to posit OP (such as relativization or tough-constructions).

We will leave this issue aside for the time being, simply pointing to work by Cedric Boeckx (see Boeckx 2003a, 2003b, Boeckx and Grohmann 2004a), where a movement-analysis can be envisioned if it targets a sub-part of the demonstrative in base position. There could be an additional layer on top of the demonstrative itself which undergoes the relevant movement into the left periphery (and then within the \( \Omega \)-Domain to yield Copy Spell Out) — possibly a notational variant in terms of outcome, but not in terms of mechanics and additional stipulations.
What an OP-less analysis might yield, however, is the fact that Greek makes available two readings, the deictic interpretation with overt demonstrative high up preceding the article and the discourse-anaphoric interpretation with the article preceding the overt demonstrative. If the null element is not an operator, there is no need for it to anti-locally move to the same position within CP. Rather, one could imagine that the null (non-operator) element (whatever its exact nature) targets a topic position (SpecTopP), which would be in line with the anaphoric, “given” nature of the structure’s interpretation. Such an analysis would also reduce the number of “operator-positions” in the clause/nominal layer.

These issues are addressed in detail in concurrent research (Grohmann and Panagiotidis 2005), where we also consider cross-linguistic implications of the analysis and apply it to linguistically diverse languages such as Spanish, Macedonian, Romanian, or Beiruti Arabic, and discuss structures that, at face value, might look similar but in fact are not (in Irish Gaelic and Maori).

6. Conclusion

In this paper we looked at demonstrative constructions in Modern Greek nominal structures and applied the Anti-Locality Hypothesis to the Greek DP. Our main proposal is that:

1. nominals have the same Prolific Domains as clauses,
2. the Condition of Exclusivity applies to nominals as well, and
3. thus anti-locality is a general condition on the grammar (clauses and nominals).

In particular, we analyze the Greek doubling article in nominal demonstrative structures as the Copy Spell Out of an anti-locally moved demonstrative. This analysis accounts for the curious co-occurrence of demonstrative and article: the latter is but a grammatical formative.

References


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