Demonstrative Doubling

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12 June 2004

Abstract

Across languages a great deal of variation can be found in the nominal system regarding ordering relations among nouns, adjectives, determiners, and so on. Focusing on the Greek DP, this paper examines the different positions demonstratives can occupy. The proposal applies the Anti-Locality Hypothesis to the nominal domain, where apparent articles "doubling" the demonstrative are analyzed as the spelled out copy of an otherwise illicitly moved demonstrative. This analysis will be shown to extend to a potentially large variety of languages, with the bold claim that all such doubling structures are only surface-apparent.

Demonstrative Doubling

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 occur DP-initially (preceding everything else) or -medially (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 phenomenon.NOM.PL.NEUT

          '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.NOM.SG.FEM

          'this pretty woman'

(3) a. aftos   o   kalos   andras

       b. o   kalos   aftos   andras

          ART.NOM.SG.MASC nice.NOM.SG.MASC this.NOM.SG.MASC man.NOM.SG.MASC

          'this nice man'

     We can formulate the main issues of interest for our study as (I1) and (I2):

(I1) the connection between demonstratives and doubling articles (within the Greek DP)

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

In particular, we will construe a novel connection between demonstrative elements and apparent definite articles. Throughout, the class of demonstrative elements includes both an overt demonstrative pronoun and a covert/phonetically empty demonstrative operator; we will refer to the article as doubling this demonstrative. We believe one may establish this connection from the mechanisms and operations involved in the derivation of complex nominal expressions (DPs). Our language of investigation will be 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 much subsequent work, including the other co-author's, such as Panagiotidis 2000, 2002).

This paper is structured as follows. In section 2 we present the basic facts from Greek nominal syntax to be accounted for and offer an overview of previous approaches. Section 3 introduces the Anti-Locality Hypothesis with the background and details necessary for our novel analysis of the demonstrative-article connection within the Greek DP, including a discussion of the Clausal DP-Hypothesis. Section 4 applies the Anti-Locality Hypothesis to specific issues in the Greek DP, in particular the derivational steps

and operations involved in demonstrative-movement and Copy Spell Out of the demonstrative operator into the article, the core ingredients of our analysis. Consequences for further issues in the nominal syntax of Greek and a brief cross-linguistic perspective are sketched in section 5 and partially applied to Arabic (dialects), Macedonian, Romanian, and Spanish. Section 6 concludes.

2 Demonstrative Issues within the Greek DP

Nominal expressions in Greek have the general surface structure [$_{DP}$ D > A > N > DP$_{GEN}$]. All nominal elements agree for φ-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. The co-occurrence of demonstrative, whether DP-initial as in (4) or post-adjectival (5), and article is initially explained along the lines of Panagiotidis (2000).[1]

(4)   afta   ta   nea   fenomena   [DEM > D > A > N]

        these   ART   new   phenomena

(5)   ta   nea afta   fenomena   [D > A > DEM > N]

        ART   new these   phenomena

        'these new phenomena'

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

(6)   a. * afta   (nea)   fenomena

            these   new   phenomena

            'these new phenomena'

        b. * ta   afta   (nea)   fenomena

            ART these   new   phenomena

            'these new phenomena'

Concerning the first point, here we find some variation among languages, with the two main patterns illustrated in (7) and (8).

(7) a. ce (*le) phénomène *French*

b. dieses (*das) Phänomen *German*

c. this (*the) phenomenon *English*

(8) a. ovoj moj-ov ostrov *Macedonian*

this my-ART island

'this island of mine'

b. teatru-l acesta frumos *Romanian*

theater-ART this nice

'this nice theater'

c. an fear so *Irish Gaelic*

ART man this

'this man'

In this paper we concentrate on languages with this property, in particular Greek. Our proposal will also account for the second property mentioned above, where adjacency between demonstrative and the doubling element (the article) is not as crucial a characteristic as precedence of the demonstrative.

As Panagiotidis shows, the structure in (4) above is the result of the demonstrative raising to the nominal left periphery in order to give the DP a deictic interpretation (9); when failing to do so, a locally generated covert operator *OP* takes its place (10), resulting in an anaphoric reading for the DP. We will generally adopt this approach (but see section 5.2).

(9) afta ta nea ~~afta~~ fenomena

these ART new phenomena

(10) *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 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 *afta* '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 (10) 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 little evidence in Greek; see also Alexiadou and Stavrou 1998).

However, the demonstrative *afta* '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 other languages, as briefly discussed in section 5.3), and it will also have something to say about the adjacency with the demonstrative.

Panagiotidis 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$_{HI}$* and *DEM$_{LO}$*, respectively. The answer he reaches (cf. Manolessou and Panagiotidis 1999), and which we will adopt, is that DEM$_{HI}$ 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, holds). DEM$_{LO}$, on the other hand, is restricted to a *discourse-anaphoric function* (where OP is hence an anaphoric demonstrative operator). (11) briefly illustrates (from Panagiotidis 2000: 723):

(11)   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, whereas 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). 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 Tsimpli 1994).

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

   (i)   A [+TH] determiner has a [+TH] specifier.

   (ii) A [+TH] operator specifies a [+TH] determiner.

We will first argue against any criterion-based approach to syntactic structures (section 3.1) and then propose an analysis which doesn't posit a new type of article (section 4, with the nature of Greek articles discussed further in section 5.1). To get things started, we present the Anti-Locality Hypothesis and the Clausal DP-Hypothesis as necessary background for our study, drawing largely from the presentation in Grohmann and Haegeman 2003, itself adapted from Grohmann 2000, 2003, the origin of the Anti-Locality Hypothesis.

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, so-called Prolific Domains, which span information-relevant related projections (somewhat akin 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]

($\Theta\Delta$) the *Thematic or Θ-Domain* (basically VP-shells expressed in terms of vP and VP)

($\Phi\Delta$) the *Agreement- or Φ-Domain* (split Infl: hosting IP/TP, various types of AgrP etc.)

($\Omega\Delta$) the *Discourse- or Ω-Domain* (split Comp: topics, foci, operators, and others)

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 2004: chap. 2). We might thus ask whether the ungrammaticality of (13a-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.):

(13)   a. * John likes. (cf. *John likes himself.*)

b. * Him kissed her. (cf. *He kissed her.*)

c. * Who, Mary detests? (cf. *Who does Mary detest?*)

Assume that (14a-c) are appropriate representations of the derivations corresponding to (13a-c) at the relevant points under the copy theory of movement:[3]

(14)   a. # $[_{vP}$ John v^0 $[_{VP}$ likes ~~John~~]]

b. # $[_{TP}$ him T^0 $[_{AgrOP}$ ~~him~~ AgrO^0 $[_{vP}$ softly $[_{vP}$ ~~him~~ v^0 $[_{VP}$ kissed her]]]]]

c. # $[_{TopP}$ who Top^0 $[_{FocP}$ ~~who~~ Foc^0 $[_{TP}$ Mary T^0 detests … (~~who~~)]]]

We can observe that the derivations in (14) 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 (15), generalizing ideas from Bošković 1994, Murasugi and Saito 1995, and related work:

(15)   *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*:

(16)   *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").

Within this 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 (13)). We can now formulate a single condition that does, the Condition on Domain Exclusivity (henceforth, CDE):

(17) *Condition on Domain Exclusivity* (Grohmann 2003: 78)

For a given Prolific Domain ΠΔ, 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 ΠΔ.

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 involved by definition; see Grohmann 2003: 79-80, 2004 for discussion).

A further prediction of the CDE is that if a dependency between two XPs within one Prolific Domain involves two different PF-matrices (the phonological 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, often labeled "contrastive" left dislocation:[4]

(18) a. [*Seinen$_i$*   *Vater*], *den*   mag   jeder$_i$ Junge.

his.ACC   father   RP.ACC likes   every   boy

'His father, every boy likes.'

b.　$[_{CP}$ seinen Vater C^0 $[_{TopP}$ *den* mag-Top^0 $[_{TP}$ jeder Junge T^0…]]]

The left-dislocated XP and the resumptive pronoun RP (morphologically, a weak demonstrative pronoun), with which it agrees in Case and φ-features, are in the same Prolific Domain (Ω-Domain). Moreover, (18) allows a bound variable reading and aside from such absence of Weak Crossover effects, contrastive left dislocation displays other signs of reconstruction (such as presence of Condition A effects, absence of Condition C effects, or idiom chunks; again, see Grohmann 2003: chap. 4 for discussion and further references).

All this and more (such as possibilities of embedding or multiple left dislocation) stands in sharp contrast to hanging topic left dislocation, illustrated in (19):

(19)　a.　[*Sein$_i$*　　*Vater*], jeder$_{*i/k}$　Junge　mag　*den/ihn*.

　　　　　his.NOM　　father　every　boy　likes　RP/him.ACC

　　　　　'His father, every boy likes him.'

　　b.　$[_{CP}$ sein Vater $[_{CP}$ C^0 $[_{TP}$ jeder Junge mag-T^0 den/ihn…]]]

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; see Grohmann 2003: chap. 4 for discussion) 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 (15)-(17) 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 ('⊃'), 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 Ω-Domain):

(20) [$_{CP}$ seinen Vater C^0 [$_{TopP}$ ~~seinen Vater~~ ⊃ den mag-Top^0 [$_{TP}$ … ~~seinen Vater~~ …]]]

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, we suggest that reflexives may be employed to legitimize a too-close dependency (Grohmann 2000, 2003).

To briefly illustrate with a relevant structure touched on above, take (21), where vP and VP form one Prolific Domain (namely, the Θ-Domain):

(21) a.   John$_i$ likes himself$_i$.

b.   [$_{TP}$ John T^0 [$_{vP}$ ~~John~~ v^0 [$_{VP}$ likes ~~John~~ ⊃ himself]]]

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. Note that it does not matter that *John* in (21) 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. That is, at the point where *John* has moved *v*P-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").[5]

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 ((22a) from Grohmann and Haegeman 2003: 51):

(22) a. [Über [Bundeskanzler Schröder]$_i$ dem$_i$ seine$_i$ Fehler]   haben wir geredet.

about Chancellor   Schröder   RP   his   mistakes have   we   talked

'About Chancellor Schröder's mistakes, we talked.'

b. [Peter$_i$ dem$_i$ sein$_i$ lockeres Mundwerk]

Peter   RP   his   loose   gab

'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 (22) 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 (slightly 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 critical 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* (argued for by Radford 1999 and Adger 2003: 266-269, among others):

(23) a. clausal structure: CP > AgrP > vP

b. nominal structure: DP > AgrP > 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 (24):

(24) a. $CP_{\Omega\Delta} > AgrP_{\Phi\Delta} > vP_{\Theta\Delta}$

b. $DP_{\Omega\Delta} > AgrP_{\Phi\Delta} > nP_{\Theta\Delta}$

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 (25).

(25) $[_{DP}$ Spec D^0 $[_{AgrP}$ Spec Agr^0 $[_{NP}$ Spec N^0]]]

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 Φ-Domain, signaled in (25) by AgrP. The next section will deal with a concentrated exploration of "DP" in (25). (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 as follows:

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

(P2) A 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 data below, we further argue that the Ω-Domain in Greek is made up of (at least) three positions:

(Ω1) a topic position (26) preceding the demonstrative (cf. the unacceptability of (27));

(Ω2) the position of the demonstrative itself (DEM$_{HI}$ in (4), encoding deictic force);

(Ω3) the position of the article (our DEM$_{LO}$-position; Rizzi's (1997) Fin/lowest C-head).

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, (26) and (27) are two relevant structures that exemplify exactly these three positions:

(26) [tis   epohis]   afta   ta   fenomena   [~~tis   epohis~~]

the.GEN   age.GEN   these   ART   phenomena

'these phenomena of our times'

(27) *afta   [tis   epohis]   ta   fenomena   [~~tis epohis~~]

these   the.GEN   age.GEN   ART   phenomena

'these phenomena of our times'

For the purposes of this paper, we will ignore the positions of quantifiers, such as *ola* 'all' in (28), which do seem to be able, if marginally, to appear in a number of positions.[6]

(28) (?ola) [tis   epohis] (√ola) afta (?ola) ta (*ola) nea (*ola) fenomena (?ola)

all the.GEN age.GEN   these   ART   new   phenomena

'all these new phenomena of our times'

Our analysis runs as follows. The demonstrative, coming from the Φ-Domain (9), 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. (29) summarizes the relevant steps of the derivation in which the article is derivationally introduced by the rescuing strategy Copy Spell Out.

(29) a. $[_{\Omega\Delta}$ … afta … $[$ ~~afta~~ ➲ ta $[_{\Phi\Delta}$ nea $[$ ~~afta~~ $[_{\Theta\Delta}$ fenomena $]$ $]$ $]$ $]$ $]$

      b. $[_{\Omega\Delta}$ … OP … $[$ ~~OP~~ ➲ ta $[_{\Phi\Delta}$ nea $[$ afta $[_{\Theta\Delta}$ fenomena $]$ $]$ $]$ $]$ $]$

As noted in the discussion of example (11) above, the low position of the demonstrative *afta*, as in (29b), 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 is the case of Turkish *bir* 'one':

(30) *Turkish* (Ayşe Gürel, p.c.)

    a.   bir/iki   güzel   kuş

        one/two   beautiful bird

        'one / two beautiful bird(s)'

    b.   güzel   bir   kuş

        beautiful   a   bird

        'a beautiful bird'

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 (30a). When it shows up in the lower (possibly base) position, within the Φ-Domain (as is the case with the Greek demonstrative in (10)), it can only receive a weak interpretation, one akin to that of English *a*, as the gloss of (30b) indicates. Without getting into proposing a detailed analysis for *bir* here, we would like to believe that similar examples indicate the weak interpretive option of an *OP*...X-chain, where X is an overt operator in its Φ-Domain (base) position.[7]

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.[8] 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).

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; (ii) an ontology of movement dependencies and the application of Copy Spell Out; and (iii) cross-linguistic expectations and outcomes within more general considerations of demonstrative doubling. The following three sub-sections address each of these points.

5.1 The Nature of the Article

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. 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:

	definite article	*ι-operator/expletive*	*demonstrative article*
N. Greek	u skilus 'the dog'	i Yans '(the) Yannis'	aftos u / *i skilus 'this dog'
Catalan	el gos 'the dog'	en Joan '(the) Joan'	el / *en gos aquest 'this dog'

Table 1: Types of Articles

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 ι-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 φ-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 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.

5.2 An Ontology of Movement Dependencies

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. 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:[9]

(31) 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. 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 by 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, Boeckx 2003, 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 Ω-Domain to yield Copy Spell Out) — possibly a notational variant in terms of outcome, but not in terms of mechanics and additional stipulations.

5.3 *A Look across Languages*

Regarding demonstrative structures across languages, this analysis makes an interesting (because testable) prediction: the "doubling" article should never be a "real" article (real in the sense of an independently merged linguistic expression which is part of the

numeration, as laid out above). Next, we briefly present supportive evidence from a number of languages.

To start off with a nice (because parallel) case, the Arabic variety spoken in Beirut, as discussed by Shlonsky (2002), essentially patterns like Greek:[10]

(32) *Beiruti Arabic* (Shlonsky 2002: 52)

    a. l   bint   haydi

    b. haydi l   bint

    c. * l   haydi bint

      ART this   girl

      'this girl'

By analyzing demonstrative operator and deictic demonstrative as one and the same element, we capture another interesting fact: whether the demonstrative is DP-initial or post-adjectival, as in Greek (4)-(5), the article has to show up, unlike the comparable situation in Spanish, as (33) shows. For reasons remaining unclear at this point in our research, there appears to exist some parametric variation as far as the *second* step (Fin-to-Foc) of demonstrative movement is concerned. This said, given our discussion in section 4 above, we would like to claim that this step is necessary for LF convergence, demonstratives being the determiner-elements par excellence that combine 'referential' properties (hence association with Fin) with a strong focus reading (hence association with Foc).

(33) *Spanish* (Ricardo Etxepare, p.c.)

a.	ese		(nuevo)	fenómeno	(nuevo)	
b. *	ese	el	(nuevo)	fenómeno	(nuevo)	
c.		el	(nuevo)	fenómeno	(nuevo)	ese	(nuevo)
d. *		el	(nuevo)	ese	fenómeno	(nuevo)	

e. *   el ese (nuevo)   fenómeno (nuevo)

     ART this new   phenomenon

  'this (new) phenomenon'

We can formulate the difference between Greek and Spanish in terms of a simple parameter: in Spanish, the overt demonstrative (pronoun) stays in the lower operator-position, while the covert demonstrative (operator) moves to the higher operator-position. In Greek, both overt and covert demonstratives obligatorily move from the lower to the higher operator-position within the nominal Ω-Domain.

Besides Spanish, Greek also differs from other languages that employ doubling structures in demonstrative expressions. Consider first Macedonian (from (8a) above):

(34) *Macedonian*

[$_{ΩΔ}$ ovoj [moj-ov [~~ovoj~~ ➲ ~~ov~~ [$_{ΦΔ}$ ~~ovoj~~ [~~moj~~ [$_{ΘΔ}$ (~~moj~~) [ostrov]]]]]]]

  this my-ART   island

 'this island of mine'

At this point, it does not matter whether the possessive pronoun *moj* 'my' is generated within the Θ-Domain (indicated by parentheses) or the Φ-Domain (where it must at least move through for obvious reasons). What matters is that possessive-movement targets quite a high position, namely one within the nominal left periphery, the Ω-Domain (see also Grohmann and Haegeman 2003 for arguments that possessive pronouns in certain Germanic possessive structures target such a high position). This step is followed by anti-local demonstrative-movement — where the demonstrative *ovoj* 'this' originates in the Φ-Domain — which in turn gives rise to a particular morpho-phonological effect. The demonstrative moves first to the low operator-position (which we tentatively identified as the nominal Fin-position, encoding person anchoring) and then continues to target the high one (the specifier of FocP licensing focal deixis). The "particular morpho-

phonological effect" is the following: first, *ovoj* spells out simply as *ov*, which is arguably the minimal morpheme identifiable as the article in Macedonian (Tomić 1996); second, as a clitic-like element it needs to find an appropriate host, which it finds in the next higher element, the possessive pronoun in this case. Note also that this derivation offers a further insight which could not be shown in Greek: the two operator-positions are not necessarily adjacent, some material may intervene. (Grohmann and Haegeman, for example, identify the high possessive-movement in Germanic as topicalization, targeting a nominal TopP; whether this might be the appropriate analysis for Macedonian remains to be seen.)

Next, consider Romanian with our proposed analysis drawing on the datum from (8b) above:

(35) *Romanian*

[$_{\Omega\Delta}$ teatru-l   [acesta [~~acesta~~ ➲ ~~ul~~ [$_{\Phi\Delta}$ ~~teatru~~ [frumos [~~acesta~~ [$_{\Theta\Delta}$ ~~teatru~~]]]]]]]

theater-ART   this   nice

'this nice theater'

Romanian is very similar to Macedonian in that an originally low-merged element undergoes movement into the left periphery and Copy Spell Out is followed by another "particular morpho-phonological effect" (although different from Macedonian). However, Romanian shows N-raising (like all Romance languages, as argued by Longobardi 1994), possibly to a topic-position (which Grohmann and Haegeman also argue for Germanic prenominal possessor constructions). This position is clearly higher than the landing site of the Macedonian possessive pronoun, importantly it precedes both operator-positions.[11]

We need to point out a minor complication here, of course. At this point it is not clear to us how/why the spelled out copy *ul* (the minimal determiner-/article-element) of

acesta 'this' skips the next higher head position — the one whose specifier is *acesta*, i.e. the high operator-position, possibly SpecFocP — and ends up on *teatru* 'theater' instead. Calling this state of affairs a "particular morpho-phonological effect" might give us some leeway as to why the head movement constraint seems to be violated. But since the purpose of this section is just a mere sketch of how to go about to implement the proposal of demonstrative doubling for Greek to other languages, we will leave the discussion at that in the hope that more specialized research dedicated to the languages hinted at here might reveal more insights in the future.

Lastly, we want to point to a potentially, at first glance problematic language — Irish (Gaelic), as already cited in (8c) above, and Celtic more generally.

(36) *Irish*

   *(an)   fear   seo
    ART   man   this
   'this man'

(37) *Welsh* (Roberts 2004)

   y   pum   llyfr   newydd   hyn   gan John
   ART five   book   new   this   by   Gwyn
   'these five new books by Gwyn'

The example above could be perceived as counter-evidence for our analysis, as they involve both co-occurrence of the demonstrative and the article and *deictic* readings, although the surface position of the demonstrative is low (postnominal in Irish and postadjectival in Welsh). Siding with Jim McCloskey (p.c.) here, though, we will have to claim that demonstrative strategies in languages like the above (also Hawai'ian and Maori) are orthogonal to the ones discussed here, as they involve the demonstrative independently combining with a definite DP, regardless of the way definiteness is

achieved in the first place. In other words, these languages do not fall into the typology of demonstrative-doubling patterns investigated in this paper.[12]

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 (i) nominals have the same Prolific Domains as clauses, (ii) the Condition of Exclusivity applies to nominals as well, and (iii) 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.

This analysis allowed us to sketch the beginnings of a cross-linguistic account. For Spanish, we argued that the overt demonstrative operator does not move to a higher operator-position (unlike Greek); for Macedonian, we suggested that Copy Spell Out applies prior to possessive-movement into the Ω-Domain; and for Romanian, we applied the same analysis as for Macedonian, with the difference that Copy Spell Out applies prior to obligatory noun-raising into the Ω-Domain.

This leaves us with an analysis in which the occurrence of deictic demonstratives at the left edge of the nominal phrase is neither a curiosity nor an accident, but follows from its relatedness to the Ω-Domain ("discourse") — in other words, the function of the deictic demonstrative combines focus and anchoring of its referent to a discourse situation. Our account, one that takes the notion of Prolific Domains as an explanatory tool seriously, captures this straightforwardly. At the same time, the analysis accounts for the different orders observed and the co-occurrence of the demonstrative with its Copy Spell Out (qua article), or lack thereof, in a number of languages.

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NOTES

[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.

[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 volumes on the "cartography of structure" provide further relevant material: Cinque (2001), Rizzi (forthcoming), and Belletti (to appear).

[3] See e.g. Chomsky 1995, Nunes 1995, 2004, Hornstein 2001, and Hornstein, Nunes, and Grohmann 2004 on formulating the copy theory. Throughout this paper, lower copies are represented in ~~strikethrough~~ font and structural ill-formedness is indicated by the hash mark '#'.

[4] Left dislocation is an interesting testing case for syntactic operations, as first noted and discussed by Ross (1967) — in particular, for the distinction between construal and movement (with an interesting twist recently suggested by Boeckx 2003a; see also Boeckx and Grohmann 2004a, 2004b). We will refrain from a larger exposition. See e.g. Grohmann 1997, van Riemsdijk 1997, Alexiadou 2002, and various papers in Anagnostopoulou, van Riemsdijk, and Zwarts 1997 for further discussion and references.

[5] Note that the Anti-Locality Hypothesis has also been applied to a variety of phenomena independently of resumption. See, for example, a suggestion in Bošković 2003 concerning instances of left-branch extraction, in Bošković and Lasnik 2003 on

overt/covert complementizer-related issues, in Ticio 2003 on DP-internal patterns in Spanish, and in Putnam 2004 on scrambling, stress, and prosody.

[6] It is a well-known fact that quantifiers cause trouble for structural analysis, just as they are often employed as diagnostics (cf. approaches in terms of adjunction vs. stranding; Bobaljik 2003 offers an excellent overview of many of the issues involved). Observe for now that the quantifier does not occur within the Φ-Domain, a potentially interesting observation we will leave for future work.

[7] This could be captured as a "Diesing-effect" often applied to different positions relating presuppositionality and generic interpretation (Diesing 1992). Nevertheless, high demonstratives and numeral *bir* are not presuppositional, but deictic. Maybe both phenomena form part of a more general interpretive schema, especially if one considers constructions such as clitic doubling (Anagnostopoulou 1994).

[8] 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 piece of work devoted to the grammar of content-container relations and other issues in thematic relations within the nominal layer and various displacement phenomena observed.

[9] The suggestion that empty material may spell out as a grammatical formative is not as crazy as it may look: it is fully in line with, and reminiscent of, early arguments for the reality of traces (cf. *wanna*-contraction).

[10] We refrain from a more elaborate discussion of Arabic (dialects), primarily because of the interfering factor of Semitic definiteness spreading which, as Shlonsky (2002: 114, n. 29) notes, works quite differently from Greek (see also Marinis and Panagiotidis 2004). We leave a proper Arabic integration for future research.

[11] This may suggest that the Macedonian possessive does not target SpecTopP, although one could argue with Rizzi 1997 that the left periphery makes available two designated topic positions, one (or more) above and one (or more) below FocP. More recent work questions this assumption, however, and this is not the place to engage in more discussion (Rizzi 2000 and works cited).

[12] Possibly a form of DP-iteration, in the general form of DP-DP is involved (see Marinis and Panagiotidis 2004 for a similar situation in Greek, albeit not with demonstratives).